

Государственный институт экономики, финансов, права и технологий

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Налиткина О.В., Зыкин А.В.

H-23 Учебное пособие по английскому языку. – Гатчина: Изд-во ГИЭФПТ, 2024. – 153 с.

Предлагаемое пособие предназначено для студентов, обучающихся на заочной и очно-заочной формах обучения, а также может быть полезно всем изучающим английский язык.

Оно состоит из разделов, имеющих четкую логическую структуру: в качестве введения к пособию даны очерки по истории и лексическому составу английского языка. Основные разделы пособия представляют систему письменных текстов и упражнений, направленную на развитие чтения как пассивного вида речевой деятельности и говорения как активного соответственно. Другой раздел представляет систему аудиотекстов и упражнений, направленную на развитие аудирования как пассивного вида речевой деятельности и письма как активного соответственно. Тема текстов актуальна, значительна и разнообразна — история знаменитых открытий и вклад известных учёных в научный прогресс человечества, что позволит активно общаться с иностранными коллегами, легко вступать в международные научные сообщества и становиться полноценными участниками международных проектов.

В пособие также включены контрольные работы, практические рекомендации по написанию эссе, фонетический справочник с системой упражнений, а также скрипты аудиозаписей.

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Предисловие

Настоящее пособие предназначено главным образом для студентов, обучающихся на заочной и очно-заочной формах обучения, и может быть полезно всем изучающим английский язык.

Оно состоит из следующих разделов, имеющих четкую логическую структуру:

Вместо введения авторы, опираясь на значительный опыт работы преподавателями как в языковых, так и в неязыковых образовательных организациях, посчитали целесообразным дать краткие очерки по двум интереснейшим векторам английского языка: история и лексический состав. В основу положены общедоступные материалы Wiki и классических вузовских учебников.

Раздел 1. Представляет систему письменных текстов и упражнений, направленную на развитие чтения как пассивного вида речевой деятельности и говорения как активного соответственно. Задания, представленные в данном блоке, направлены на расширение словарного запаса в рамках актуальной общеязыковой тематики. Лексической базой упражнений данного раздела является нейтрально-бытовая лексика. Лексические упражнения, интерактивные задания, современные аутентичные тексты, сопровождающиеся системой пред- и послетекстовых заданий, способствуют развитию навыков чтения. В рамках каждой темы учащимся предложены задания для обсуждения, ориентированные на развитие навыков говорения. Тематика текстов и вопросов для дискуссии будет интересна студенческой и взрослой аудитории.

Раздел 2. Представляет систему аудиотекстов и упражнений, направленную на развитие аудирования как пассивного вида речевой деятельности и письма как активного соответственно. Если в первом разделе лексика сконцентрирована на повседневной жизненной тематике, то в данном разделе она направлена на естественнонаучные области, что значительно расширяет лексикон обучающихся. В основу данного раздела положены материалы учебного пособия Macmillan «Guide to science» (авторы Elena Kozharskaya и др.).

Тема текстов актуальна, значительна и разнообразна — история знаменитых открытий и вклад известных учёных в научный прогресс человечества, что позволит активно общаться с иностранными коллегами, легко вступать в международные научные сообщества и становиться полноценными участниками международных проектов.

Аудиотексты, озвученные носителями языка, относятся к различным стилям речи и позволят получить навыки аудирования, необходимые для понимания как научных докладов, так и разговорной речи. Перед прослушиванием вводится терминологическая лексика, используемая в аудиотексте, что, на наш взгляд, снимает ряд трудностей при дальнейшем прослушивании. Кроме того, каждый урок содержит упражнения на проверку понимания прочитанного.

Освоив материал курса, вы сможете вести дискуссии, проводить презентации, составлять доклады и отчёты, писать письма, статьи, эссе, сочинения в самых разных областях научного знания.

Раздел 3. Представляет собой контрольные работы.

В приложениях представлены практические рекомендации по написанию эссе, фонетический справочник с системой упражнений, а также скрипты аудиозаписей.

Вместо введения: из истории английского языка

История английского языка 1 – процесс, в результате которого диалект одного из германских племён, на котором в V веке говорили жители Британии, за полтора тысячелетия превратился в язык общения для более чем 2 миллиардов человек по всему миру 2 .

Английский язык является западногерманским языком, который возник на основе англо-фризских наречий, привнесённых в Британию в V–VII веках н.э. германскими завоевателями и поселенцами нынешней Северо-Западной Германии, Западной Дании и Нидерландов.

Древнеанглийский язык англосаксонской эпохи развился в средне-английский язык, на котором говорили со времён нормандских завоеваний и до конца XV века. Значительное влияние на формирование английского оказали контакты с северогерманскими языками, на которых говорили скандинавы, завоевавшие и колонизировавшие Британию с VIII по IX век; этот контакт привел к многочисленным лексическим заимствованиям и грамматическим упрощениям. Влияние на язык оказали завоевания норманнов, которые говорили на старонормандском языке, который в Британии развился в англо-нормандский язык. Много норманнских и французских заимствований вошло в языковую лексику, относящуюся к церкви и судебной системе. Система орфографии, утвердившаяся в среднеанглийский период, используется и сегодня.

Ранний современный английский язык — язык Шекспира, был распространён примерно с 1500 года. В нем нашли отражение многие заимствования эпохи Ренессанса с латинского и древнегреческого языков, а также заимствования из других европейских языков, включая французский, немецкий и голландский. Изменения в произношении в этот период включали в себя «великий сдвиг гласных» (фонетические изменения в английском языке в XIV–XV веках), что сказалось на свойствах долгих гласных. Современный английский язык, на котором говорят и поныне, был в употреблении с конца XVII века. Со времен Британской колонизации английский язык получил распространение в Великобритании, Ирландии, США, Канаде, Австралии, Новой Зеландии, Индии, части Африки и в других странах. В настоящее время он также является средством межнационального общения — лингва франка.

Древнеанглийский язык включал в себя различные группы диалектов, отражающих происхождение англосаксонских королевств, созданных в разных районах Великобритании. В итоге западно-саксонский диалект языка стал доминирующим. Большое влияние на средне-английский язык оказал древнеанглийский язык. Разновидностью английского языка является шотландский язык. На нем традиционно говорят в некоторых районах Шотландии и Северной Ирландии. Иногда он рассматривается как самостоятельный язык.

Давайте кратко рассмотрим каждый из периодов развития английского языка.

Протоанглийский. Английский язык имеет корни в языках германских народов Северной Европы. Во времена Римской империи большинство германских поселений оставалось независимыми от Рима, хотя некоторые юго-западные районы находились в составе империи. Некоторые германцы служили в римской армии. Войска германских племен, таких как тунгры, батавы и фризы, служили в Британии под римским началом. Германские поселения расширились в период Великого переселения народов с падением Западной Римской империи.

Языки, на которых говорили германские народы, изначально поселившиеся в Вели-

¹ История английского языка // Онлайн-энциклопедия «Википедия». URL: https://ru.wikipedia.org/wiki/История английского языка

² Мелвин Брэгг. Приключения английского языка / Melvyn Bragg. The Adventure of English: The Biography of a Language. M.: Альпинанон-фикшн, 2017. 418 с.

кобритании, входили в состав западногерманской ветви германской языковой семьи. Они состояли из диалектов ингвеонской³ группы языков, на которых говорили северные народы современной Дании, Северо-Западной Германии и Нидерландов.

Древнеанглийский язык. Около 800 г. до н.э. в Британию с материка переселялись представители индоевропейцев – кельты. Обитавший до них на этой территории народ не оставил никаких следов в английском языке.

В 55–54 годах до н.э. в Британии появились римляне. Гай Юлий Цезарь совершил сюда два похода. В 44 г. до н.э. Британия была объявлена провинцией Римской империи. Остров посещали императоры Клавдий, Адриан, Септимий Север.

По распоряжению императора Гонория Британия перестала быть римской провинцией. В 449 году на территорию Британии проникли германские племена англов, саксов, ютов и фризов. Англосаксонское наречие стало вытеснять язык кельтов из повседневного употребления. В современном английском языке к языку бриттов восходят названия английских поселений и водоемов. Например, Эйвон (Avon – «река» покельтски).

Из диалектов германских поселенцев был создан язык, который в будущем будет называться англосаксонским, сейчас его чаще называют древнеанглийским языком⁴. Этот язык вытеснил кельтские и латинский языки из Римской Британии, большинства районов Великобритании, которые позже вошли в Королевство Англия, в то время как кельтские языки сохранились в районах Шотландия, Уэльс и Корнуолл⁵.

К настоящему времени древнеанглийский язык частично сохранился в диалектах современного английского языка⁷. К четырём основным диалектам языка относились: мерсийский (язык англосаксонского царства Мерсии), Нортумбрийский (язык средневекового королевства Нортумбрии), кентиш (язык королевства Кент) и западно-саксонский; последний из них лег в основу литературного норматива в древнеанглийский период.

На древнеанглийском языке были впервые записаны рунические тексты, называемые Англосаксонскими рунами (известны как рунический алфавит), позже они были заменены на Древнеанглийский латинский алфавит. На древнеанглийском языке писались многие произведения времен Альфреда Великого. Самой известной сохранившейся работой на древнеанглийском языке является эпическая поэма «Беовульф», сочиненная неизвестным поэтом.

Литературным памятником древнеанглийского периода стала Англосаксонская летопись. Она представляет собой ряд объединенных в одну книгу записей событий. Эти записи велись с VII века в англосаксонских монастырях.

Вот как пишется молитва «Отче наш» на древнеанглийском и современном английском языках:

На древнеанглийском языке:

Fæder ure þu þe eart on heofonum, sie þin nama gehalgod. To becume þin riċe, geweorþe ðin willa, on eorðan swa swa on

В современном написании:

Our Father, which Art in Heaven
Hallowed be, Thy name
Thy Kingdom come, Thy will be done
On earth, as it is, in Heaven

³ Названо в честь большой группы германских племен ингевоны.

⁴ Shore Thomas William. Origin of the Anglo-Saxon Race – A Study of the Settlement of England and the Tribal Origin of the Old English People (1st ed.), London, 1906. 393 p.

⁵ Crystal David. The Cambridge encyclopedia of the English language / David Crystal. 2d ed. / Repr. Cambridge [etc.]: Cambridge univ. press, 2004. 499 c.

⁶ Структуре лексического состава английского языка далее будет посвящен отдельный параграф.

⁷ Shore Thomas William. Origin of the Anglo-Saxon Race – A Study of the Settlement of England and the Tribal Origin of the Old English People (1st ed.), London, 1906. 393 c.

heofenum.

Urne gedæġhwamlican hlaf sele us todæġ, and forgief us ure gyltas, swa swa we forgiefað urum gyltendum. And ne gelæd bu us on costnunge, ac alies us of yfele. Soblice.

Give us this day, our daily bread And forgive us our debts, as we forgive our debtors

And lead us not into temptation, but deliver us from evil

For Thine is the Kingdom, and the Power, and the Glory forever Amen

В 600-х годах папа римский Григорий I Великий послал в Британию для проповеди Евангелия монаха Августина – «апостола Англии». В то время англосаксонские завоеватели были язычниками и враждебно относились к христианству. Деятельность Августина и его помощников оказалась успешной. Король Кента Этельберт (Ethelbert) приняв христианство, построил в Кентербери христианскую церковь, а сам Августин стал архиепископом Кентерберийским.

С принятием христианства в древнеанглийский язык вошли более 400 латинских заимствований, включая такие слова, как master, priest, paper, school; множество греческих заимствований (Church от греческого слова коріакή – «господень (дом)»; Bishop «епископ» от греческого слова $\varepsilon\pi$ і́око π о ζ «присматривающий»)⁸. Язык восточных и северных районов Англии находился под влиянием Древнескандинавского языка.

В современном английском языке около половины часто используемых слов имеют древнеанглийские корни⁹. В грамматике древнеанглийского языка было гораздо больше склонений, чем в современном английском языке, более свободной была типология порядка слов, грамматически язык был очень похож на современный язык Германии. Древнеанглийский язык постепенно переходил в средне-английский после Нормандского завоевания 1066 года, когда появился старонормандский диалект французского языка¹⁰.

Грамматика древнеанглийского языка имела следующие особенности: существительные, местоимения, прилагательные и определе-ния имели пять падежей (именительный, винительный, родительный, дательный и творительный), было два грамматических числа (единственное и множественное) и три грамматических рода (мужской, женский и средний род). Первое и второе лица личных местоимений имели двойственные формы при обращении к двум людям, имелись также обычные формы единственного и множественного числа. Глаголы имели девять основных спряжений с многочисленными подтипами, а также несколько прочих спряжений и несколько неправильных глаголов. Грамматический род существительного не обязательно соответствовал истинному полу, даже для существительных, относящихся к людям. Например, слово sēo sunne (Солнце) было женского рода, слово se mōna (Луна) было мужского рода, а þæt wīf «женщина/жена» было среднего рода¹¹.

В древнеанглийском языке ударные слоги могли выделяться ударением неодинаковой силы. Существовали две степени ударения: ударение главное и ударение второстепенное.

Скандинавское влияние. С конца VIII века н.э. викинги из Норвегии и Дании осуществляли военные рейды в Великобританию. В 865 г. было начато масштабное

⁸ Baugh Albert, Cable Thomas. 2002. Albert C. Baugh, Thomas Cable: A History of the English Language. 5. Auflage. Prentice Hall, Upper Saddle River NJ 2001.

⁹ Geordie dialect. Bl.uk (12 марта 2007). Дата обращения: 19 июня 2010. Архивировано 22 июля 2019 года. ¹⁰ The change from Old English to Middle English. Uni-kassel.de. Дата обращения: 19 июня 2010. Архивировано 1 февраля 2010 года.

The Oxford history of English lexicography, Volume 1 By Anthony Paul Cowie.

¹¹ Peter S. Baker. Pronouns. The Electronic Introduction to Old English. Oxford: Blackwell (2003). Архивировано 11 сентября 2015 года.

вторжение армии, которую англосаксы называют Великая языческая армия, она в итоге привела к скандинавскому правлению в большей части Северной и Восточной Англии. Большинство из этих областей было отбито англичанами под командованием Эдуарда Старшего в начале X века, хотя Йорк и Нортумбрия не были отвоеваны до самой смерти Эрика I Кровавая Секира, наступившей в 954 г. Скандинавские набеги возобновились в конце X в., во время правления Этельреда Неразумного и Свена I Вилобородого.

Скандинавы, или норманны, говорили на диалекте Скандинавского языка, известного как древнескандинавский язык. Англосаксы и скандинавы говорили на родственных языках разных групп (Запад и Север) германской языковой семьи; многие из их лексических корней были одинаковыми или похожими, хотя их грамматические системы заметно отличались. Многие географические названия в этих районах имеют скандинавское происхождение; считается, что переселенцы часто создавали новые поселения в местах, которые ранее не были обжиты англосаксами. Обширные языковые контакты между носителями древнеанглийского и древнескандинавского языков и смешанные браки¹² повлияли на языки, на которых говорят в местах смешения народов. Считается, что древнеанглийский и древнескандинавский языки прошли своего рода синтез и перемешивание, и в результате английский язык может быть описан как смешанный язык или креольский язык.

Древнеанглийский язык заимствовал из древнескандинавского около двух тысяч слов, из которых несколько сотен сохранились в современном английском языке.

Древнескандинавские заимствования включают в себя многие распространённые слова, такие как anger, bag, both, hit, law, leg, same, skill, sky, take, window, и даже местоимение they. Скандинавское влияние, как считается, способствовало принятию множественного числа связочных слов, ускорило морфологические упрощения в средне-английском языке, такие как утрата грамматической категории рода 13. Произошло нивелирование падежных окончаний, получили распространение фразовые глаголы.

Среднеанглийский язык. Среднеанглийский язык – форма английского языка, на котором говорили после Нормандского завоевания (с 1066 года до конца XV века).

На протяжении нескольких столетий после завоевания Англии норманнские короли, придворные и знать Англии и других стран Британских островов говорили на англо-нормандском языке. Купцы и мелкие дворяне часто были двуязычными людьми, говорившими на англо-нормандском и английском языках, при этом английский язык продолжал оставаться языком простонародья. Среднеанглийский язык оказал влияние на англо-нормандский, а позднее – на англо-французский язык.

До XIV века англо-нормандский, а затем французский были языками судопроизводства и правительственных учреждений. Даже после понижения статуса стандартный французский язык сохранил статус официального или престижного языка. Около 10 000 французских слов с того времени вошли в английский язык. Это, в частности, термины, связанные с государством, церковью и законами, военные термины, мода и еда¹⁴. Сильное влияние на английский язык в это время оказывал и древнескандинавский язык¹⁵. Некоторые ученые выдвигали гипотезы, что среднеанглийский был своего рода креольским языком, выработанным в результате контактов на древне-

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¹² A History of English: A Sociolinguistic Approach (англ.). Oxford: Blackwell Publishing.

¹³ Albert C. Baugh, Thomas Cable: A History of the English Language. 5. Auflage. Prentice Hall, Upper Saddle River NJ 2001.

¹⁴ Там же.

¹⁵ Filppula, Markku, Juhani Klemola and Heli Pitkänen (eds.). 2002.

David L. White On the Areal Pattern of 'Brittonicity' in English and Its Implications in Hildegard L. C. Tristram (ed.). 2006.

английском, древнескандинавском или англо-нормандском языках.

Английская литература появилась после 1200 года, когда изменение политического климата и сокращения в англо-нормандском языке сделали его более респектабельным. Оксфордские провизии (Provisions of Oxford), выпущенные в 1258 г., были первым английским правительственным документом, опубликованным на английском языке после Нормандского завоевания. В 1362 г. Эдуард III стал первым королем, говорящем в парламенте на английском языке. В доку-менте «Акт о судопроизводстве на английском языке» английский был признан единственным языком, на котором должны проводиться судебные разбирательства, хотя официальные записи по прежнему велись на латыни¹⁶. К концу века даже королевский суд перешел на англоязычное делопроизводство. Англо-нормандский язык использовался в ограниченных кругах несколько дольше, но он уже перестал быть живым языком. В XV веке официальные документы начали публиковаться только на английском языке. Писатель Джеффри Чосер, живший в конце XIV в., является самым известным автором среднеанглийского периода, а его самым известным произведением считаются «Кентерберийские рассказы».

В рассматриваемый период лексика, произношение и грамматика английского языка существенно изменились. Грамматические различия утратили многие существительные и прилагательные, окончания прошли морфологические выравнивания к =е. Английское множественное число с окончанием на =en уступило окончанию =s (сохранились лишь некоторые исключения, например, children и oxen), был отменен грамматический род.

Орфография английского языка в этот период также находилась под влиянием выходцев из Франции. Звуки $/\theta/$ и $/\delta/$ в этот период чаще описываются буквенным сочетанием th, а не древнеанглийскими буквами \flat (шип) и δ (эт), которых не было у нормандцев.

Ранненовоанглийский язык. В XV веке английский язык претерпел большие изменения в фонетике, правописание же осталось практически неизменным. Современный английский язык является результатом великого сдвига гласных, который проходил в основном в XV веке. На язык оказало влияние распространение стандартизированного лондонского диалекта в органах власти и управлении, стандартизация печатной продукции. Как следствие, язык приобрел такие термины, как «ассепt» и «dialect» Во времена Уильяма Шекспира (середина XVI — начало XVII вв.), английский язык становится похож на современный английский язык Вотот вариант языка получил название ранненовоанглийского, или раннесовременного. В 1604 г. был издан первый словарь под названием «Table Alphabeticall». Словарь был создан Робертом Кодри и учит верно писать и понимать английские слова, заимствованные из иврита, греческого, латыни или французского и т.д. с их интерпретацией на английский.

Повышение уровня грамотности населения, предпринимаемые людьми поездки и путешествия способствовали принятию языком многих иностранных слов, особенно заимствованных из латинского и греческого языков времен эпохи Возрождения. В XVII в. латинские слова часто используются с их оригинальными произношениями, которые позже нивелировались. В этот период английский язык заимствовал многие слова из итальянского, немецкого и идиш. Несмотря на неприятие и сопротивление, в этот период началась американизация языка 19.

В этот период слова латинского происхождения, ранее уже заимствованные из

¹⁶ La langue française et la mondialisation, Yves Montenay, Les Belles lettres, Paris, 2005.

¹⁷ Crystal David. The Cambridge encyclopedia of the English language / David Crystal. 2d ed. / Repr. Cambridge [etc.]: Cambridge univ. press, 2004. 499 c.

¹⁸ Fausto Cercignani, Shakespeare's Works and Elizabethan Pronunciation, Oxford, Clarendon Press, 1981.

¹⁹ Algeo, John. 2010.

французского языка, снова входили в английский язык, но уже в своей изначальной латинской форме, образуя альтернативные вариации и дублеты (например, frail c fragile – слабый, хрупкий). Наиболее авторитетным противником латинских заимствований был Сэр Джон Чек (1514–1557), ректор Королевского колледжа в Кембридже. Он даже перевел Евангелие от Матфея²⁰.

Новоанглийский язык. Ранний современный английский язык и поздний современный английский язык существенно отличаются в словарях. В позднем современном английском языке есть много слов, возникших в связи с промышленной революцией и технологиями, которые создали потребность в новых словах, а также благодаря международному развитию языка. На пике развития Британской империи, когда она занимала четверть земной поверхности, в английский язык вошли иностранные слова многих стран. Британский английский и американский английский стали двумя основными разновидностями языка, на которых ныне говорят около 400 миллионов человек. Британское нормативное произношение английского является традиционным стандартом. Общее число говорящих на английском языке по всему миру может превысить один миллиард человек²¹. Английский язык продолжает развиваться с течением времени. С развитием компьютерных технологий его используют в программировании, для доменных адресов и т.д. Английский язык в приморских странах становится языком межнационального общения между народами.

Вместо введения: происхождение лексического состава английского языка

Все ли английские слова на самом деле английские²²? Человек, который не знает английского языка, но знает французский, итальянский, латинский, испанский языки, наверняка распознает большое количество знакомых слов, просматривая английскую книгу.

Совершенно очевидно, что словарный запас английского языка содержит огромное количество слов иностранного происхождения. Объяснения этому следует искать в истории языка, теснейшим образом связанной с историей становления и формирования нации. В подтверждение этому проведем краткий обзор и экскурс по некоторым историческим фактам, относящимся к разным эпохам.

Первый век н.э. Большая часть территории, известной нам сейчас как Европа, занята Римской империей. Среди жителей континента есть германские племена, «варвары» (англ. barbarians), как называли их римляне. Они были скотоводами и почти ничего не знали о возделывании земли. Языки этих племен содержат только индоевропейские и германские элементы, что является значительным в вопросе лексического состава английского языка.

В этот период, после ряда войн, германские племена и римляне вступают в мирное сосуществование и взаимодействие. Развиваются торговые отношения, и германский народ приобретает знания о новых и полезных вещах.

Первые из них — это новые продукты питания. Единственными продуктами, известными германским племенам вследствие низкого уровня развития скотоводства были мясо и молоко. Именно у римлян они научились делать масло и сыр, и, поскольку в языках их племен не было слов для обозначения этих продуктов, они должны были

 $^{^{20}}$ Приключения языка: как весь мир заговорил на английском. Дата обращения: 28 апреля 2022. Архивировано 28 апреля 2022 года.

²¹ Algeo, John. 2010.

 $^{^{22}}$ Антрушина Г.Б. Лексикология английского языка = English lexicology: учебное пособие для студентов высших учебных заведений, обучающихся по педагогическим специальностям / Г.Б. Антрушина, О.В. Афанасьева, Н.Н. Морозова. 8-е изд., стер. М.: Дрофа, 2008. 287 с.

использовать латинские слова для их названия (лат. būtyrum, cāseus). Также римлянам германские племена обязаны знанием некоторых новых фруктов и овощей, о которых они раньше не имели понятия, и латинские названия этих фруктов и овощей входят в их лексикон: cherry (лат. cerasum), pear (лат. pirum), plum (лат. prunus), pea (лат. pisum), beet (лат. bēta), pepper (лат. piper), а также общее для семейства слово plant — растение (лат. planta). Вот еще несколько примеров латинских заимствований этого периода: сир (лат. cuppa), kitchen (лат. coquina), mill (лат. molina), port (лат. portus), wine (лат. vinum).

Всем этим латинским словам было суждено стать самой ранней группой заимствований в будущем английском языке, который будет гораздо позже создан на основе языков германских племен. Это переносит нас в другую эпоху, гораздо более близкую к английскому языку в том виде, в каком мы его знаем.

В пятом веке нашей эры несколько германских племен (наиболее многочисленными среди них были англы, саксы и юты) мигрировали через море, ныне известное как Ла-Манш, на Британские острова. Там они столкнулись с кельтами, исконными обитателями островов, которые отчаянно защищали свои земли от захватчиков, но постепенно уступили большую часть своей территории и отступили на север и югозапад (современные Шотландия, Уэльс и Корнуолл).

Благодаря многочисленным контактам с побежденными кельтами, в лексикон германских племен проникает ряд кельтских слов (например, bald, down, glen, druid, bard, cradle). Особенно многочисленными среди кельтских заимствований были топонимы, названия рек, холмов, возвышенностей и т.д.

Германские племена заселяли эти земли, но названия многих частей и особенностей их территории оставались кельтскими. Например, названия рек Avon, Exe, Esk, Us происходят от кельтских слов, означающих «река» и «вода».

По иронии судьбы, даже название английской столицы происходит от кельтского Llyn + dun, в котором llyn – еще одно кельтское слово, обозначающее «река», а dun означает «укрепленный холм», что в целом означает «крепость на холме над рекой».

Некоторые латинские слова вошли в англосаксонские языки через кельтский, среди них такие широко используемые слова, как street (лат. strāta via) и стена (лат. vallum).

Седьмой век н.э. Этот век был знаменательным в свете христианизации Англии. Латынь была официальным языком христианской церкви, а распространение христианства явилось новым периодом латинских заимствований. Они больше не заимствованы из разговорной латыни, как это было восемью веками ранее, а из церковной латыни. Кроме того, эти новые латинские заимствования сильно отличались по значению от более ранних. В основном они обозначали людей, предметы и идеи, связанные с церковью и религиозными ритуалами. Например, priest (лат. presbyter), bishop (лат. episcopus), monk (лат. monachus), nun (лат. nonna), candle (лат. candela). В этот период были заимствованы и образовательные термины. Вполне естественно, что они также были латинскими, поскольку первые школы в Англии были церковными, а первые учителями — священники и монахи. Итак, само слово school является латинским заимствованием (лат. schola, греческого происхождения), как и такие слова, как scholar (лат. schōlar(=is) и magister (лат. magister).

С конца 8-го века до середины 11-го века Англия подверглась нескольким скандинавским вторжениям, которые неизбежно оставили свой след в английском словарном запасе. Вот несколько примеров ранних скандинавских заимствований: call (v), take (v), cast (v), die (v), law (n), husband (n) (сканд. hūs + bōndi, т.е. «обитатель дома»), window (n) (сканд. vindauga т.е. «око ветра»), ill (adj), loose (adj), low (adj), weak (adj).

Некоторые слова этой группы легко распознать как скандинавские заимствования по начальной комбинации sk=. Например, sky, skill, skin, ski, skirt.

Со знаменитой битвой при Гастингсе в 1066 году, когда англичане потерпели поражение от норманнов под предводительством Вильгельма Завоевателя, мы подходим к

богатой событиями эпохе Нормандского завоевания. Англия стала двуязычной страной, и влияние, оказанное на английский словарный состав за этот двухсотлетний период, огромно: французские слова из нормандского диалекта проникли во все аспекты общественной жизни. Вот очень краткий список примеров нормандско-французских заимствований.

Административные слова: state, government, parliament, council, power.

Юридические термины: court, judge, justice, crime, prison.

Военные термины: army, war, soldier, officer, battle, enemy.

Образовательные термины: pupil, lesson, library, science, pen, pencil.

Повседневная жизнь не осталась незатронутой мощным влиянием французских слов. Многочисленные термины повседневной жизни также были заимствованы из французского языка в этот период: например, table, plate, sauce, dinner, supper, river, autumn, uncle и др.

Период Возрождения. В Англии, как и во всех европейских странах, этот период был отмечен значительными достижениями в науке, искусстве и культуре, а также возрождением интереса к древним цивилизациям Греции и Рима и их языкам. Следовательно, произошло значительное количество латинских и греческих заимствований. Заимствования периода Ренессанса редко были конкретными именами. В основном это были абстрактные слова (например, major, minor, filial, moderate, intelligent, permanent, to elect, to create). Естественно, существовало множество научных и художественных терминов (datum, status, phenomenon, philosophy, method, music). То же самое верно и для заимствований из греческого Ренессанса (например, atom, cycle, ethics, esthete).

Эпоха Возрождения была периодом обширных культурных контактов между крупнейшими европейскими государствами. Поэтому было вполне естественно, что новые слова также вошли в английский словарь из других европейских языков. Наиболее значимыми вновь стали французские заимствования. На этот раз они пришли из парижского диалекта французского языка и известны как парижские заимствования. Примеры: regime, routine, police, machine, ballet, matinée, scene, technique, bourgeois и т.д. Итальянский язык также привнес в английский значительное количество слов, например, piano, violin, opera, alarm, colonel.

По словообразовательным элементам английских слов возможно идентифицировать некоторые слова как заимствования и даже определить язык-источник 23 . Но это научные области других интереснейших наук, таких как лексикология, языкознание, история английского языка.

Исторический обзор, приведенный выше, далек от завершения. Его цель — просто дать очень общее представление о путях развития английской лексики и об основных событиях, благодаря которым она приобрела свои обширные современные ресурсы. Современные ученые оценивают процент заимствованных слов в словарном запасе английского языка в 65–70%, что объясняется богатой событиями историей страны и ее многочисленными международными контактами.

Вероятно, будет небезынтересно упомянуть, что в разное время пуристы пытались очистить английский язык от иностранных слов, заменив их англосаксонскими. Один из лозунгов, созданных этими лингвистическими националистами, звучал так: «Избегайте латинских производных; используйте краткие англосаксонские односложные слова». Ирония в том, что единственное англосаксонское слово во всем слогане – «англосаксонский»²⁴.

В качестве вывода справедливо задать вопрос «Почему слова заимствуются?» Этот

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 $^{^{23}}$ Антрушина Г.Б. Лексикология английского языка = English lexicology: учебное пособие для студентов высших учебных заведений, обучающихся по педагогическим специальностям / Г.Б. Антрушина, О.В. Афанасьева, Н.Н. Морозова. 8-е изд., стер. М.: Дрофа, 2008. С. 50–55.

²⁴ Krapp G.P. A Comprehensive Guide to Good English. Rand McNally&Company.

вопрос частично касается исторических обстоятельств, которые стимулируют процесс заимствования. Каждый раз, когда две нации вступают в тесный контакт, определенные заимствования являются естественным следствием. Природа контакта может быть разной. Это могут быть войны, вторжения или завоевания, когда иностранные слова фактически навязываются неохотно покоренной нации. Бывают также периоды мира, когда процесс заимствования обусловлен торговлей и международными культурными отношениями.

Эти последние обстоятельства, безусловно, более благоприятны для стимулирования процесса заимствования, поскольку во время вторжений и оккупации естественной психологической реакцией угнетенной нации является неприятие и осуждение языка угнетателя. В этом отношении лингвистическое наследие норманнского завоевания кажется исключительным, особенно по сравнению с влиянием монголо-татарского ига на русский язык. Монголо-татарское иго также представляло собой длительный период жестокого угнетения, однако отпечаток, оставленный им на русской лексике, сравнительно незначителен.

Различие в последствиях этих, очевидно, схожих исторических событий обычно объясняется различием в уровне цивилизации двух конфликтующих наций. Русская цивилизация, а также уровень ее языкового развития во время монголо-татарского нашествия были выше, чем у захватчиков. Вот почему русский язык успешно противостоял влиянию менее развитой языковой системы. С другой стороны, нормандская культура XI века, безусловно, превосходила культуру саксов. Результатом стало то, что огромное количество французских слов проникло в английский словарь. И все же, с лингвистической точки зрения, это кажущееся поражение обернулось победой. Вместо того чтобы быть раздавленным и сломленным мощным вторжением иностранного элемента, английский язык сумел сохранить свою основную структуру и значительно обогатил свои выразительные ресурсы новыми заимствованиями.

Но все это служит лишь для объяснения условий, которые стимулируют процесс заимствования. Вопрос о том, почему слова заимствуются одним языком из другого, до сих пор остается открытым и дискуссионным.

Раздел I. Лексический практикум

UNIT 1 FAMILY MATTERS

Texts The Name Game

Brotherly Love?
Dads Need Time Too!

Who Comes First?

Why Fathers Want to Look After the Baby (Yes, Really)

Speaking

Give Russian equivalents to the following words and word combinations: approval, argue, athlete, chairwoman, complain, descent, downside, embarrassing, employee, employer, enforce, engage, extensive, extent, frustrating, full pay, inferior, issue, jealously, leave, maternity leave, negotiator, occasional pang, outdoor career, outlook, parenting class, paternity leave, pursuit, rebellious streak, rival, sibling, spike, split, stifling, subsequent, survey.

Task 1. Read the text. Then do the task after it.

THE NAME GAME

Your name is extremely important. It's how you identify yourself. It's how other people identify you. Elton John was born Reginald Kenneth Dwight. Can you imagine someone famous with a name like that? He had to change it. Marilyn Monroe sounds so much more glamorous than Norma Jean Baker. So how do parents make one of the most important decisions in the lives of their children – giving them a name?

Some parents choose names because they are fashionable. Other parents do the opposite and call their children unusual names, or they even invent names. Helen Petrie, a psychologist at Hertfordshire University, says that people who choose unusual names for their children want to show how special they are.

However, the children are not always very happy with their parents' choice. David Bowie's son found the name Zowie so embarrassing that he changed it to Joe. I wonder if Bruce Willis and Demi Moore's children feel good about their names: Rummer Glenn, Scout LaRue and Tallulah Belle!

These days it's fashionable to give your child the name of a place that is important to you: Victoria and David Beckham decided to call their son Brooklyn because they were in New York when they discovered that Victoria was going to have a baby. Madonna named her daughter Lourdes after the town in France, and ex-US-President Bill Clinton named his daughter Chelsea after a part of London that he and his wife liked.

Personally, I think it's a good idea to give children names of famous people. Leonardo Di Caprio was named after the famous Italian painter and Liam Gallagher, singer with the band Oasis, called his son Lennon after his hero, John.

Make the word combinations and use them in the sentences below:

In the second se	
A	В
make	name
name	with
unusual	decisions
happy	the opposite
do	after

- 1. Do you want to go somewhere at the weekend? Or we can and stay at home?
- 2. Are you going to ... your daughter ... your mother?
- 3. Which student in your group has the most?
- 4. We are starting a new project, so we have to ... a lot of ...
- 5. Are you ... your job?

Task 2. Read the text and find in it the words that mean the following:

- a) to speak angrily to someone, telling that person that you disagree with them;
- b) an informal name for someone or something, especially a name that you are called by your friends or family, usually based on your real name or your character;
 - c) the business of producing goods in large numbers;
 - d) to say that something is wrong or not satisfactory;
 - e) achieving the results wanted or hoped for;
- f) a situation in which someone is trying to win something or be more successful than someone else.

BROTHERLY LOVE?

Adidas and Puma have been two of the biggest names in sports shoe manufacturing for over half a century.

Since 1928 they have supplied shoes for Olympic athletes, World Cup-winning football heroes, Muhammad Ali, hip hop stars and rock musicians famous all over the world. But the story of these two companies begins in one house in the town of Herzogenaurach, Germany.

Adolph and Rudolph Dassler were the sons of a shoemaker. They loved sport but complained that they could never find comfortable shoes to play in. Rudolph always said, "You cannot play sports wearing shoes that you'd walk around town with." So, they started making their own. In 1920 Adolph made the first pair of athletics shoes with spikes, produced on the Dasslers' kitchen table.

On 1st July 1924 they formed a shoe company, Dassler Brothers Ltd. The company became successful and it provided the shoes for Germany's athletes at the 1928 and 1932 Olympic Games.

But in 1948 the brothers argued. No one knows exactly what happened but family members have suggested that the argument was about money or women. The result was that Adolph left the company. His nickname was Adi, and using this and the first three letters of the family name, Dassler, he founded Adidas.

Rudolph relocated across the River Aurach and founded his own company too. At first, he wanted to call it Ruda, but eventually he called it Puma, after the wild cat. The famous Puma logo of the jumping cat has survived until now.

After the big split of 1948 Adolph and Rudolph never spoke to each other again and since then their companies have been in competition. Both companies were for many years the market leaders, though Adidas has always been more successful than Puma. In the 1970s new American companies Nike and Reebok arrived to rival them.

The terrible family argument should really be forgotten, but ever since it happened, over seventy years ago, the town has been split into two. Even now, some Adidas employees and Puma employees don't talk to each other.

Task 3. Fill in the gaps in the text with the following extracts:

- a) For example, last month the British government refused to increase paternity leave from two weeks to four weeks.
 - b) Today, in the UK, a mother can have 26 weeks' maternity leave.
 - c) If they want more time, they will have a maximum of three years' leave.
 - d) If they can make a law, then it will be good news for families everywhere.
 - e) Dads need time with their new babies too.
 - f) Companies do not accept that dads should have time with their babies.
 - g) It also means mums will probably get more help at home.

DADS NEED TIME TOO!

"Maternity leave" means time off for mothers to look after their new babies. But what about fathers, or 'dads'? (1) ... How often do they get "paternity leave"?

Ten years ago, in many countries, a mother was lucky if she had four weeks' holiday. (2) ... This means 26 weeks' holiday with full pay.

This will soon change. Mothers will then have the chance to have a whole year's maternity leave on full pay. (3) ... However, the last two years may not be paid.

But what about dads? If they get two weeks' paid leave, they'll be lucky. (4) ... They think mums should stay at home and dads should go to work. Many working dads will have little time with their babies. This is bad because research shows that some time with a new baby can be very important for both dads and babies. (5) ...

Many dads believe that the law on paternity leave should change so dads can spend more time with their children. However, many governments believe that dads are not important for babies. (6) ...

The European Union has often said that paternity leave is important. (7) ... Dads are happy that maternity leave is increasing but they want to have time to help too.

Task 4. Read the text and do the task after it.

WHO COMES FIRST?

A child's place in the family birth order may play a role in the type of occupations that will interest him or her as an adult new research suggests. In two related studies, researchers found that only children – and to a certain extent first-born children – were more interested in intellectual, cognitive pursuits than were later-born children. In contrast, later-born children were more interested in both artistic and outdoor-related careers.

These results fit into theories that say our place in family birth order will influence our personality, said Frederick T.L. Leong, co-author of the study and professor of psychology at Ohio State University. "Parents typically place different demands and have different expectations of children depending on their birth order" Leong said.

"For example, parents may be extremely protective of only children and worry about their physical safety. That may be why only children are more likely to show interest in academic pursuits rather than physical or outdoor activities. Only children will tend to get more time and attention from their parents than children with siblings. This will often make them feel Special but the downside is that they may suffer occasional pangs of jealousy and loneliness when friends discuss their brothers and sisters and family life".

The first-born is an only child until the second child comes along – transforming them from being the centre of attention, to then sharing the care of parents. Parents will also expect them to be responsible and "set an example". The change from being the focus of a family may be quite a shock and so shape the first-born's subsequent outlook on life. Therefore, first-borns may try to get back their parents' attention and approval by achieving success and recognition in their careers. It has been noted that first-borns are significantly more often found as world political leaders than any other birth order position.

"As they have more children, parents tend to become more open and relaxed and that may allow younger children to be more risk-taking" Leong said. "If the first-born or only child wants to be a poet, that may concern parents. But by the fourth child, parents may not mind as much."

Being the youngest in the family can sometimes be a stifling and frustrating experience, especially if they're looking to be taken seriously and treated like an adult. The last-born is more likely than the other birth order positions to take up dangerous sports. This may be a sign of the last-born's rebellious streak - a result of being fed up with always being bossed about by everyone else in the family.

Middle children, however, have different issues. "Middle child syndrome" can mean

feeling sandwiched between two other "more important" people – an older sibling who gets all the rights and is treated like an adult and a younger sibling who gets all the privileges and is treated like a spoilt child. Middle-borns have to learn to get on with older and younger children, and this may contribute to them becoming good negotiators – of all the birth order positions they are most skillful at dealing with authority figures and those holding inferior positions.

Leong said the biggest differences in the study were between only children and later-born children "First-born children are difficult to classify because they start out as only children but later give up that position. It may be that the length of time a first-born child is an only child makes a difference in his or her personality".

Are these statements true or false?

- 1. Parents usually expect different things from their first and last children.
- 2. Only children and first-born children often follow similar types of career path.
- 3. The results of this research contradict existing research into the effects of birth order.
- 4. The researchers found first-born children easier to analyze than the other groups.
- 5. Younger children tend to take more risks as a result of their parents' attitude towards them.
 - 6. Only children often prefer more physical occupations.

Task 5. Read the text and describe the types of Dad mentioned in it.

WHY FATHERS WANT TO LOOK AFTER THE BABY (YES, REALLY)

One of the most extensive surveys of fathers has now shown that, far from the stereotype, most men would like to share childcare duties with their partners or wives.

The survey made by the Equal Opportunities Commission shows a modern type of father: the New Dad. He takes part in day-to-day childcare and does not mind helping with the vacuuming and washing-up when his partner asks him to. The EOC interviewed sixty-four fathers and their partners about their home and work life. Most fathers agreed that it was important to "be there" for their children for key events such as school sports day, their first appearance in the school play and for at least one meal a day. Many agreed that parenting classes would be a good way to give them more confidence around the home.

Based on the survey results, four types of fathers were defined, from the traditional type of dad to the perfect **New Dad**, who is as much involved in taking care of the children as the mother. The survey found that the majority of men were somewhere between these two types.

In the first category comes **Enforcer Dad**, the old-fashioned disciplinarian who does not see himself as involved in the day-to-day care of his children. He sees his responsibilities as setting clear limits for them and being a role model. Most fathers do not see this as their only role.

The two biggest categories are **Entertainer Dad** and **Useful Dad**. Entertainer Dad is at his best keeping his children laughing while his partner gets on with household chores and arranging the children's school and extra activities. Useful Dad is willing to help out around the house, even though he expects the mother to be the "team leader" in all domestic things.

Finally, and probably every woman's dream, is **Fully Involved Dad**. He is equally engaged in running the home and the family, and sees the role of the father and the mother as practically identical. Fully Involved Dads adjust their work arrangements to their partners' professional duties.

Julie Mellor, chairwoman of the EOC, said that fathers were still not given enough flexibility at work and mothers would feel fully supported only if employers treated (and paid) both sexes equally. "Mums and dads should be able to choose how they want to share the responsibilities of bringing up children and working outside the home," she said. "But until we have equal pay, decent childcare and more opportunities to work flexible hours,

many fathers will continue to find it hard to be there for their children and many women will continue to be disadvantaged at work. This is not necessarily the best solution for parents, children or employers. Equality at work or home depends on both mums' and²⁵ dads' family responsibilities being acknowledged," Mellor said.

SPEAKING

Do you think that ...?

- families should have a meal together every day
- children should leave home as soon as they can afford to
- parents should charge their children rent if they live at home and have a job
- parents should be "friends" with their children on social networking sites, e.g. VK or Facebook
 - elderly parents should live with their children when they are too old to live alone

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²⁵ both ... and ... - и ... и; как ... так и (парный союз).

UNIT 2 FOOD AND MEALS

Texts Eating and Drinking in Germany

Table Manners in Nepal

Mood Food Restaurant Tips

Speaking

Give Russian equivalents to the following words and word combinations: allergic, aperitif, bill, canteen, carbohydrate, cure, endorphin, former, handkerchief, host, mustard, occasions, prosciutto, reduction, rinse, saucer, snack, staff, step over, takeaway food, therapy, thumb, tip, tiredness, trick, violence, waiter, waitress, weapon.

Task 1. Can you think of ...?

- ✓ ONE red fruit, ONE yellow fruit, ONE green fruit
- ✓ TWO kinds of food that some people are allergic to
- ✓ THREE kinds of food that come from milk
- ✓ FOUR vegetables that you can put in a salad
- ✓ FIVE containers that you can buy food in
- ✓ SIX things that people sometimes have for breakfast

Task 2. Read the text and fill in the gaps (1-5) with the extracts (A-E).

- A) ... served with mustard and a slice of bread or a roll
- B) ... if the service has been OK
- C) ... in the company canteen
- D) ... you raise your glass
- E) ... the waiter simply counts

EATING AND DRINKING IN GERMANY

The main meal of the day used to be the family lunch, but because most people work, they often eat (1) ... or have a snack. They then have an evening meal with their family at home. Some Germans have a second breakfast, which is a drink and a piece of cake or a roll around 11 a.m.

Coffee isn't just a drink; it's a meal in the late afternoon, usually with at least two or three types of cakes.

Bar food German-style is a sausage (2) ..., which you eat with your hands. At the beginning of lunch and dinner, you say 'Guten appetit' just after the first dish has been served. But you don't say it at breakfast or at coffee. When you have a drink, (3) ... and say 'Prost' or 'Zum wohl'. Everyone must reply with the same phrase. It's rude not to do so.

It's common to share a table with someone you don't know. But you don't have to talk to the other people, except to say goodbye when you leave. You don't have to leave a tip, but it's quite usual (4) You usually give it directly to the waiter. In some bars, the waiter serves your drinks in glasses placed on saucers. At the end of the evening, (5) ... the number of saucers on your table.

Task 3. Read the text and say what is important to do in Nepal a) before eating, b) while eating, c) after eating.

TABLE MANNERS IN NEPAL

Before eating in Nepal, you'll want to wash your hands, so take a handkerchief to dry them. You usually eat meals sitting cross-legged on a mat. Take off your shoes before you sit down.

Never touch anyone with your feet and never step over food, plates, or a person. The plates are rinsed with water before they are used, and once you touch your food, only you can eat it.

Use only your right hand to eat. You can drink from a glass using your left hand. Mix a little of the rice with some of the meat and vegetables, and use your fingertips like a spoon, and your thumb, to push the food into your mouth. As you eat, your hosts will ask you if you need anything. You'll make them very pleased if you ask for more rice.

If your hosts want to give you more food, but you're full, hold your right hand over the plate. No one gets up until everyone has finished. Step outside to wash your hands. Someone may pour water on your hands while you wash. Nepalis will also rinse out their mouths after eating.

Task 4. Read the text and do the task after it.

MOOD FOOD

We live in a stressful world, and daily life can sometimes make us feel tired, stressed, or depressed. Some people go to the doctor's for help, others try alternative therapies, but the place to find a cure could be somewhere completely different: in the kitchen. Dr Paul Clayton, a food expert from Middlesex University, says 'The brain is affected by what you eat and drink, just like every other part of your body. Certain types of food contain substances which affect how you think and feel.'

For example, food which is high in carbohydrates can make us feel more relaxed. It also makes us feel happy. Research has shown that people on diets often begin to feel a little depressed after two weeks because they are eating fewer carbohydrates.

On the other hand, food which is rich in protein makes us feel awake and focused. Research has shown that schoolchildren who eat a high protein breakfast often do better at school than children whose breakfast is lower in protein. Also, eating the right kind of meal at lunchtime can make a difference if you have an exam in the afternoon or a business meeting where you need to make some quick decisions. In an experiment for a BBC²⁶ TV programme two chess players both former British champions, had different meals before playing each other. Paul had a plate of prosciutto and salad (full of protein from the red meat), and his opponent Terry had pasta with a creamy sauce (full of carbohydrate). In the chess match Terry felt sleepy, and took much longer than Paul to make decisions about what moves to make. The experiment was repeated several times with the same result.

Another powerful mood food could become a secret weapon in the fight against crime. In Bournemouth in the south of England, where late-night violence can be a problem, some nightclub owners have come up with a solution. They give their clients free chocolate at the end of the night. The results have been dramatic, with a 60% reduction in violent incidents.

Why does chocolate make people less aggressive? First, it causes the brain to release feel-good chemicals called endorphins. It also contains a lot of sugar, which gives you energy, and can help stop late-night tiredness turning into aggression. These two things, together with a delicious taste, make chocolate a powerful mood changer.

Impressed? So, remember that blueberries and cocoa can raise concentration levels for up to five hours; food that is high in protein helps your brain to work more efficiently; for relaxation and to sleep better, eat carbohydrates; dark green vegetables (e.g. cabbage and spinach) and oily fish (e.g. salmon) eaten regularly can help to fight depression.

Now fill in the table below:

	relaxed
	happy
Food that makes us	focused
	sleepy
	less aggressive

²⁶ BBC – British Broadcasting Corporation – Британская вещательная корпорация.

Task 5. Read the text and say whether the statements after it are True or False.

RESTAURANT TIPS

Why do we tip waiters, hairdressers and taxi drivers? According to the research, more than 90 percent of restaurant diners tip their waiter or waitress about 10 percent of the bill. Tips are often a large part of the income of waiting staff.

The research shows that, to get tips, some things work and others do not. There are three main factors which can increase tipping.

The first is contact between customer and waiter or waitress. It includes:

- touching the customer politely on the arm.
- bending down so your eyes are at the same level as the customer's.
- extra visits to the table to check that everything is OK.
- smiling when greeting the customer and being pleasant. Being helpful and warm makes a big difference.
- introducing yourself by name. Even things like writing 'thank you' or drawing a cartoon on the bill are effective.

The second factor is speed. There are three occasions during the meal when speed is important: bringing the menu and drinks and taking the food order; bringing the food; and bringing the bill. It is important to get the speed right. The trick is to understand what the customer wants. A business lunch may be quick or slow: get the timing right and the tip increases.

The third factor is giving small gifts – afree aperitif at the start of the meal or a chocolate with the bill.

Is it True or False?

- 1. Physical contact with the restaurant customer can help to increase the tips.
- 2. Less than a half restaurant diners leave tips.
- 3. Service must always be quick to increase tipping.
- 4. It is important for a waiter to make regular visits to the table to see if everything is OK.
- 5. Waiters get all their income from tips.

SPEAKING

A. What do you think?

- 1. Men are better cooks than women.
- 2. Both boys and girls should learn to cook at school.
- 3. Cheap restaurants usually serve bad food.
- 4. On a night out with friends, where and what you eat isn't important.
- 5. Not all fast food is unhealthy.
- 6. Every country thinks that their cuisine is the best in the world.

B. Tell about yourself.

- 1. Is there any food or drink that you couldn't live without? How often do you eat / drink it?
 - 2. Do you ever have a takeaway food? What kind?
 - 3. When you eat out do you normally order meat, fish, or vegetarian?
- 4. What food do you usually eat a when you're feeling a bit down or before you have an exam or some important work to do?

UNIT 3 SHOPPING AND MONEY

Texts Haggling
Shops Descriptions
Unusual Shops
Speaking

Give Russian equivalents to the following words and word combinations: bakery, baking dish, bargaining, be trusted, borrow, chandelier, charm, claw, clue, convert, debt, domestic, donut, drug, even, fare, feel exhausted, flatter, floor tile, haggling, handicraft instalment, lace, loan, long run, maid, mall, owe, plumber, portion, price marked, price-controlled food, quiz, replica, rough idea, scary, sneaker, spectator box, stick out, store, street-seller, work out.

Task 1. Do the following quiz to find out whether you are a spender or a saver.

- 1. You go shopping and you see something very expensive that you really want, but can't afford. You ...
 - a) buy it with your credit card. You can worry about the bill next month.
- b) already have some money in the bank and plan to save for a couple of weeks and then buy the thing you want.
 - c) borrow the money and agree to pay back a small amount every week.
 - 2. You get £ 1000 for your birthday. You ...
 - a) spend some of it and save some.
 - b) go straight to a shopping centre and spend it all.
 - c) put all of it in your bank account until you know what you want to spend it on.
- 3. Do you always know how much money you have, how much money you have spent, and on what?
 - a) Yes. I'm very organized and know exactly what I have and what I've spent.
 - b) No. I haven't got a clue. When I have money I usually just spend it.
 - c) I usually have a rough idea about what I spend my money on.
- 4. You've borrowed some money from a friend, but you don't think that you'll be able to pay it back by the time you promised to. You ...
 - a) don't worry about it. Hopefully your friend will forget about it too!
- b) work out how much money you have and how much you owe. You speak to your friend and explain the situation and offer to pay the money back in small instalments.
- c) speak to your friend and promise that you'll pay him / her back, but it might take a bit longer than you first thought.
- 5. You have a friend who often borrows money from you and never pays it back. He / she wants to borrow £50. You ...
- a) lend him / her the money. You can afford it and it doesn't matter if you don't get it back.
 - b) say no; he / she owes you too much already.
 - c) lend the money but explain that it is the last time, until he / she has paid back this loan.

Now check your results! Do you agree with them?

Mostly (a) answers

You can't be trusted with your own money! You definitely need someone to help you to manage your finances better. Why not speak to an organized friend about how to plan? This

will help you to make your money go further and stop you getting into debt.

Mostly (b) answers

Although you understand how to manage your money, sometimes you need to be a bit more organized. Try setting yourself a weekly or monthly budget, then keep to it. You will then know how much money you have, what you spend it on, and how much you can save.

Mostly (c) answers

Congratulations! It sounds like you really know what you are doing when it comes to managing your money. You know how important it is to keep track of your spending and are responsible with your money.

Task 2. Read the text and fill in the gaps 1-6 with the extracts (A-F):

- A. ... domestic help and services
- B. ... put your money away
- C. ... the shopkeeper is smiling
- D. ... starts to feel more natural
- E. ... price-controlled food
- F. ... the same item for less in another store

HAGGLING

Haggling, or bargaining, is like learning a language. At first, you're slow and you make mistakes. After some practice, you get better and it (1) Before long you know what you're doing without thinking about it.

You usually bargain for household and kitchen equipment, like plates and pots; handicrafts like jewelry and leather goods; house rental; taxi fares on long runs. Anything you buy from a street-seller, (2) ..., such as the maid, or plumber.

You don't usually bargain for cigarettes and alcohol; meals and drink in restaurants; bus fares; medical goods, (3) ... such as flour, butter, sugar, oil, tea, and milk; goods with the prices marked.

Before you begin, make sure you know what something is worth; ask a friend for help. When you begin, don't show too much enthusiasm. Appear to lose interest. Say you saw (4) ..., or say you don't have enough money. Then you can flatter the seller and his goods. You can make an offer and pull out your money, as if the seller has accepted it. If he doesn't, (5) ...! But above all, don't back out when the seller agrees to your price.

When the haggling is over, you probably got a bargain if you feel exhausted and relieved. If you think it was very easy, and $(6) \dots$, you probably paid too much.

Task 3. Choose the correct option to complete the sentence:

- 1. I wanted to buy the painting but I could not because it was not for sale / delivery.
- 2. Are these shoes *order / available* in a size 40?
- 3. Do you prefer shopping in the store or *credit card / online shopping?*
- 4. I got a great discount / sale on these shoes; they were 50 percent off!
- 5. Do you want to pay with cash or with a card / coins?
- 6. He did not pay anything for the ticket, it was *free / discount!*
- 7. I need to *test / try* on these shoes to see if they fit.
- 8. The *mall / department* has more than 40 stores so we usually find everything we need there.
- 9. I am a size medium and this T-shirt is a size small, so I do not think it is going to match / fit.

Task 4. Read the descriptions of shops and say which of them...

- claims to be cheaper than its competitors
- offers new and second-hand clothes
- offers a free gift
- has personnel with relevant experience
- offers different ways of paying
- is attractive for tourists

Magic Flowers

You will find us in the central street, where we have flower arrangements to suit every pocket. We guarantee quick delivery and offer flowers for any occasion whether it is birthdays, weddings, or even the sad times like funerals. Paying is easy as we accept all major credit cards or you can pay online.

Design Corner

A new shop in the old part of town offering clothes made by local designers. If you buy three pieces of clothes, a scarf or a tie is gifted.

Big Hearts

Books, clothes and toys. As well as our ranges of second-hand goods, we have new, quality products made by homeless people themselves. We also need your donations, so think about us before you throw it away.

Feel Fit

Hope you will find time to come to Feel Fit and discover the new you! We have got all the best trainers, sportswear and equipment at reasonable prices. If you are not completely satisfied, you'll get your money back! Our staff are players and athletes themselves, so you will get the advice that is right for you.

Dendy

We're closing down next week and have a fantastic sale. Everything must go! We have the cheapest range of clothes in town and a great selection of men's suits, shirts and shoes. Don't miss the chance!

Sweet Memories

Get something to remind you of your visit here and look around at our wide range of souvenirs. We have lots of toys, sweets, locally made chocolates and attractive postcards and posters.

Task 5. Read and translate the text about the most unusual shops in the world.

When opening a new shop, its owners mainly think about what product to sell and what prices to set for it. Few think about the design. However, original shops may attract a lot of customers.

In Amsterdam, Adidas opened their most unusual store without a doubt. It looks like a giant box of sneakers with white laces sticking out of it.

In Belgium, there is a clothing store styled as a bakery. Here, the shoe shelves look like baking dishes, and the floor tiles are chocolates.

H&M in Barcelona owns a store that looks more like a modern palace – with amazing staircases and glass chandeliers.

In Manhattan, there is a Dior store with a facade shaped like a huge handbag.

In the usual bookstores, books are arranged in even rows on the shelves, sorted by subject and author. But not in Shakespeare & Co, Paris, where books can lie anywhere and in any way, even just lie on the floor. In Argentina there is a bookstore converted from the old theater, and now book shelves are located in the place of the spectator boxes. The Poplar Kid's Republic children's bookstore in Beijing is the most futuristic bookstore, thanks to its unusual design and a lot of white plastic.

There is a shop for witches in the city of La Paz, South America. The products are simply amazing, and sometimes scary – ingredients for potions, dried body parts of animals, amulets and charms, feathers, claws, powders, etc.

No less exotic is the market shop in the city of Lome, Togo. Skeletons of animals, their heads, paws and skins are used here. All this is necessary for the local population for ceremonies and drugs, because non-traditional medicine is widespread in the state.

In the USA, fans of the animated series The Simpsons built an exact replica of the Kwik-E-Mart store, which sold the same products as in the cartoon, including Homer's favorite donuts.

SPEAKING

- Are you a shopaholic or someone who hates shopping?
- What do you like or hate about shopping?
- When shopping in a supermarket, are you a 'basket-person' just buying a few things for the next day or so or a 'trolley-person' doing the weekly shop from a long shopping list?
 - What things are always on your supermarket shopping list?
 - Are there any unusual items on your list?
 - What's the best shop you've ever been to?

UNIT 4 EDUCATION AND LEARNING

Texts Language and Learning Alternative Schools How to Study

Speaking

Give Russian equivalents to the following words and word combinations: advance, assure, clue, compulsory / optional subject, extra practice, flipped classroom, heading, mainstream education, pay off, primary / secondary school, recite out, reinforce, retain, schooling, scramming, sensory memory, soak in.

Task 1. Read the text.

LANGUAGE AND LEARNING

Many studies about language learning ask the question: What makes a good language learner? There are some things that good language learners doand some things they don't do. Here are some of the most useful suggestions from studies.

- Don't be afraid of making mistakes. People often get things wrong. Good language learners notice their mistakes and learn from them.
- Do group activities. People use language to communicate with other people. A good language learner always looks for opportunities to talk with other students.
- Make notes during every class. Notes help you to remember new language. Look at your notes when you do your homework.
- Use a dictionary. Good language learners often use dictionaries to check the meaning of words they don't know. They also make their own vocabulary lists.
- Think in the language you're learning outside the classroom. When you're shoppingor walking down the street, remember useful words and phrases. Sometimes, when you're at home, say new words to practise your pronunciation.
- Do extrapractice. Test and improve your language, reading and listening skills with self-study material. You can find a lot of this online.
- Imagine yourself speaking in the language. Many good language learners can seeand hearthemselves speaking in the language. This helps their motivation.
- Enjoy the process. Good language learners have fun with the language. Watch a TV series or film, listen to songs, play video games or read a book. It's never too late to become a good language learner.

Now say whether the sentences are True or False.

- 1. Making mistakes is a natural part of learning.
- 2. It's a good idea to talk with other students.
- 3. Take notes only before an exam.
- 4. Good language learners write down the words and expressions they learn.
- 5. Think in the language you are learning when you are outside the classroom.
- 6. It is a bad idea to study on your own.

Task 2. Choose the correct word.

- 1. In my opinion, math shouldn't be a(n) *compulsory / optional* subject, it is too difficult!
- 2. Make sure you do / make your homework before you go out.
- 3. When you *take / pass* the exam tomorrow, try to stay calm and relaxed.
- 4. I made a few mistakes in the exam and I don't think I passed / took it.
- 5. My *qualifications / qualities* include a degree and an MA in Physics.

- 6. You'll find plenty of books on the *subject / lesson* of crisis management in the library.
- 7. Revise at home what we did in today's lesson and we'll have a quick exam / test tomorrow morning.
 - 8. I would love to *learn / teach* a new language I don't know, like Korean.
 - 9. Who *learnt / taught* you to drive?
 - 10. Children in England go to *primary / secondary* school from the ages of five to eleven.

Task 3. Fill in the gaps with the following words: learning, memorize, subject, Teachers, explain, by heart, understanding, learners, timetables.

There is usually one important subject missing from most school (1) Very few students are taught how to organize their (2) ..., and how to make the best use of their time. For some reason, many schools give (3) ... no help with these matters. (4) ... ask students to (5) ... pages from books, or tell them to write ten pages but don't (6) ... how to do it. Learning (7) ... can be useful, but it is important to give a genuine understanding of a (8) You can waste a lot of time memorizing books, without (9) ... anything about the subject!

Task 4. Read the text about alternative schools and match paragraphs 1-3 with the topics a-c below.

- a. Making mistakes is OK
- b. A school where students make the decisions
- c. Children watch videos outside class
- 1. The alternative school, in Lancashire, UK, offers a different type of schooling for young people who are having problems in mainstream education. The school offers an innovative and interesting educational program that is designed for the individual. Students can decide when they come to school, and which subjects they want to study. They do not have to come to school every day. They can start with just a few hours a week. The school uses an "open door" policy where students are allowed to leave lessons if they are bored or unhappy.
- 2. Many classrooms around the world are adopting a flipped classroom approach. This learning model switches classroom learning and homework. In a traditional classroom, the teacher explains the lesson to the students in the classroom, and the students study homework outside class, where they have to work on their own, and cannot ask anyone for help. So, in a flipped classroom, children can watch a video of their teacher giving a lecture on the subject at home. They do not have to do any written work. At school, they have to do more traditional exercises, but they can ask the teacher or classmates for help.
- 3. A child learning music with a Suzuki method has to start as young as possible. Even two-year-old children can learn to play difficult pieces of classical music, often on the violin. They do this by watching and listening. They learn by copying, just like they learn their mother tongue. The child has to join in, but does not have to get it right. They must not stop every time they make a mistake. The children have to practice for hours every day and they give performances once a week, so they learn quickly.

Task 5. Read the article with advice on how to study.

Scientists say that the key to better learning is in understanding how our memory works. Recent advances in brain research are pointing to smarter ways to study.

Have you ever had the experience of looking up a telephone number, dialing it and then finding you have forgotten it after five minutes? That's because memory actually has three components. Sensory memory takes in the impressions from our five senses and lasts just seconds, such as an image of a street lamp on the eye that disappears quickly. Short-term memory works like a "holding area" for new information — that's where you keep a new phone number long enough to dial it. But, in order to remember that same phone number next

week, it needs to enter into long-term memory – the area that contains everything from the multiplication tables to the name of your new colleague. Whether you are a first grader or a college senior, the purpose of studying is to get new concepts and information stored into your long-term memory.

Learning actually changes the physical structure of our brains. According to researchers, every time we learn something new, our brains build new nerve connections with what we already know. The more connections it builds, the easier it is to remember what we have learned. The brain research has found four key factors in effective study. The first is making an effort. Our brain remembers better when we are interested in the subject, already know a little about it, and intend to remember the information.

Next, we need to find the most important points and concentrate on organizing them rather than trying to take in every last detail. There is a limit to how much information we can learn at one time. In reading a textbook, look for titles, headings and illustrations that give clues to the main ideas. In class, pay special attention to things written on the board or in presentation slides. Try to imagine what you would put on the test if you were the teacher. Make up your own way to organize the important information.

Then we need to reinforce the new connections in the brain. There are several effective methods for doing this. One is to recite the ideas out loud in your own words — probably the most powerful tool you have to transfer information from short-term to long-term memory. For example, you can paraphrase what you have just learnt for a study partner or make a picture of the material in your mind or on paper to activate a completely different part of the brain.

Finally, we need to give the new material time to soak in – the new physical connections inside the brain have to be built up. For this reason, it is better to study in several short sessions than one long one. Avoid cramming the night before a big test, a practice that seldom helps.

These memory principles work for any age group. Being able to explain something in your own words is important, and being able to teach it to someone else is a great way to assure understanding. When we read something, we are able to remember 10 percent, but when we teach something, we retain 95 percent.

By working with the way the brain processes information, students can increase their understanding of new material and remember it better. Mastering these smart ways to study will almost certainly pay off in better results.

SPEAKING

A) Tell about ...

- something you've tried to learn, but have never been able to do well.
- something you learnt to do after a lot of effort.
- something you can do, but you'd like to be able to do better.
- something new that you would like to be able to do.
- something you are learning to do and that you hope you'll soon be able to do well.
- something you think all young people should able to do before they leave school.

B) Decide if you agree or disagree and give your reasons.

- Boys and girls both learn better in single-sex schools.
- Schools should let children wear whatever they want at school.
- Cooking and housework should be taught at school.
- Schools don't teach children the important things they need to know to be an adult.
- Physical education should be optional.
- School summer holidays should be shorter.
- Children spend too much time at school on maths and IT, and not enough on things like music, art, and drama.
 - Private schools are usually better than state schools.

UNIT 5 MODERN TECHNOLOGY

Texts Guide to Mobile Phone Etiquette

Interacting with Robots

Inventions

How Driverless Cars will Change the World

Speaking

Give Russian equivalents to the following words and word combinations: access, apparently, applicator tray, bid, chore, collision, comply, congestion, cope, durable, embarrass, etiquette, handle, hideaway, hop out, hug, ingenious, insult, laptop, license, merge, motorway, noise and light pollution, nursery classroom, observe, race, reminder, safe, security conscious, social manner, squeeze, stain, stir, stuck, toddler, traffic jam, trustworthy.

Task 1. Read the text and do the task after it.

GUIDE TO MOBILE PHONE ETIQUETTE

- Think what your ringtone says about you. If you're sometimes embarrassed by your ringtone, it's almost certainly the wrong one and you should change it.
- When in doubt, use silent or vibrate mode. It may surprise your companions when you suddenly answer an invisible, silent phone, but at least they won't have to listen to your ringtone.
- Take notice of who is around you. Make sure your conversation is not disturbing other people. Intimate conversations are never appropriate in front of others.
- Respect quiet zones. You must not use your phone in 'quiet zones' on trains or in hotels. That is the reason why they exist.
- Never shout. Your phone is not a megaphone. You don't have to shout. And don't shout because you think reception is poor. It won't make any difference.
- People with you deserve more attention than those at the end of a phone. Wherever possible, turn off your phone in social situations and at mealtimes, or put it on vibrate. If you have to keep your phone on because you are expecting an important call, apologize in advance.
- Don't carry on phone conversations when you are in the middle of something else. This is especially true if you are in banks, shops, etc. It is insulting not to give the people who are serving you your full attention.
- Think about where you are calling from. Don't make (or receive) calls in inappropriate places. Put your phone on vibrate in meetings, cinemas, etc. If you must take a call in the car. use a hands-free set.

Make word combinations matching a word in A with a word in B. Then use them in the sentences below.

A	В
vibrate	full attention
give	difference
carry on	mode
make	conversation
expect	a call

1.	He was working so he couldn't	t	me his _		_•
2	Every time you feel you are	raina ta	ha lata	for work w	2

2. Every time you feel you are going to be late for work, we _____ from you.

3. Do what you like, it will	no
4. I am back, we can	our
5. The film is beginning, wh	ny don't you use

Task 2. Read the text and do the task after it.

INTERACTING WITH ROBOTS

Move over, laptops – it's robots that can be the next-generation classroom teaching tools! A study carried out by Javier Movellan in San Diego tested four robots by introducing them into a nursery classroom of toddlers aged between 18 months and 2 years. The team used toddlers instead of older children because it was easier to focus on the interaction when there was no speech involved. When the toddlers had become used to the robots, they began to hold them with care and attention – hugging them, helping them when they fell down, and covering them with a blanket when the robot's batteries ran out. One thing that became clear was the importance of timing. Apparently simply moving the robot's head too slowly or too fast can make the children behave differently towards the robot. Movellan says the results of the study prove that we are very close to building robots that might be able to interact with humans in a social manner. The interaction observed between the children and the robots definitely created a very positive atmosphere in the classroom. Mollevan is careful to point out, however, that robots could never play the same role as humans. They might be a substitute for pets and toys, as well as an effective teaching tool, but nothing can replace good, old-fashioned human interaction!

Are the following statements True or False?

- 1. The experiment was organized at primary school.
- 2. Toddlers were used for the experiment with robots because they can't speak.
- 3. The experiment proves robots can create positive classroom environment.
- 4. Robots might replace pets for children.
- 5. One day robots will substitute teachers.

Task 3. Match the products (1-6) with their descriptions (A-F).

1.	smartpen	A	No-one wants to just make calls on their phone anymore; this device is designed to be the coordinating centre for your online life as well. It also merges contacts from social networking sites like LinkedIn and VK with your regular phone numbers.
2.	mp3 player	В	Now you show your presentations anywhere! Just connectitto amobilephone, iPodorlaptop and get imagesonthewalla bit bigger than 120 centimeters.
3.	netbook	С	The device uses special paper and records not only what you write but also the audio! Just link your pen to a computer through a USB connection, and all the notes and audio can be uploaded.
4.	handheld data projector	D	When you watch TV, would you like to access the web and check the price of shares onscreen, or make that winning bid on eBay? Then get this device!
5.	smartphone	Е	The device is aimed at people who want to surf the net, edit documents and check their emails on the go. Weight? Seriously light at just 618 grams. Size? The screen is just 20 centimeters.
6.	internet TV	F	The device comes with 1,000 prerecorded songs chosen by music experts, and arranged by genre into playlists. It'll save hours of downloading time, and you can buy a refill of new music anytime!

	9 1		′ 1	, I ,	
coni	nnect, laptop.				
	1. Do you have Internet?				
	2 the file as soon as you finish working on it!				
	3. The user can change the monitor's audio, visual ar	nd hardware	settings	through	the
	to the PC.		C	Č	
	4. This song is on my when I train in the gym.				
	5. I feel uncomfortable when I am separated from my	•			
	6. the printer to your computer.				

Now fill in the gaps with the words from the list: access, USB connection, upload, playlist,

Task 4. You are going to read some information about inventions. For questions 1-13 choose from inventions A - E. Some of the inventions may be chosen more than once.

A. The hideaway safe on a coat hanger

Stowaway is a great new security idea – afully portable travel safe that doubles as a coat hanger. Put your valuables inside, lock it firmly to the wardrobe rail then hang up your coat or jacket on it. Its main purpose is hidden by the clothes, but if a thief should take a closer look, he'll find Stowaway is securely locked in place. Ideal for use in hotels, sports changing rooms and at home too. There is plenty of space for your passports, tickets, money, cheque book and several items of jewelry. Two keys supplied. Stowaway £24.99.

B. New one-step tooth whitening system

Developed by an American dentist and made in Britain, Dental White is the effective way to whiten stained and discolored teeth. Unlike other products, the effect is achieved in one simple process. The system comes with applicator trays for upper and lower teeth; when heated the trays mold to the exact shape of your teeth. Now squeeze a thin line of Whitening Gel into the tray and "bite" into it. The results can be dramatic, especially with yellow teastains. Complies with European safety standards. Dental White (250g kit) £9.99.

C. The cleanest sweep of all

Now you only need one broom to cope with every cleaning chore, indoors or out – carpets, vinyl and wood floors, patios, the garden and the driveway. Incredibly, the Wonder Broom will sweep, clean and rake them all. Made of durable rubber and fibers that are completely washable, it will even remove the finest particles like pet hair, salt and sugar – but won't damage furniture or surfaces. You can use it as a mop on tiles, windows and on the car, yet it's also perfect for raking outdoors. And in normal use, it will last a lifetime. This really is a cleaning revolution! Guaranteed for 10 years. Wonder Broom £16.99.

D. A golf driving range in your back garden

The ingenious golf trainer lets you work on your game wherever you've got room to swing a club — and no more broken windows, lost balls or trips to the driving range! It consists of a regulation size ball suspended from a hardened steel arm with a virtually unbreakable nylon cord. When you drive the ball, its rotation around the arm precisely indicates the direction of the shot, helping you correct your aim. Every golfer should have one! The Golf Swing Trainer comes with a lifetime guarantee. £37.50.

E. Micromix stirs while it cooks

This beautifully simple British invention stirs food while it cooks in the microwave. Perfect for dishes like scrambled eggs, sauces, porridge or custard. The Micromix stirring action not only keeps the food at the right consistency but also eliminates health concerns over uneven heating. Better still, it prevents "hot-spots", which reduces the likelihood of boiling over and means you don't need to cover the dish! Why not get on with something else while the Micromix does the stirring for you? Fits all microwave ovens with a turntable. Micromix £6.99.

Which invention(s) might be useful for:

- 1. someone who wishes to improve their skill in a particular sport?
- 2. someone who does not like to spend time cooking?
- 3. someone who keeps a clean and tidy home?
- 4. someone who is security conscious?
- 5. someone who is concerned about their appearance?
- 6. someone who has a cat or dog?
- 7. someone who likes outdoor activities but does not have much free time?
- 8. someone who worries about food-poisoning?
- 9. someone who likes to hold dinner parties?
- 10. someone who travels a lot?
- 11. someone who drinks a lot of tea?
- 12. someone who likes long-lasting products?
- 13. someone who has a garden?

Task 5. Read the article about driverless cars and match headings (1-7) with paragraphs (A-F). There is one heading you don't need.

1. Free time. 2. Parking. 3. Cost. 4. Congestion. 5. Freedom. 6. Safety. 7. Health

HOW DRIVERLESS CARS WILL CHANGE THE WORLD

HOW DRIVERLESS CARS WILL CHANGE THE WORLD
A. No matter what we like to believe, humans are unfortunately not so good at driving. The fact that 1.2 million people are killed annually on roads worldwide is a shocking and sad reminder of that. Unlike humans, driverless cars will never get drunk or break the speed limit, they will not be able to race their mates away from traffic lights. They will never lose concentration, fell asleep or text a message while driving. Nor they will get aggressive, angry or frustrated behind the wheel. To cut a long story short, they will be much safer than we are.
B. Do you have problems with finding a place to park? They will not be yours any more, our car will handle that for us. Once we arrive at our destination we will hop out and leave the car to park itself. Later, when we need it, we will find the car using our smartphone. No more parking tickets, no more multiple attempts or reverse parking, no more driving in circles to find an empty parking place.
C. Think how much of your time is wasted on driving. Those daily journeys to work or school add up to hundreds of hours a year. And the vast majority of the time spent behind the wheel is often boring and frustrating. So why not read a book, watch a film or chat with someone and let the car drive itself?
D. Over a billion of cars crowd our roads every day. It looks like they all are stuck in a huge never-ending traffic jam. Using sophisticated technology, driverless cars will be able to travel centimeters apart, without the unnecessary braking that slows down traffic.
E. If we can solve the congestion problem, we may not need to destroy the green spaces to build eight-lane motorways. It will also reduce noise and light pollution that disturb

_____F. Driverless cars will give the freedom to travel to people who cannot drive. Probably a driving licence will not be required to operate a driverless car. Provided a secure, trustworthy system will be developed, children will be able to drive themselves to school or chess lessons.

animal populations and there is also the danger to both animals and motorists of potential

collisions. And it will also help to save huge amounts of money.

SPEAKING

- 1. Which statement do you agree with?
- I love to buy the latest gadgets before anyone else.
- I tend to buy electronic products when I feel they are established in the market.
- I only buy electronic products when I absolutely have to.
- I'm just not interested in all these new gadgets.
- 2. Decide which of the following products are essential for you and your family, which are desirable and which are not necessary at all: smartphone, digital camera, E-book reader, Wii, laptop, mp3 player, television, 3D printer.

UNIT 6 HOME

Texts	The Most Unusual Houses
	Things to Consider when Choosing a Place to Live
	Houses of the Future
Speaking	

Give Russian equivalents to the following words and word combinations: affordability, airtight, camper, closet, concrete, convert, electrical appliance, fiberglass, injured, landlord, modern conveniences, moisture, remotely, sky-scraper, solar panel, supply, weird.

Task 1. Complete the sentences (1-14) with the words from the list: furniture, basement,

living room, garage, window, landlord, upstairs, fire place, closet, dining room, yard, neighborhood, downstairs, floor.

1. I live in an apartment and every month I pay money to my _____.

2. I like my _____ because there are many stores nearby and my neighbors are friendly.

3. Our house has a large ____ where we grow lots of beautiful plants and flowers.

4. Did you park your car in the ____?

5. Is your bathroom upstairs or ____?

6. From my bedroom ____ I can look out and see a bus stop.

7. There is a small bed, study desk, and ____ in my bedroom.

8. I live in apartment on the tenth floor. My friend lives ____ on the eleventh floor.

9. Every evening, my family and I watch television in our ____.

10. Last week, we bought lots of new ____ for our home: some tables, chairs, and a new bed.

11. My mother gets angry if I eat in front of the TV. She says I should eat in the ____.

12. Be careful! Don't drop it on the ____.

13. In the winter, when it is snowing outside, we keep our bicycles down in the ____.

Task 2. Read the text about the most unusual houses of the world.

Do you need design inspiration? Read about some weird houses from around the world!

14. This house has some lovely features including an open ___ in the living room.

In Costa Rica there is a house that used to be a Boeing 727 airplane in 1965. It's one of the most unique and crazy hotels in the world. The airframe was transported to the site piece by piece. It was then reassembled on a 50-foot pedestal at the edge of the National Park and now it makes the central part of the hotel.

Every child dreams about a tree house. Modern treehouses aren't what they used to be if they are like the Tree Hotel from Harads, Sweden. The structure is a cube-shaped volume wrapped around the trunk of a tall tree. It's lightweight and made of aluminum. Its exterior is of mirrored glass, and the interior is made of wood and offers 360 degrees views of the landscape. The internal functions include a living area with a roof terrace, a bedroom, and a small bathroom. You can get in using a rope bridge connected to the next tree.

In Utrecht, the Netherlands a church dating back to 1870 that stopped functioning was converted first in a showroom for events and furniture displays, and then it was turned into a home.

The world's narrowest housemeasuring only 122 centimeters at its widest point can be seen in Warsaw, Poland, wedged between two existing buildings. It has no windows but is semi-transparent with a white interior. It now serves as a temporary home for traveling writers.

The PAS House, located in Malibu, California, is a collaboration between two designers and a professional skater and World Champion. The interior is organized into three main areas, one of which is a skateboard practice zone. Of course, it's possible to skate on pretty much everything, including the walls, ceiling, and even the furniture.

Make true sentences about the houses described in the text above.

1	In the Netherlands, a church was turned into a house	A	is made of a real plane.
2	The house in Malibu	В	after it stopped functioning.
3	The world's narrowest house	C	from the tree hotel.
4	You can get 360 degrees views of the	D	provides an opportunity to practice
4	landscape	D	skateboarding.
5	A part of a hotel in Costa Rica	Е	is located between two buildings.

Task 3. Complete the comments about different types of houses with the words from the list: space, lots of space, noisy, convenient, farm houses, relaxed life, modern conveniences, fire.
Which of the opinions do you agree with? 1. I love town houses because they are so for city living. 2. My favorite kind of home is a family house because I like having and a yard. 3. I don't like wooden cottages. A brick house is a lot safer in case of a 4. Don't you think bungalows allow you to live a? 5. I hate living in apartments because I always have bad luck with neighbors. 6. My dream is to live in a modern villa. They offer a lot of living space and all 7. I would not like to live in a camper van because they don't have enough 8 are great but normally they are a long way from shopping centers.
Task 4. Read the text and fill in the gaps with the words from the list: apartment, children, friendly, highway, mortgage, hospital, rent, repair, stairs, windows. Is there anything you would like to add?
Things to Consider when Choosing a Place to Live Location means where the home is. For example, is it located near your work, school, or a perhaps a 1? Affordability means your ability to pay the monthly 2 or (if you want to buy the home) 3 payments. Neighborhood means the area around the home. Are your neighbors 4? Is the area clean? Is there much crime? Sunlight, of course, means the natural light from the sun. Does the home have many 5? Security means safety. An 6 on the third floor is probably safer that one on the ground floor. Age means how old the home is. You may have to spend lots of money to 7 an old
Noise, of course, can be a problem. You probably don't want to live next to a noisy Lifts are important if you are injured or elderly and can't walk up 9 Pets are not allowed in some rented homes, but some small animals like fish might be okay.
Size is something to think about, especially if you plan have more 10 in the future. Task 5. Read the text about the houses of the future and do the task after it.

What will the houses of the future be like? Do you think we will live in bunkers or skyscrapers? Probably most houses will look similar to the homes of today, but from foundation to roof they will be more comfortable and energy efficient. Some experts also believe that we will live in more compact homes.

Houses of the future will be built of eco-friendly concrete and be both airtight and

breathable. We will control air movement to stop moisture from getting into the walls. The use of aluminium and fiberglass will probably increase.

An effective ventilation system with high-quality filters will supply fresh air without opening the windows. By the way, windows will have external shutters to prevent the sun from getting in.

Wastewater from baths, showers, washing machines, dishwashers will be sent to gardens and toilets saving up to 70 liters of drinkable water per person every day.

Solar panels that convert the sun energy into electricity will supply every household with necessary energy.

And of course, our homes will be increasingly digital. The home will be entirely connected, including all kitchen, bathroom and electrical appliances and heating devices and we will remotely operate everything.

Read the text again and find the words that go to the following categories:

Types of houses:	
Parts of houses:	
Rooms:	
Adjectives to describe houses:	
Equipment and devices:	

SPEAKING

- How many times have you moved house?
- Do you prefer living in a house or in a flat? Explain why.
- Are you in favor of renting or buying a house?
- Which is more important for you: lots of space in your home or a central location?
- What can you do to make your house or flat more homely?
- What gadgets would you like to have in your house?

UNIT 7

CHARACTER AND PERSONALITY

Texts Birthday and Personality

What Does Your Profile Picture Say About You?

It is Not "How Clever Are You?", it is "How Are You Clever?"

Speaking

Give Russian equivalents to the following words and word combinations: ability, arrogant, astute, avoid, considerate, contemplative, do sums, escapist, faithful, gentle, give a hand, intelligence, intelligent, interpersonal, kinesthetic, loyal, make one's own judgement, negotiation, persistent, professional capacity, purposeful, restless, schedule, self-aware, spatial, spiritual, stubborn, visual, work to tight deadlines.

Task 1. Match adjectives (1-10) with their descriptions (A-J)

	Someone who is						
1	honest	A	can adapt their abilities to new situations				
2	independent	В	puts a lot of energy and positivity into their work				
3	motivated	C	believes in their own abilities				
4	punctual	D	wants to achieve a lot in their life and career				
5	flexible	Е	always tells the truth				
6	enthusiastic	F	wants to know or learn something				
7	organized	G	has strong reasons for doing something and works hard because of these				
8	confident	Н	does not depend on others				
9	ambitious	I	plans their schedule carefully				
10	curious	J	always arrives on time				

Task 2. Birthday and Personality.

A birth date describes who we are and what we are good at. To understand it you need to know your birth number. Add up the numbers in your birthdate like in the example:

May, 2 2005

5+2+2011 = 2018 => 2+0+1+8=11 => 1+1=2

The birth number is 2.

Now calculate your birth number and read the description.

- 1's are purposeful. Optimistic, pretty stubborn and arrogant. They like being the first and the best. They have good memory and they can do many things at the same time.
- **2's** are born diplomats. They are gentle and considerate. 2's are afraid to offend other people. They are hardworking, neat and modest. Friendship is very important for them. They are big-hearted people who create an atmosphere of peace and harmony around them.
- **3's** are very creative, social, charming, romantic and easygoing. They like others to be happy and love meeting new people. They are very popular. 3's are the lives of the parties.
- **4's** are responsible, strong-willed and hardworking people. They like order and routine. They love the nature. Their home and family are very important for them. Sometimes they can be stubborn and persistent.
- 5's are active, restless, curious, intelligent and impatient. They like travelling and taking risk. They love learning new things and discovering new places.
- 6's are balanced, good-natured and reliable. They are faithful, honest, romantic people with caring hearts. People close to them know that they can ask for help in times of trouble.
- 7's like being alone. They are self-controlled and slow to make decisions. They are contemplative and astute. They like mysteries and have good intuition and imagination.

- **8's** are problem solvers. They are decisive and prefer to be their own boss. They achieve their goals and tend to make their own judgement and rules.
- **9's** are charming people with a talent of making friends. They are very caring and generous. They are very lucky, calm and kind people who always try to help their close people.

Task 3. Read the text and complete it with the headings from the list:

- A) Photo of you as a child
- B) Holiday photo
- C) Logo of your business or company
- D) Photo with a celebrity
- E) Photo with a partner
- F) Photo with your baby or child

WHAT DOES YOUR PROFILE PICTURE SAY ABOUT YOU?

Whether it's a photo of you on a night out or of you with your newborn baby, the image you choose to represent you on social networking sites says a lot about you.

Profile pictures on VK, Facebook and in messengers are the visual projection to friends and family of who you are and what you are like. They are often the first and only visual introduction people have to each other. So, what does your profile photo say about you?

There are 12 categories that cover most types of profile pictures.

- 1. The professionally taken photo. You use social media mainly for business or career purposes.
- 2. _____. You want to show what you have achieved in your family life, and are generally more interested in a response from women than from men.
- 3. _____. You see your other half as the most important thing in your life, and you see yourself as one half of a couple.
- 4. Having fun with friends. Generally young and carefree, you want to project an image of being fun and popular.
- 5. _____. You are a bit of an escapist and keen to show a different side of yourself from what you do on a day-to-day basis.
- 6. _____. This kind of image says that you don't really want to grow up and face the future. You are nostalgic for your childhood.
- 7. Caricature. Using a caricature is a way of saying that your image isn't rigid and that you don't take yourself too seriously.
- 8. Photo related to your name, but not actually you (a shop sign, or product label for example) You want to be identifiable, but you feel your name is more important than what you look like.
- 9. Photo related to your political beliefs or a team that you support. You think that your beliefs and interests are more important than your personality.
- 10. _____. You think that showing yourself with a well-known person will make you seem more important.
- 11. Self-portrait taken with webcam / camera phone. Functional. It says, "Look, I don't dress up; take me as I am."
- 12. _____. You only use social media in a professional capacity, and you identify more with your work role than with your private life.

Task 4. Read and translate the text and do the task after it.

IT IS NOT "HOW CLEVER ARE YOU?", IT IS "HOW ARE YOU CLEVER?"

Actually, there is more than one way to be intelligent, we all have a lot of different intelligences – multiple intelligences. Read and find out which of them you have!

• Are you good at learning languages? Do you love to read and write? If the answer is "yes", you have high linguistic intelligence; the ability to use language.

- What about numbers? Are you quick at doing sums? If so, you probably have high logical-mathematical intelligence the talent for understanding logic and for using numbers.
- Do you see things in your head? No, you are not crazy, but you probably do have high spatial intelligence. You are probably good at reading maps and understanding diagrams. You probably also remember things using images, colors and pictures.
- How are you on the dance floor? Are you good at sports and dancing? Kinesthetic intelligence is the talent for using your body well to move or to show emotion.
- Do you sing in the shower? Play any musical instruments? Yes? You probably have high musical intelligence the ability to hear, recognize and remember music.
- Do you love working in teams? Do you have a lot of friends? You probably have high interpersonal intelligence, the talent for understanding other people's thoughts and feelings.
- Do you keep a diary? Do you think about your own character and action a lot? You may have high intrapersonal intelligence. This means you are good at understanding yourself and self-aware.
- "To be or not to be" this is the question for those with high existential intelligence; this is about being able to understand things that are spiritual and things that relate to the meaning of life and death.
- Do you like to spend time with nature? Do you have pets? Do you like to grow plants? If so, you probably have high naturalistic intelligence the talent for understanding how natural things in the world work.

So, how are you intelligent?

Fill in the gaps with the words from the list: emotions, image, intelligence, interpersonal, self-aware, intelligent.

1. Children of low need special teaching methods.
2. He finds it hard to express his
3. She is enough to realize she was wrong.
4. To manage a team of 50 you need excellent skills.
5. You need to be to understand your strengths and weaknesses.
6. Do you have an in your mind of the way you want your room to look?

Task 5. You are a human resources manager. You need new team leaders for your organization. You have interviewed several people today and also talked to their colleagues and subordinates. Now you need to email your boss their brief characteristics. Read the notes you made and describe the people using appropriate adjectives from the list.

Positive	supportive, quick-thinking, persuasive, respected, well-dressed, independent,
1 OSITIVE	knowledgeable, ambitious, resourceful, well-liked, organized
Negative	forgetful, hot-tempered, self-centered, authoritarian, self-important, closed,
Negative	two-faced

Brian

Brian always plays jokes on his colleagues, which some of them dislike. He is great at motivating people and giving them a hand in difficult situations. Brian is absolutely loyal to his team and his office is always open for them. Sometimes he can have memory problems, but his personal assistant is always there to help. He takes his projects very seriously and controls every step his team makes as he thinks nobody can do it better. He can be a bit slow at making important decisions and tends to avoid risk.

So, Brian is

Tina

Tina is really secretive and doesn't give out information. Always works on her own, many people said they avoid communicating with her as she can be very nice to your face but the opposite behind your back. But she is a person to go to in crisis period, Tina can quickly find a way out of any situation.

So, Tina is

Edward

Edward has model looks and a good taste, he spends lots of time and money on his appearance. He is the heart and soul of any party. Can be a little bossy with his team, but they love him. Edward can win any difficult negotiations. Always knows what he wants and always gets it.

So, Edward is

Rebecca

She can be very nervous and even aggressive at hard times. She knows everything about her job, though it is not a good idea to ask her for advice as she thinks that she is the only person who does all work. Rebecca is good at working to tight deadlines.

So, Rebecca is

SPEAKING

- What is your best personality trait?
- What is your star sign? What does it say about you?
- Are you an extrovert or an introvert?
- If you could change any aspect of your personality, what would it be?
- What superpower would you like to have?
- What are your strengths and weaknesses?

UNIT 8 WORLD OF WORK

Text Personal Profiles
The working-from-home revolution
The Best Job in the World

Speaking

Give Russian equivalents to the following words and word combinations: affect, appeal, degree, demand, executive, free accommodation, lockdown, long-term, manufacturing, negotiation, productivity, property, remotely, spatial, stock market.

Task 1. Tick the statements that are true for you do find out the right job. MATCH YOUR PERSONALITY TO THE JOB

- 1. I'd like to work as part of a team.
- 2. I enjoy helping people with their problems.
- 3. I don't mind not earning a very large salary.
- 4. I'm good at listening to people.
- 5. I'm good at making quick decisions.
- 6. Taking risks doesn't worry me.
- 7. I'm happy working by myself.
- 8. I'm not afraid of managing large amounts of money.
- 9. I'm good at expressing myself.
- 10. I always try to follow my instincts.
- 11. It's important for me to be creative.
- 12. I enjoy improvising.
- 13. Doing complex calculations is not difficult for me.
- 14. I enjoy solving logical problems.
- 15. I find it easy to understand theoretical principles.
- 16. I am able to calculate space and distance.

RESULTS

- If you have most ticks in 1-4, the best job for you would be in the 'caring professions'. If you are good at science, you could consider a career in medicine, for example becoming a doctor or nurse. Alternatively, teaching or social work are areas which would suit your personality.
- If you have most ticks in 5-8, you should consider a job involving numbers, for example becoming an accountant or working in the stock market. The world of business would also probably appeal to you, especially sales or marketing.
- If you have most ticks in 9-12, you need a creative job. Depending on your specific talents you might enjoy a job in the world of music, art, or literature. Areas that would suit you include publishing, journalism, graphic design, fashion, or the music industry.
- If you have most ticks in 13-16, you have an analytical mind. You would suit a job in computer science or engineering. You also have good spatial sense which would make architecture and related jobs another possibility.

Make word combinations matching a word in A with a word in B. Then use them in the sentences below.

A	В
make	instincts
analytical	decisions
related	talents
follow	mind
specific	jobs

1. U	nemployment may affect sales and	•
2. Pe	eople with are often perfectionist	ts.
3. Y	our body can help you make a decision, so	your
4. C	ollect all relevant information before you	·
5. Sc	o, you feel that you have no? It's	not true!

Task 2. Study the personal profiles, then do the task.

I am an architect with 20 years' experience of designing and developing spaces. I am a partner in the award-winning STG Architects Ltd, which is famous for its work on the Galroy Building in London. I enjoy working with people from all over the world and have international experience of working in Italy, Greece, Thailand, Australia and Brazil. I have a Master of Science from Sheffield University and a BA in Architecture from Hull University. I also speak Italian and Thai. When I am not working, I spend my time hiking, skiing and diving.

Emily

I am an experienced sales manager with 12 years' experience of developing customer service teams. I am skilled in negotiation, team motivation and building successful sales teams. After ten years of working in sales and customer service at Halo Bank, I am now the sales office manager of a team of 120 at Southern General Plastics Ltd. I have an MBA from Stanford University and a degree in Business Studies from Cornell University. I am creative and hardworking, and enjoy working with others.

Are these sentences about Maria or Emily?

- 1. She trains sales teams.
- 2. She has more than a hundred people under her.
- 3. She has worked in many different countries.
- 4. She has two degrees in Business.
- 5. She speaks two foreign languages.
- 6. She likes water sports.

Task 3. Match the sections of a CV with the headings.

1	Personal details	A	Eva Stacks, Head of Postgraduate Studies, London Business
1			School
2	Education and	В	Independent PC user. Microsoft Office.
	qualifications		
	Computing knowledge	C	Name: Elizabeth Carter
3			Address: 18 Harrison Road London
			Date of birth: 16 th May 1992
4	Languages	D	2017 – present Aldesign, Marketing executive
5	Work experience	Е	Travel, swimming, classical music

Interests F 2010 – 2014 University of Economics, Bern – gradua									
6			Business Studies						
6			2015 – 2017 London Business School, Postgraduate						
			Diploma in International Marketing						
7	Referees	G	English (fluent), French (fluent)						

Task 4. The working-from-home revolution.

Fill the gaps in the sentences using the words from the list: pandemic, executive, lockdown, productivity, employer, property, remotely.

- A _______ is a disease that affects many people across the whole world.
 An ______ is a person or organization that gives jobs to people.
 ______ is the rate at which a company or country makes goods.
 An _____ is someone in a high position, especially in business.
 If you work _____, you do not go to a workplace but work from home on a computer.
 A _____ is when people are not allowed to leave their homes.
- 7. is a building or area of land.

Now read the text and do the task after it.

Before the coronavirus pandemic, 1.7 million people mainly worked from home in the UK. That's about 5% of the country's 33 million workers. Since the pandemic and the lockdown, millions more have also started working from home. Employers say that there hasn't been any reduction in productivity. Moreover, some things have improved, such as communication, which is actually more regular and efficient remotely. In the office, meetings often continue for hours, or people don't communicate enough – now they do. For businesses working from home also means smaller office spaces and less business travel.

The companies that are most able to adapt to homeworking are sectors such as media, tech and financial services. For others - airlines and car manufacturing, for example - it is impossible. In that situation, the probable long-term losers are airlines, hotels and the office property sector.

Quite a lot of people welcome a working-from-home revolution but definitely it is not right for everyone. Junior employees and those in shared accommodation find homeworking much more difficult than executives with houses and gardens. So, there will always be a demand to come back to an office.

Match the beginnings (1-5) and endings (A-E) to make statements about the text:

1110	ten the segmings (1 e) and endings (11	, .	o mane statements about the tent.
1	As a result of the coronavirus pandemic	Α	are probably over.
2	The days of travelling on business	В	homeworking is impossible.
3	A more regular communication	C	for big office property.
4	Now businesses don't need to pay	D	many companies asked their staff to work remotely.
5	For airlines and hotels	Е	is one of positive changes connected with working-from-home.

Task 5. Read the text and do the task after it.

The Best Job in the World

Have you ever heard of the Great Barrier Reef? It is the world's largest coral reef system along the eastern coast of Australia. In February 2009, an extraordinary position was advertised by the Australian Tourism Office. The advertisement ran that the Great Barrier Reef needed a caretaker for half a year. It was for a special person who would look after the Reef.

The job offered a large salary, free accommodation in a luxury villa, and transportation there and around the islands. All expenses would be paid: the winner wouldn't need to spend any extra money on anything.

The job's duties were simple. First, the person had to speak English and swim well. Second, he had to write a weekly Internet blog. He also needed to explore the islands of the Great Barrier Reef, swim, make friends with the locals and generally enjoy the tropical climate and lifestyle.

During the first 2 days the tourism office received more than seven thousand online applications. In the end 16 people were chosen, who flew to Australia for the final selection. The candidates were interviewed and the winner was Ben Southall from the UK.

Ben greatly enjoyed the dream job he had got. Every time he went outdoors, he could discover something new, it was a good way to clean the mind and build respect for the natural world. But his life on the island was not just fun. It was very busy, busier than most people imagined. He worked seven days a week and up to 19 hours a day. The Best Job included travelling to over 60 islands of the Reef almost every day. It was not just looking after the Reef, Ben had a lot of meetings, press conferences and interviews. He was getting a lot of attention all the time and he couldn't get away from it. That was probably the hardest part of the job.

Moreover, any adventure has a certain degree of risk. Ben had to deal with whales, sharks and other sea creatures. Surprisingly, the most dangerous thing was a small jellyfish about the size of a little finger. It's considered to be extremely poisonous and Ben was stung by it. He had to spend a couple of days in hospital but luckily recovered after a course of antibiotics.

Do you still think it is a job you are dreaming about?

Are the following statements True or False?

- 1. A caretaker was searched for a year.
- 2. Only ten candidates were shortlisted.
- 3. A successful candidate had to buy the tickets to get to the island.
- 4. Communication with the locals was one of the duties.
- 5. While working as a caretaker Ben Southall had a lot of free time.
- 6. Ben Southhall was taken to hospital after a shark attack.

SPEAKING

- Do you think we should have a four-day work week?
- Should more people work from home in the future? Why? Why not?
- Is it better to work in a large or small company?
- What makes a good boss?
- Should parents have a "say" in their children's deciding what career to follow? Give reasons.
 - What is more important in a job, satisfaction or how much money one earns?
 - What is a job you could never do?

UNIT 9 HOBBIES AND PASTIMES

Texts Gym
Hobby Clubs
Unusual Hobbies
Speaking

Give Russian equivalents to the following words and word combinations: access, assessment, available, choir, community, emergency, fee, frighten, green-fingered, haunted, in charge of, mansion, nutrition, rehearsal, rehearse, seeds, support, swap, tourist destination, tuition, violent, weird.

Task 1. Word Search Puzzle. Find and circle the following words in the grid: puzzles, photography, skating, fitness, pottery, cards, running, golf, hunting, embroidery, knitting, fishing, dancing, gardening, painting, crafts, cooking, drawing, music, chess, yoga, origami, movies, singing.

P	Н	O	T	0	G	R	A	P	Н	Y	0	F	X	K
A	V	В	M	T	Z	U	S	K	С	Н	Е	S	S	N
I	Н	U	N	T	I	N	G	L	R	В	Е	V	С	I
N	G	A	R	D	Е	N	I	N	G	W	О	D	P	T
T	Y	K	K	С	L	I	G	K	Y	U	Q	R	Q	T
I	S	K	A	T	I	N	G	P	О	G	L	A	Н	I
N	Е	N	P	Y	U	G	О	K	G	Е	R	W	T	N
G	V	M	U	S	I	С	L	D	A	N	С	I	N	G
Q	С	A	Z	T	A	P	F	J	G	R	I	N	A	T
S	О	P	Z	S	I	N	G	I	N	G	С	G	О	F
T	О	W	L	R	J	C	С	F	О	V	A	X	R	Y
W	K	V	Е	M	В	R	0	I	D	Е	R	Y	I	P
Y	I	R	S	L	0	A	P	T	J	Q	D	Y	G	K
X	N	F	O	A	Z	F	W	N	P	В	S	В	A	0
В	G	В	L	P	О	T	T	Е	R	Y	S	V	M	L
Z	M	О	V	I	Е	S	K	S	Q	W	K	О	I	P
F	N	U	T	Y	O	F	I	S	Н	I	N	G	L	G

Task 2. Movie Vocabulary. Match the words (1-12) with their definitions (A-L)

		· /
documentary	A	a genre with stories set in the future or in outer space
director	В	a movie about realistic characters in dramatic situations
horror movie	C	all the actors and actresses in a movie or TV show
comedy	D	the series of events that form the main story
cast	Е	the person in charge of making a movie
drama	F	a film with lots of funny scenes
character	G	the flat surface that a movie is projected onto
family movie	Н	a film that's about real people, events or issues
sci-fi (science fiction)	I	a movie with many exciting and violent scenes
plot	J	one of the people in a story
action movie	K	a movie that both children and adults can enjoy
screen	L	a movie that frightens and shocks people
	director horror movie comedy cast drama character family movie sci-fi (science fiction) plot action movie	director B horror movie C comedy D cast E drama F character G family movie H sci-fi (science fiction) plot J action movie K

Now fill in the gaps in the sentences below with some words from the table above.	
1. It was a good film, but the was difficult to follow at times.	
2. Have you seen that film Interstellar yet?	
3. My mom loves medical with lots of emergency scenes.	
4. How can you eat junk food after seeing that Super Size Me?	
5. The gets really angry when actors forget their lines.	
6. The film had a good , but the story wasn't very interesting.	
7. Let's see a and have a good laugh.	
8. Which studio made the Cinderella and 101 Dalmatians?	
9. Do you like sitting at the back, or close to the?	
Task 3. Read some information about the gym. Then do the tasks after the text.	
You don't want just a gym membership. You want a membership that means something	σ
And that means you need support, expert help and a community. Best Body Fitness isn't just	
gym: it's a full-service fitness membership made for you.	ч
Here's how it works:	
STEP ONE: Your assessment. We begin with an assessment session. This is a chance for	٦r
you to see what we do at Best Body Fitness. Our assessment plans are no-cost and no-rish	
·	Λ.
We'll also make a training plan specifically for you.	
STEP TWO: Your training. When you decide to become a Best Body Fitness member was shown any what to do have to do it and applies when you are doing it. After a few against	
we show you what to do, how to do it and explain why you are doing it. After a few session	
with an expert private trainer you will feel comfortable working out on your own. But don	. ι
worry, we'll always be nearby if you have problems or questions.	
STEP THREE: Your membership. Membership works on a month-to-month basis. The	
are no sign-up fees and no cancellation fees. Start and stop whenever you want. And the be	st
part? Our fees are the most competitive in the whole downtown area.	
STEP FOUR: Your community. At Best Body Fitness, we see everyone as part of a bit	_
team. And when you work with a team, you can do great things. Join any of our specialize	
classes, led by expert instructors. Come to our nutrition classes. Participate in our regula	ar
social events. Everything is included in your fee.	
Come and visit us for a personal tour!	
Now say whether the statements are true or false.	
1. The first visit to the club is a personal tour.	
2. Everybody gets the same training plan.	
3. At this gym, you always train with an expert instructor.	
4. You can stop your membership without any payments.	
5. You can easily access the gym using public transport.	
6. Nutrition classes should be paid extra.	
7. The gym is open at 4 o'clock in the morning.	
8. The gym offers good prices compared to other gyms in the city center.	
5 8, 5 8 + F 1 + 8, 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1	
Fill in the gaps with the words from the list: specifically, nearby, own, membership	p,
whenever, time, led.	
1. The gym offers a full-service fitness	
2. We'll make a training plan for you.	
3. You can work out on your	
4. Our instructors will always be to help.	
5. Start and stop you want.	
6. Join any of our classes, by expert instructors.	
7. Stop, start or refund your membership any	

Task 4. Read the advertisements for hobby clubs and answer the questions.

Karate Club

We are proud to offer three levels of trainings:

Beginners: Wednesdays 7-8pm Intermediate: Thursdays 6-8pm Advanced: Fridays 6-8pm

All trainings are held in the main gym. Mixed Age Groups from age 7 – adult. Karate kits must be worn. Discounts available.

Magic Hands Club

Girls of all ages are welcome! The sewing circle meets in the Pink Room on Mondays and Thursdays from 10 am to 12 pm. The knitting classes are on Fridays from 4 pm to 6 pm.

Bring along the projects you've started! Our group can give you tuition and advice on sewing or knitting.

Singing Studio

Our choir rehearses in the concert hall on Saturdays from 7.30-9.30 pm.

If you love to sing, are over the age of 16 and have a good ear for music, please join our friendly choir.

Creativity Club

Mondays and Thursdays from 4.00-5.30 pm

Don't want to let your kids get messy with painting and modelling at home? Are they aged 5-9? Bring them to the club and don't forget an old shirt! We will provide all the materials.

Drama Club

If you'd like to be on the stage, you are very welcome to our auditions on Saturday 8th September. No acting experience is necessary! All successful candidates will be invited to the rehearsals on Wednesday nights 7-9 pm in the concert hall.

Gardening Club

The Gardening Club meets on the first Tuesday of each month at 5.00 pm. Experienced gardeners and beginners are invited. You will swap seeds and tips and meet green-fingered friends.

- 1. Where do you need to bring your own equipment?
- 2. Which club is available only to children?
- 3. Which club has separate classes for people of different abilities?
- 4. Which club doesn't meet every week?
- 5. Which club provides the materials?
- 6. Where are you required to wear special clothes?

Task 5. Read the text about unusual hobbies. Would you like to try any of them?

Do you feel bored? Are you looking for a new hobby? You can think about one of the following:

1. Toy Voyaging

Toy voyaging is an unusual hobby when you send your toy on holiday and another person sharing your interest in any part of the world will be its host. The funny thing about this hobby is that you can see lots of photos of your toy while it is visiting popular tourist destinations and participating in activities.

2. Extreme ironing

This hobby is really crazy, and it is more than a pastime, it is a competitive sport. Extreme ironing means ironing clothes while doing some extreme sport or at some challenging location. Some people have ironed their clothes during kayaking, rock climbing, flying in a helicopter, and even skydiving.

3. Ghost Hunting

It is a hobby for the brave. If you believe in ghosts and spirits, your task will be to prove that paranormal activities happen. You need to visit weird locations like haunted mansions and record your experiences on camera.

4. Noodling

Noodling is a kind of fishing, but you are not allowed to use a fishing rod, you catch the fish with bare hands. Normally, noodlers try catch a catfish in some shallow places. It is not easy, so you have to be brave and skilled!

5. Mini-Landscaping

Miniature landscaping is more than a hobby, it is an art especially popular in East Asia. The idea is to create tiny versions of the natural environment. Saikei, Bonsai, Bonkei, and Bonseki are all part of this unique hobby.

SPEAKING

- What do you do in your free time?
- Do you have any hobbies?
- How do you relax when you are stressed?
- Do you prefer to be alone or around people?
- If you have a day off school or work, do you sleep in late?
- What are some things that you consider to be a waste of time?

UNIT 10 DAILY ROUTINE

Texts Daily Routine Celebrities Daily Routine

Speaking

Give Russian equivalents to the following words and word combinations: almond, anticipation, attend meetings, can't stand, dedicate, demanding, hearty, improve, in advance, interact, jog, kick back, pushups, reason, release, rewarding, rumor, squat, work pressure.

Task 1. Read the text and do the task after it.

Friday is great. Tuesday, Wednesday and Thursday are OK. Sunday is not so good. And Monday? We don't like Monday. Mondays have bad reputation. About 80% of people say Monday is the most stressful day for them. The top reasons they give are heavy workloads, demanding tasks, negative coworkers and the need to interact with the boss. Interestingly, Mondays are most disliked by younger workers, aged under 25.

If you can't stand the idea of work on Monday, how can you make this day more enjoyable? Don't forget that you work matters or nobody can do it better than you. Find time for your hobbies not only at the weekend, some time spent in the gym or in the garden on week-days can make them less stressful! Take control of your workload where you can, keep the lines of communication open if your work depends on other people and avoid procrastinating. Try to have more rewarding relationship with the co-workers, build connections and it will make your days better.

Make the words partnerships and then use them in the sentences (1-5).

1	have	Α	workload
2	interact	В	connections
3	heavy	С	bad reputation
4	build	D	procrastinating
5	avoid	Е	with the boss

internet.
ning.
se in another

Task 2. Study the list of daily activities and put them in the correct part of the table.

Wake up, work on the computer, make a presentation, feed the dog, wash the car, check emails, make breakfast / dinner, chill out on the sofa, make telephone calls, eat out, fall asleep, shine the shoes, turn off the alarm, go to the gym, put make-up on, have a shower, get dressed, watch television, go grocery shopping, check social media, go to the theatre.

Daily Activities at Home	Daily Activities at Work	Other Daily Activities

Now make true sentences about yourself describing your daily activities.

Task 3. Match the questions about the daily routine (1-9) with the answers (A-I).

1 41	ok of match the question	iib u	bout the daily fouthie (1-3) with the answers (A-1).
1	When do you wake up?	A	I enjoy it late at night when I come home from work. To me, it's a great time to kick back on the bed to surf the Internet, listen to music, or watch a favorite movie.
2	What is your daily routine?	В	Yes, it changed about a month ago. I had a very challenging project and had to work late until 2:00 AM.
3	What part of the day do you like most?	С	Well, I'm a morning riser, and I wake up at about 5 o'clock. Getting up early makes me feel refreshed and productive.
4	Do you think it is important to have a daily routine?	D	My work starts at 2:00 PM. So, I laze around until then. I want to use that time more productively.
5	What is the busiest part of the day for you?	Е	I'm doing a course in Management along with my work. I usually study at weekends because I can dedicate a whole day to it. I don't study on weekdays as it becomes stressful.
6	What would you like to change in your daily routine?	F	Well, in the morning, I get up early, have a light breakfast and go to the gym at about 9 a.m. After one hour of workout, I leave the gym club and go to the supermarket to buy food to prepare lunch and dinner. In the afternoon and evening, I go to my workplace and start working from 14.00.pm until 21.00. p.m.
7	Do you like to plan what you will do each day?	G	Afternoons are the busiest time of the day for me. I work for a Japanese company and my day starts at 2:00 PM. So by 3:00 PM I get a lot of client calls and emails and have no time to breathe.
8	How do you organize your study time?	Н	Yes, it is. Without a daily routine, people usually do things spontaneously, which could waste their time and reduce their work efficiency. I think those who are disorganized can gain more benefits from creating a daily routine.
9	Have you ever changed your routine?	I	Yes, I would like to. Planning keeps the day in your control. The more organized you are, the better your life becomes.

Task 4. Read and translate the text.

Have you ever wondered what daily routine celebrities have? Read some surprising facts! Bruce Lee never changed his training routine. His Daily Diet & Training included 10 liters of milk, 5 pounds of almond, six pounds of butter, three buckets of fruits, 5000 squats and 3000 pushups.

Winston Churchill's daily routine included sherry before breakfast, glasses of scotch and soda before lunch and champagne and 90-year-old brandy before bedtime.

Donald Trump has some pretty unhealthy habits that, for example, watching up to eight hours of television a day. And a lot of time is spent on writing his tweets!

Staying active is a top priority for Kate Middleton. She can get a yoga session, and she is a big fan of pilates as well as jogs. Rumor has it, Kate Middleton is a wonderful cook and likes to make homemade meals as often as her busy schedule allows it. And she walks the family dog on the grounds of Kensington Palace!

Arnold Schwarzenegger, a world-famous actor, bodybuilder, and former governor of California, is known for his discipline and commitment to maintaining a healthy lifestyle. Schwarzenegger's daily routine starts at 5 a.m. with an hour of cardio, followed by weight training and a hearty breakfast. He then spends time reading, answering emails, and attending meetings. In the evenings, Schwarzenegger focuses on family, personal projects, and additional workouts.

Task 5. Match the words (1-7) with their definitions (A-G).

1	detox	A	make or become better	
2	reduce	В	the length of time that you can stay focused on something	
3	improve	C	a feeling of excitement about something in the future	
4	schedule	D	when you stay away from something harmful to improve your	
			health	
5	attention span	Е	the strain you feel when doing work tasks	
6	anticipation	F	to make smaller or less in amount	
7	work pressure	G	a list of planned activities or things to be done	

Would you like to add some excitement to your day? We suggest trying some unusual activities that may shake up your daily routine.

Digital Detox

A digital detox is a period of time when you disconnect from your electronic devices and focus on other activities, such as reading, exercising, or spending time with the people you love. You can choose any period of time, this could be just a weekend, a whole week or a month. A digital detox is a great way to reduce stress, improve sleep quality, and focus on the things that really matter.

Do less

If your schedule is full, cut it in half. You don't need to do everything on that list, do less, but focus on what you are doing and you will feel less stressed. Believe me, your day will be much better!

Practice smiling

A simple smile causes the brain to release the feel-good hormones dopamine and serotonin. But it is even more effective when we back it with positive thoughts. Smiling reduces stress that your body and mind feel, it is a bit like having a good sleep.

Meditate

Meditation helps to improve focus, clarity and attention span as well as to keep you calm. Actually, if you scan human brain before and after meditation, you will see that its parts associated with self-awareness grow and parts associated with stress shrink.

Plan a trip

Just plan, you don't even need to take it! A study showed that a person feels really happy when planning a vacation or a trip, and a sense of anticipation may last for eight weeks. Remember about it when the work pressure gets too much!

SPEAKING

- Do you usually have the same routine every day?
- Describe your favorite part of the day.
- How do you feel about getting up early?
- Do you think people need to have a day-to-day plan?
- Why do you think some people don't plan their day in advance?

UNIT 11 WEATHER AND NATURE

Texts Weather Forecast

The Right Time to Visit Madagascar

Nature and Animals Forecast the Weather

Speaking

Give Russian equivalents to the following words and word combinations: acute, altitude, drastically, drizzle, earthquake, flood, frequency, glacier, hail, melt, on average, overcast, oxygen, petal, precipitation, shallow, shower, surface, threaten, thunder, toad, valley, visibility, volcanic eruption, weather forecast.

Task 1. Choose the correct alternative.

The earth is getting *bigger / colder / warmer*. Huge glaciers are melting and causing our sea levels to rise / fall / disappear. This causes flooding in coastal areas, which is especially acute in countries like the Netherlands. Climate change is a hot topic now, lots of activists are addressing people to take a stand for *government / corporations / the planet*. Another problem is plastic in the oceans wiping out many species and *protecting / threatening / saving* many more.

Surprisingly, we have seen some positive changes lately. When COVID-19 stopped us in our tracks, what was happening to the planet as we stayed at home? The International Space Station saw blue skies all over the world as *air pollution / water pollution / noise pollution* fell drastically. Dolphins were swimming up the canals of Venice and ducks were seen in Rome's Trevi Fountain. It was a unique period for our sick and polluted *planet / solar system / universe*! We need to learn from this time and care for the earth, water and *light / air / oxygen* around us.

Task 2. Read the weather forecast and do the task after it.

Mountains can be a dangerous place. The weather can change from one hour to the next, and from one peak to the next. Always check the weather forecast before you go out.

Sunday 4 March

Early morning will be misty and foggy in the valleys, but this will lift after 8.00. It will be a dry day with some sunny spells, especially in the north, where it will feel warm. It will remain cloudy in the south and west. Clouds will get thicker in the afternoon, and there will be a chance of rain in the west in the late afternoon. The visibility is generally good, but poor in hill fog. May turn poor in the west areas in the late afternoon. Some hill fog above 300 metres at first, that will lift but remain at 600 metres in the morning, and around the peaks in the afternoon and evening.

Monday 5 March

Monday will be a much windier day, and it will feel cold high up, where temperatures will be below zero. The morning will be bright with some sunshine, but showers will start in the afternoon, and there may be some hail and thunder. Snow possible above 800m. The visibility is generally good, but moderate in showers. No hill fog expected.

Tuesday 6 March

Very windy with gales possible in the north and north east. Cloudy with rain or drizzle and hill fog. Some bright spells later, but showers continuing through the afternoon.

Wednesday 7 March

Overcast at first with areas of hill fog, and also occasional light rain or drizzle. It will gradually become drier and warmer, but will remain cloudy. Light southeasterly breezes.

Thursday 8 March

A bright day, with the best of the sunshine in the east. It will probably turn cloudier with a gentle southeasterly breeze, but should remain warm and dry.

Say whether the following statements are True or False.

- 1. The Weather Office provides a forecast for five days.
- 2. 7th March will be driest day.
- 3. 5th March will be windiest day.
- 4. 6th March will be coldest day.
- 5. The weather will gradually improve on 7th March.
- 6. 4th of March will be the sunniest day.
- 7. 5th march has the least fog.

Task 3. Read the text and do the task after it.

The Right Time to Visit Madagascar

Madagascar has two seasons, a warm, wet season lasting from November to April, and a cooler dry season between May and October. However, different parts of the country have very different weather.

The east coast of the island is hotter and wetter, with up to 4000 mm of rainfall per year. In the rainy season, there are strong winds that can result in a lot of damage. Tourists should avoid visiting eastern Madagascar between January and March because the weather can make road travel very difficult. The dry season is cooler, safer and more pleasant.

The high, central part of the country is much drier and cooler. About 1,400 mm of rain falls in the rainy season, some thunderstorms are also possible, but the summer is usually sunny and dry, though it can be cold, especially in the mornings, with freezing showers. It may even snow in mountain areas above 2,400m and sometimes the snow stays there for several days.

The west coast is the driest part of the island. The winter is nice here with little rain, cooler temperatures and blue skies. The summers can be extremely hot, especially in the southwest. This part of the country is semi-desert, and only gets around 300 mm of rain per year.

Find in the text and write in the table below the following words:

Adjectives describing weather and climate	Natural phenomena

Task 4. Do the tasks before the text and then learn about the ways nature and animals forecast the weather.

Match the words (1-6) with their definitions (A-F).

	white the words (1 0) with their definitions (11 1).			
1	earthquake	A	water that falls from the clouds towards the ground, especially as rain or snow	
2	infrasound	В	an occasion when a volcano explodes, and flames and rocks come out of it	
3	precipitation	С	easily influenced or changed, especially by a physical activity or effect	
4	storm D		a sudden violent movement of the earth's surface, sometimes causing great damage	
5	volcanic eruption E		a low frequency sound not detectable by humans	
6	sensitive	F	an extreme weather condition with very strong wind, heavy rain, and often thunder and lightning	

Fill in the gaps with the words (1-6) from the table above:

- 1. The forecast is for dry, cloudy weather with no _____ expected.
- 2. These animals are highly _____ to cold.
- 3. A lot of trees were blown down in the recent _____.
- 4. Pompeii is an Italian town famous for its burial by a _____ of Italy's Mount Vesuvius in AD 79.
 - 5. On average, some 10,000 people die every year due to _____.
 - 6. Waterfalls, volcanoes, surf, aurorae produce . .

Now read and translate the text.

5 SCIENTIFICALLY PROVEN WAYS NATURE AND ANIMALS FORECAST THE WEATHER

Birds use infrasound to sense storms

Infrasound is a low-frequency noise that can come from meteors, volcanic eruptions, heavy storms. It is audible to animals, from alligators and whales to pigeons. By the way, migratory birds rely on infrasound to avoid storms during transit. This knowledge is now used in infrasound subwoofers for planes to drive infrasound into the air to scare birds away and prevent crashes.

Toads can sense earthquakes

Do you remember the terrible earthquake in April 2009 in L'Aquila, Italy? The toads that were almost 46 miles from the city, showed behavioral changes about five days before it! The findings showed that male toads become far less active in the time leading up to an earthquake. Scientists believe the animals are likely sensitive to changes in the ionosphere, the electromagnetic layer of the Earth's atmosphere.

Daisies will close their petals during the day ahead of rain

Similar to many flowers, daisies close their petals at night and open them with the sun each day. But daisies – along with poppies, tulips, and several other flowers – take it a step further, shutting their petals up during the day when rain is on its way. This action protects the flower's pollen and is caused by the plant's upper and lower parts growing at different rates according to the weather.

Frogs call louder when a storm is coming

All animals react to barometric pressure, including people. But frogs are all too happy to share their reactions with the world, calling louder when storms approach. That's because storms create massive drops in air and water pressure at shallow depths, which frogs are highly sensitive to.

A halo around the sun or moon means it will rain

A halo forms around the sun and moon anytime light bends while traveling through highaltitude ice crystals, according to the National Snow and Ice Data Center. The sun or moon rings act as indicators of precipitation, letting anyone looking up know rain or snow is on its way.

SPEAKING

- Do you like the weather in your country? Can you see the same type of weather everywhere in your country?
 - How does the weather affect your mood?
 - What is the most unusual weather you have experienced?
 - What is your favorite season, and why?
 - What type of weather is the best to go on a holiday? Why?

UNIT 12

HOLIDAYS AND TRAVELLING						
Texts Speaking	Aerophobia Countries in E	urope				
Give Russian equivalents to the following words and word combinations: admission fee, bishop, border, cure, decrease, densely populated, favorable, fear, hut, judicial authority, lenient, rainforest, significant, surrounded, tax haven, vehicle, wheel.						
				coups: tram, ferry, nderground, helicop		, coach, airplane, ship,
A	ir		Sea	Rail		Road
	m, railway, gate ion ce	e, belt, 6 7 8 9	ticket, taxi, s	tation, check, card, y 11 12	lock car ser ov de	r, baggage, office, hall, ter. r rvice rerhead parture curity
1. Before 2. If you 3. Fasten 4. If you 5. There 6. There 7. Your	e you get on a fl need to change your if lose something has been the las was a queue at shows y	ight, so a whe turbut on a tracticall the	how your ticked while driviolence starts. rain or a bus, for us! Let's r , so we caught and seat i	nformation.	he _ ay, s	top at a
 6. There was a queue at the, so we caught the bus home instead. 7. Your shows your flight and seat information. 8. You can put your hand baggage in the if you are not going to use it during the flight. Task 3. Read the text about aerophobia and fill in the gaps (1-6) with extracts (A-F). A) a well-trained pilot will be able to B) won't cause any trouble C) there has been a significant decrease D) fall down from the sky E) it consists of two parts F) won't carry passengers Have you ever been afraid of flying? Do you feel scared when you sit on a plane? Are you stressed when there's turbulence? If so, you may have aerophobia. The word aerophobia comes from the Greek and 1: aero, which means 'flight' or 'air', and phobia, which means 'fear'. People with aerophobia experience extreme fear or panic when they are on a plane. What can you do to reduce this fear? Actually, like any phobia, there's not always a cure for it, but you can decrease its effects on your life. The first method is to learn more about how planes work. For example, many people believe that without the engines, the plane will simply 2, but that isn't true. The plane will stay up because its wings push against the air. A plane can fly without the engines, and 3 control it without power. All pilots learn how 						

to fly without the engines.

Lots of passengers are afraid of turbulence, however, most turbulence is completely normal and 4____, so you shouldn't be afraid of it. The only situation where it can cause problems is when the aircraft is already damaged or during a storm. But airlines always study the weather and 5___ if they think the weather conditions aren't safe for flying.

Understanding where the emergency exits are may also help you relax. Not knowing where an exit is and feeling that you're in a closed space can make you afraid.

One more thing - remember that, compared to the many forms of transport that we use every day, air transport is actually very safe. In recent years, 6____ in the number of plane crashes. In contrast, cars are considerably more dangerous.

Task 4. Several people were asked to describe the best place they've ever stayed in. Read their answers.

Monica

It was a little wooden hut in the rainforest of Borneo, looking out over the mountains. Borneo is the third largest island in the world and it was the best place to spend my thirtieth birthday there! The hut was not comfortable at all and there were lots of mosquitoes there, but I climbed the highest mountain in South-east Asia – Mount Kinabalu and saw unique local orchids! It was wonderful.

Jack

The best place I've ever stayed in is a small Greek island called Serifos. There is no airport, hardly any hotels and the only choice is to rent a room from a local family. The people there are just great and give you home-made bread, cheese and wine! There are some wonderful absolutely deserted beaches where you can forget about the rest of the world.

Nora

The best place I've ever stayed in is Tokyo, Japan. My hotel was in a district which is a great mixture of modern buildings, restaurants, old squares, bookshops and museums. The hotel had about seven or eight restaurants, but what I really liked about it was the open-air swimming pool with a view over Tokyo.

Daniel

One of the best places I've ever stayed in was my friend parents' house in Normandy. I was there for the last Christmas holidays and it felt like staying with the family. They have a beautiful house on the beach. It is a bit windy in winter, but the views are fantastic. There was a fireplace in my room, which made my stay absolutely unforgettable!

And what's the best place you've ever stayed in?

Task 5. Read the text and do the task after it.

The total number of countries in Europe currently stands at 50, with some countries like Russia spreading across several time zones. Others, however, are so small it would be possible to walk or cycle along their borders in less than a day. In spite of their size, each of these countries has something very special to offer to the curious tourists. **Vatican City**

In Latin, Vatica or Vaticum means "garden", and this country got its name from the general area where it is located, which the Romans called "garden territory". Located in the heart of Rome, Vatican is the smallest country in the world. This city-state is the Pope's home and the center of the Catholic Church. Although it occupies only 0,17 square miles (0.44 km²), Vatican City is densely populated with its 1,000 residents. The biggest church in the world, St. Peter's Basilica, is also located there. The economy of Vatican City is supported by selling post stamps, souvenirs and publications, and charging admission fees to enter museums.

Monaco

Lying on the Mediterranean Sea coast, Monaco is one the richest countries in the world, known for its luxury hotels and casinos. With the area of merely 0.78 square miles (2,02 km²), Monaco is also one of the most culturally diverse countries, since 125 nationalities live there. It's known as the "tax haven" and a favorite location of the rich and famous, due to its lenient

tax laws. This tiny monarchy has been ruled by the same family – the House of Grimaldi – since 1297. The name of the country comes from Greek, it is believed that Hercules had passed through the Monaco area, and due to this, a temple called Hercules Monoikos was built. Since then, the whole city became known as Monoikos, or Monaco.

San Marino

This country takes its name from a stonemason called San Marinus (meaning Saint Marinus), who worked in the city of Rimini in modern-day Italy, but went on to create an independent community which is today San Marino. Spreading across 24 square miles (61 km²), San Marino is another country existing within the borders of Italy. It is one of the oldest sovereign nations in the world, and is governed by the Constitution of San Marino. San Marino has one of the lowest unemployment rates in Europe, no national debt, and more vehicles than people.

Liechtenstein

Liechtenstein is named after the Liechtenstein family that owned the Castle Liechtenstein in Austria. The name of the castle means "bright stone", composed of the German words 'licht', meaning "light" and 'stein', meaning "stone". The richest country in the world based on GDP per capita (person), Liechtenstein is a monarchy bordering Switzerland and Austria. Being located in the Alps, this is a popular winter sport destination, although getting in is made more complicated by the fact that there are no airports in the country.

Malta

Located to the south of Italy, Malta is an archipelago in the Mediterranean Sea. This country covers only 122 square miles (316 km²). Because of its favorable location, historically Malta was a naval base with great strategic importance. Twelve different nations had ruled this island before its independence. Malta's beaches, history and nature attract tourists in large numbers. There is a popular belief that the ancient Greeks called this island Melite, meaning "honey-sweet", probably because Malta is home to special bees which produce unique honey.

Andorra

Probably the country was given its name by the occupying Muslim forces, since al-durra means "the forest" in Arabic. Standing between France and Spain, Andorra is a landlocked country. Occupying the area of only 181 square miles (468 km²), Andorra is headed by both the Bishop of Urgell in Spain and President of France. Built 3,356 feet (1,023 m) above sea level, Andorra la Vella is the highest capital city in Europe. The official language is Catalan, spoken in the area around Barcelona in Spain.

Luxembourg

Some believe that the name of the country comes from a small castle called Lucilinburhuc (meaning "small castle" in Latin), which was located in the Luxembourg area at the time the country was founded. Although small and surrounded by important European countries France, Germany and Belgium, Luxembourg is a powerful country. Luxembourg City is one of the three official capitals of the European Union, and the seat of the European Court of Justice, the highest judicial authority in the union. With the area of 998 square miles (2,586 km²), this rather small country invites tourists to enjoy its fairytale-like castles and fortresses, historic monuments and picturesque sights.

Which of the countries is described?

- 1. It is the biggest country of all described.
- 2. It is mostly famous for its casinos.
- 3. It is the richest country in the world based on GDP per capita.
- 4. It is one of the official capitals of the European Union.
- 5. It has two heads from different countries.
- 6. It is the smallest country in the world.

- 7. It is home for the biggest church in the world.
- 8. The location of this country is strategically important.

SPEAKING

- Do you enjoy travelling?
- Do you like to travel light?
- What countries have you visited?
- How often do you get to go on holiday?
- What are some countries that you would like to visit and why? What are some countries you would NOT like to visit and why?
 - Would you like to have a holiday on a cruise ship?
 - What are the benefits and drawbacks of traveling?

Раздел II. Аудирование

 $\frac{\text{Unit 1}}{\text{Part I}}$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

germ	[dʒɜːm]	a very small living thing that causes disease
microbe	['mortzrozzh]	an extremely small living thing that you can only see under a
IIIICIODE	[ˈmaɪkrəʊb]	microscope and that may cause disease
human	[ˈhjuːmən]	a man, woman, or child
animal	[something that lives and moves but is not a person, bird,
animal	[ˈænɪməl]	fish, or insect
m10m4	[1	a living thing that grows in the soil or water and has leaves
plant	[pla:nt]	and roots, especially one that is smaller than a tree
2 0 40 41 40 04	['0	a condition in which your throat is red and feels painful,
sore throat	[ˌsɔː ˈθrəʊt]	especially when you swallow
1	[bækˈtɪəriəm]	a type of very small organism that lives in air, earth, water,
bacterium		plants, and animals, often one that causes disease
bacteria	[bækˈtɪəriə]	pluralform (pl)
:	['	an extremely small piece of organic material that causes
virus	[ˈvaɪərəs]	disease in humans, animals, and plants
protozoan	[ˌprəʊtəˈzəʊən]	any of various types of very small animals with one cell
protozoa	[prəʊtəˈzəʊə]	plural form (pl)
£	[ˈfʌŋgəs]	a plant without leaves, flowers, or color that lives on other
fungus		plants or on decaying matter
fungi	['fʌŋg(a)ɪ]	plural
cell	[sel]	the smallest basic unit plant or animal

Listen to the information about germs. Circle the correct word or phrase to make true statements.

- 1. The teacher believes people ... think all germs are bad.
- (a) rightly
- (b) mistakenly
- (c) rarely
- 2. Germs don't live on ...
- (a) microbes
- (b) animals
- (c) people
- 3. ... germs are responsible for illnesses.
- (a) Some
- (b) All
- (c) Few
- 4. There are four basic types of ...
- (a) fungi
- (b) protozoa
- (c) germs

- 5. Germs are ...
- (a) only round
- (b) mostly long and thin
- (c) different shapes

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

climate change	[ˈklaɪmɪt ʧeɪndʒ]	changes in the world's weather, in particular the fact that it is believed to be getting warmer as a result of human activity increasing the level of carbon dioxide in the atmosphere
reason	[ˈriːzən]	the cause of an event or situation or something that provides an excuse or explanation
disaster	[dɪˈzɑːstə ^r]	(an event that results in) great harm, damage, or death, or serious difficulty
adaptable	[əˈdæptəbəl]	able or willing to change in order to suit different conditions
condition	[kənˈdı∫ən]	the particular state that something or someone is in
ice age	[ˈaɪs ˌeɪdʒ]	a time in the past when the temperature was very cold and glaciers (= large masses ice) covered large parts earth
drought	[draʊt]	a long period when there is little or no rain
severe	[sɪˈvɪə ^r]	causing very great pain, difficulty, worry, damage, etc.; very serious
destroy	[dɪˈstrɔɪ]	to damage something so badly that it cannot be used
survive	[vaiv]	to continue live or exist, especially after coming close to dying or being destroyed or after being in a difficult or threatening situation
centigrade	[ˈsentɪgreɪd]	(of) a measurement of temperature on a standard in which 0° is the temperature at which water freezes, and 100° the temperature at which it boils

Listen to part of a TV programme about climate change. Then decide if the following statements are true or false.

- 1. The report suggests there are reasons for hope as well as worry.
- (a) true
- (b) false
- 2. In the past, ice ages and droughts killed off all life.
- (a) true
- (b) false
- 3. Temperatures are rising at five degrees every century.
- (a) true
- (b) false
- 4. Some plants and animals move as climates become warmer.
- (a) true
- (b) false

- 5. There are mountain animals that will die if temperatures rise.
- (a) true
- (b) false

Part III

Write an essay giving your opinion on the Unit topics.

Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

population	[pɒpjəˈleɪʃən]	all the people or animals of a particular type or group who live in one country, area, or place
maintain	[meɪnˈteɪn]	to continue to have; to keep in existence, or not allow to become less
Earth	[3:0]	the planet third in order of distance from the Sun, between Venus and Mars; the world on which we live
suitable	[s(j)u:tob(o)l]	acceptable or right for someone or something
tiny	[ˈtaɪni]	extremely small
consume	[kənˈsjuːm]	to use fuel, energy, time, or a product, especially in large amounts
survive	[səˈvaɪv]	to continue to live or exist, especially after coming close to dying or being destroyed or after being in a difficult or threatening situation
breathe	[briːð]	to move air or something else into and out of the lungs
inner	[ˈɪnər]	inside or contained within something else
outer	[ˈaʊtər]	on the outside, or at a greater distance from the center or inside
amoeba	[əˈmiːbə]	a very small, simple organism consisting of only one cell
paramecium	[ˌpærəˈmiːsiəm]	a type of protozoan (= an organism with only one cell) that lives in water and swims by moving structures similar to hairs that are attached to its body
parasite	[ˈpærəsaɪt]	an animal or plant that lives on or in another animal or plant of a different type and feeds from it
host	[həʊst]	a plant or animal that another plant or animal lives on as a parasite
algae	[ˈælgiː]	very simple, usually small plants that grow in or near water and do not have ordinary leaves or roots

Listen to the class discussion about protozoa and correct the following statements.

- 1. The word protozoa means microorganisms.
- 2. One of protozoa's ecological functions is to produce bacteria.
- 3. Paramecium have a simple internal organization and a fixed shape.
- 4. All protozoa are parasites and live in humans or animals.
- 5. Protozoa can only feed by taking in nutrients through the cell mouth.

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

immunization	[ˌimjənaɪˈzeɪʃən]	the process of protecting a person or animal from an infectious disease by putting a substance into the body that makes it produce antibodies (= proteins in the blood that fight disease)
smallpox	[ˈsmɔːlpɒks]	an extremely infectious disease that causes a fever, spots on the skin, and often death

plague	[pleɪg]	a serious disease that kills many people, often used to refer to bubonic plague, a very infectious disease caused bacteria spread mainly fleas (= small insects that bite) on rats or other animals, that causes swelling, fever, and usually death in humans	
vaccinate	[ˈvæksɪneɪt]	to give someone a vaccine, usually by injection, to prevent them from getting a disease	
polio	[ˈpəʊliəʊ]	a serious infectious disease that can cause permanent paralysis (= being unable to move the body)	
injection	the act of putting a liquid, especially a drug, into person's body using a needle and a syringe (= sn tube)		
immune system	[ɪˈmjuːn ˌsɪstəm]	the cells and tissues in the body that make it able to protect itself against infection	
immunogen	[ɪmjʊˈnɒgɪn]	An immunogen is any substance that generates B-cell (humoral/antibody) and/or T-cell (cellular) adaptive immune responses upon exposure to a host organism	
herd immunity	[ˌhɜːd ɪˈmjuːnəti]	a situation in which a disease cannot spread through a group of people because enough of them are immune (= unable to get a disease), usually because of having been vaccinated (= given an injection)	

Listen to the extract from the lecture about immunisation. Then listen again and fill in the gaps in the tapescrip.

Historically, being immunised against diseases is a relatively new thing but that doesn't mean the idea hadn't been thought of before. If we go as far back as 429 BC, the historian Thucydides²⁷ noted that after a (1) ... plague in Athens, those who survived did not become infected again. This was at a time before there was even recognition of such things as (2) ... and viruses. Nowadays, we take it for granted that we will be vaccinated and avoid diseases like polio but how many of us actually stop to ask ourselves what is behind the (3) ... we have? How does vaccination work? Basically, it is the process by which a person is exposed, that is, made open to an agent so that his or her immune system develops against that agent. The immune system makes antibodies which fight against infection. Once the human immune system is exposed to a disease, it is able to act against any future infection. Vaccination exposes a person to an immunogen – something which helps develop immunity – in a controlled way by using a (4) ... dose so he or she doesn't become ill while being immunised.

The good thing about a vaccination programme is that it can limit the spread of a disease among a population, reducing the risk for people who have not been vaccinated so we have something which is known as herd (5) ... That means when the number of non-immune people has dropped to a certain level, the disease will disappear from the whole population. This is how nowadays we have achieved the elimination of many diseases.

Part III

Write an essay giving your opinion on the Unit topics.

Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

 $^{^{27}}$ Фукиди́д – крупнейший древнегреческий историк, основатель исторической науки, автор «Истории Пелопоннесской войны».

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

scientific	[ˌsaɪənˈtɪfɪk]	relating to science, or using the organized methods of science		
stripe	[straɪp]	a strip on the surface of something that is a different colour from the surrounding surface		
shy	[ʃaɪ]	nervous and uncomfortable with other people:		
captivity	[kæpˈtɪvəti]	the situation in which a person or animal is kept somewhere and is not allowed to leave		
extinct	[ɪkˈstɪŋkt]	not now existing		
wild	[waɪld]	used to refer to plants or animals that live or grow independently of people, in natural conditions and with natural characteristics		
Tasmania	[tæzˈmeɪniə]	an island off the southeast coast of Australia, which is an Australian state and whose capital city is Hobart		

Listen to the discussion between a teacher and some students about extinction. Then listen again and fill in the gaps in the sentences.

- 1. The Tasmanian tiger looked like a dog with a ... head.
- 2. It was called a tiger because it had ... on its body.
- 3. The ... who arrived in Tasmania killed it.
- 4. The Tasmanian tiger was a very ... animal.
- 5. The last one died in ... in a zoo.
- 6. The Tasmanian tiger was declared extinct in ...

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

explode	[ɪkˈspləʊd]	to break up into pieces violently, or to cause something
CAPIOGC	[ik spieou]	to do this
float	[fləʊt]	to stay on the surface of a liquid and not sink
		a chemical element that is a heavy, radioactive metal,
uranium	[jʊəˈreɪniəm]	used in the production of nuclear power and in some
	_	types of nuclear weapon ²⁸
		a type of elementary particle (= a very small piece of
proton	[ˈprəʊtɒn]	matter) with a positive electrical charge that is found in
		the nucleus of all atoms
		the central part of an atom, usually made up of protons
nucleus	[ˈnjuːkliəs]	and neutrons;
		the part of a cell that controls its growth
		a chemical element that is the lightest gas, has no colour,
hydrogen	[ˈhaɪdrədʒən]	taste, or smell, and combines with oxygen to form
		water ²⁹
	[ˈɒksɪdʒən]	a chemical element that is a gas with no smell or colour.
oxygen		Oxygen forms a large part of the air on earth, and is
		needed by animals and plants to live ³⁰

²⁸ уран. ²⁹ водород.

³⁰ кислород.

barrel	[ˈbærəl]	a large container, made of wood, metal, or plastic, with a flat top and bottom and curved sides that make it fatter in the middle
carbon dioxide	[ˌkɑːbən daɪˈɒksaɪd]	the gas formed when carbon is burned, or when people or animals breathe out ³¹
coal	[kəʊl]	a hard, black substance that is dug from the earth in pieces, and can be burned to produce heat or power, or a single piece of this

Listen to the class discussion about uranium. Then decide if the following statements are true or false.

- 1. Uranium has been in the Earth's crust for a very long time.
- (a) true
- (b) false
- 2. Uranium entered a star that had exploded.
- (a) true
- (b) false
- 3. Uranium is lighter than oxygen.
- (a) true
- (b) false
- 4. Uranium is a source of energy.
- (a) true
- (b) false
- 5. A small amount of uranium can produce a great deal of oil.
- (a) true
- (b) false
- 6. Less carbon dioxide enters the atmosphere when we use nuclear power.
- (a) true
- (b) false

Part III

Write an essay giving your opinion on the Unit topics.

Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

 $^{^{31}}$ углекислый газ.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

pea	[pi:]	a round, green seed, several of which grow in a pod, eaten as a vegetable	
genetics	[dʒəˈnetɪks]	the study of how, in all living things, the characteristics and qualities of parents are given to their children by their genes	
scientist	[ˈsaɪəntɪst]	an expert who studies or works in one of the sciences	
gene	[dʒiːn]	a part of the DNA ³² in a cell that controls the physical development, behaviour, etc. of an individual plant or animal and is passed on from its parents	
crop	[krɒp]	(the total amount collected of) a plant such as a grain, fruit, or vegetable grown in large amounts	
wheat	[wiːt]	a plant whose yellowish-brown grain is used for making flour, o the grain itself	
carry out	[ˈkæri aʊt]	to do or complete something, especially that you have said you would do or that you have been told to do	

Listen to two students discussing their homework. Then answer the questions by writing one or two words in each gap.

- 1. They will both write a report for their ... class.
- 2. The boy may write about ...
- 3. It is now possible for scientists to change information in...
- 4. ... watermelons have been produced by scientists in their labs.
- 5. Scientists can use this new technology to produce more ...
- 6. Plants can be genetically engineered to make ...

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

theory ['θιəri]		a formal statement of the rules on which a subject of study is based or of ideas that are suggested to explain a fact or event or, more generally, an opinion or explanation	
evolution	[ˌiːvəˈluːʃən] the way in which living things change and develo		
ape	[eɪp]	a mammal that has long arms and no tail or a short tail and that is related to monkeys	
monkey	[ˈmʌŋki]	an animal that lives in hot countries, has a long tail, and climbs trees. Monkeys are primates (= the group of animals that are most like humans)	
specimen	[ˈspesəmɪn]	something shown or examined as an example; a typical example	
fossil mammal	[fɒslˈmæməl]	part of an animal, or its shape, that has been preserved in rock or earth for a very long period	

³² DNA [ˌdiːenˈeɪ] deoxyribonucleic acid [diˌɒksiˌraɪbəʊnjuːˌkleɪɪk ˈæsɪd]: the chemical, present at the centre of the cells of living things, that controls the structure and purpose of each cell and carries genetic information during reproduction.

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survive	[səˈvaɪv]	to continue to live or exist, especially after coming close to dying or being destroyed or after being in a difficult or threatening situation
natural selection	[ˌnætʃərəl sɪˈlekʃən]	the process that results in the continued existence of only the types of animals and plants that are best able to produce young or new plants in the conditions in which they live
offspring	[ˈɒfsprɪŋ]	the young of an animal
spicy	[ˈspaɪsi]	containing strong flavours from spices

Listen to a talk about Darwin. Then decide if the following sentences are true or false, according to the speaker.

- 1. Darwin wrote two famous books.
- (a) true
- (b) false
- 2. Darwin's theory was very popular in his time.
- (a) true
- (b) false
- 3. Differences between fossils and modern animals helped him form the Theory of Evolution.
- (a) true
- (b) false
- 4. Natural selection meant thehealthiest specimens would survive.
- (a) true
- (b) false
- 5. An adaptation was inherited and decreased an organism's chances of survival.
- (a) true
- (b) false

Part III

Write an essay giving your opinion on the Unit topics.

Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

DNA	[ˌdiːenˈeɪ]	deoxyribonucleic acid ³³ : the chemical, present at the centre of the cells of living things, that controls the structure and purpose of each cell and carries genetic information during reproduction	
inherit	[ɪnˈherɪt]	to receive money, a house, etc. from someone after they have died	
health care	[ˈhelθ ˌkeər]	the services provided by a country or an organization that involve caring for people's health and treating people who are ill	
mitochondrial	[martə kondriəl] relating to the small parts of most living contain DNA and RNA		
male	[meɪl] belonging or relating to men or boys		
chromosome	[ˈkrəʊməsəʊm]	any of the rod-like structures found in all living cells, containing the chemical patterns that control what an animal or plant is like	
archaeologist	[ˌɑːkiˈɒlədʒɪst]	someone who studies the buildings, graves, tools, and other objects of people who lived in the past	

Listen to a talk. Then complete the information about DNA.

- 1. Each strand has about ... billion letters of coding.
- 2. We inherit the information from our ...
- 3. DNA will be useful in the future for ... care.
- 4. The Y chromosome comes from our ...
- 5. Archaeologists use DNA found in people's ...
- 6. The police get information from DNA found at a ...

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

argue	[ˈɑːgjuː]	to speak angrily to someone, telling that person that you disagree with them	
deserve	[dɪˈzɜːv]	[dɪˈzɜːv] to have earned or to be given something becaus of the way you have behaved or the qualities yo have	
contribute	[kənˈtrɪbjuːt]	to give something, especially money, in order to provide or achieve something together with other people	
committee	a small group of people chosen to repre [kəˈmɪti] larger organization and either make decisi collect information for it		
X-ray	[ˈeksreɪ]	a type of radiation that can go through many solid substances, allowing hidden objects such as bones and organs in the body to be photographed	

³³[di pksi raibəonju: kleiik 'æsid]:

crystallography	[krīstəˈlɒgrəfi]	Crystallography is the experimental science of determining the arrangement of atoms in crystalline solids. Crystallography is a fundamental subject in the fields of materials science and solid-state physics (condensed matter physics)		
double-helix shape	[dabl 'hi:liks seip]	the structure of a DNA molecule		
genius	[ˈdʒiːniəs]	very great and rare natural ability or skill, especially in a particular area such as science or art, or a person who has this		
polio	[ˈpəʊliəʊ]	a serious infectious disease that can cause permanent paralysis (= being unable to move the body)		
virus	[ˈvaɪərəs]	an extremely small piece of organic material that causes disease in humans, animals, and plants		

Listen to a talk about the scientist Rosalind Franklin and choose the correct answer

- 1. Perhaps Franklin didn't receive the recognition she deserved because
- A. she was the only woman.
- B. women were treated differently in the past.
- C. she was only one of the people working on DNA.
- 2. Franklin's particular skills were
- A. being a researcher.
- B. interpretation and explanation of scientific results.
- C. photographing crystals and explaining the photos.
- 3. Franklin's photo revealed
- A. a new technique of crystallography.
- B. the basic helix structure.
- C. the atoms in a crystal.
- 4. Watson was interested in the photo because
- A. the structure of DNA had never been seen before.
- B. it could be reproduced.
- C. he wanted to identify the double-helix.
- 5. Today Franklin is
- A. regarded by all as a genius.
- B. recognised as the most important contributor to DNA.
- C. somebody whose role in DNA research is clear.

Part III

Write an essay giving your opinion on the Unit topics.

Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

chemistry	[ˈkemɪstri]	the scientific study of the basic characteristics of substances and the ways in which they react or combine	
hydrogen	[ˈhaɪdrədʒən]	a chemical element that is the lightest gas, has no colour, taste, or smell, and combines with oxygen to form water ³⁴	
oxygen	[ˈɒksɪdʒən]	a chemical element that is a gas with no smell or colour. Oxygen forms a large part of the air on earth, and is needed by animals and plants to live ³⁵	
bond	[bɒnd]	a close connection joining two or more people	
chemist	[ˈkemɪst]	a person who studies chemistry, or a scientist who works with chemicals or studies their reactions	
reduce	[rɪˈdjuːs]	to become or to make something become smaller in size, amount, degree, importance, etc.	
Celsius	[ˈselsiəs]	(of) a measurement of temperature on a standard in which 0° is the temperature at which water freezes, and 100° the temperature at which it boils	
solid	[ˈsɒlɪd]	hard or firm, keeping a clear shape	
liquid	[ˈlɪkwɪd]	a substance, such as water, that is not solid or a gas and that can be poured easily	
undergo	[ˌʌndəˈɡəʊ]	to experience something that is unpleasant or something that involves a change	
complicate	[ˈkɒmplɪkeɪt]	to make something more difficult to deal with, do, or understand	

Listen to a chemist talking about chemical processes. Then listen again and complete these notes. Choose from the words in the box. There are more words in the box than you need.

solid elements liquid bond materials				materials
compound	process	form	atoms	gas

For example, two (1) ...: hydrogen and oxygen. Hydrogen has the atomic number (2) ... and oxygen (3) ... Two molecules of hydrogen and one of oxygen = one (4) ... Water can change its (5) ... but is still H_2O . Some chemical processes appear complicated as they have different (6) ... bonding in different quantities.

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

drug	[drʌg]	any natural or artificially made chemical that is used as a medicine
research	[rɪˈsɜːtʃ]	a detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding
chemical	[ˈkemɪkəl]	any basic substance that is used in or produced by a reaction involving changes to atoms or molecules
tablet	[ˈtæblət]	a small, solid piece of medicine

³⁴ водород.

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³⁵ кислород.

treatment	[ˈtriːtmənt]	the way you deal with or behave towards someone or something
properly	[ˈprɒpəli]	correctly, or in a satisfactory way

Listen to a chemist talking about his job. Then answer the questions.

- 1. What kind of a business does he work for?
- 2. How long does it take to test a new compound?
- 3. Where does he spend his time working?
- 4. Can he usually predict the result of his experiments?
- 5. What percentage of his experiments fail?

Part III

Write an essay giving your opinion on the Unit topics.

Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

petrol	[ˈpetrəl]	a liquid obtained from petroleum, used especially as a fuel for cars and other vehicles		
hydrogen	[ˈhaɪdrədʒən]	a chemical element that is the lightest gas, has no colour, taste, or smell, and combines with oxygen to form water ³⁶		
engine	['endʒɪn] a machine that uses the energy from liquid fuel steam to produce movement			
exhaust fume	[ɪgˈzɔːst fjuːm]	[ɪgˈzɔːst fjuːm] the waste gas from an engine, especially a car's		
waste product	['weist prodakt] a substance of no value or use that is made during process in which something useful is produced			
pollution	[pəˈluːʃən]	damage caused to water, air, etc. by harmful substances or waste		
explode	[ɪkˈspləʊd]	to break up into pieces violently, or to cause something to do this		
pellet	['pelət] a small hard ball or tube-shaped piece of any substance			

Listen to the conversation. Then for each statement below, circle the correct word or phrase.

- 1. **Most / Some / Plenty of** people are already using hydrogen-powered cars.
- 2. The waste from these cars is **pollution / water / fumes.**
- 3. It's expensive because it is new / uses hydrogen / is not common.
- 4. Hydrogen is **more / less / just as** dangerous as petrol.
- 5. Hydrogen will be used in **gas / solid / liquid** form.

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

safety	[ˈseɪfti]	a state in which or a place where you are safe and not in danger or at risk:	
medicine	[ˈmedɪsən]	treatment for illness or injury, or the study of this	
drug	[drʌg]	any natural or artificially made chemical that is used as a medicine	
authority	[ɔːˈθɒrəti] the moral or legal right or ability to control		
poison	[ˈpɔɪzən]	a substance that can make people or animals ill or kill them if they eat or drink it	
illness	[ˈɪlnəs]	a disease of the body or mind; the state of being ill	
liver	['lɪvər] a large organ in the body that cleans the blood and produbile, or this organ from an animal used as meat		
preservative	[prɪˈzɜːvətɪv]	a substance used to prevent decay in wood; a chemical used to stop food from decaying	

-

³⁶ водород.

Listen to the extract from a talk by a scientist about the safety testing of medicines. Then listen again and fill in the notes.

- 1. One tenth of animals used in UK medical research, are used to test the (1) ... of medicines.
- 2. The authorities may not carry out a safety study if identical results are (2) ...
- 3. The liver or the (3) ... could be badly affected by new medicines.
- 4. Safety testing is used for new chemicals and (4) ... used in food.
- 5. Therefore, tests are for healthy people and people receiving (5) ... care.

Part III

Write an essay giving your opinion on the Unit topics.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

science	[ˈsaɪəns]	(knowledge from) the careful study of the structure and behaviour of the physical world, especially by watching, measuring, and doing experiments, and the development of theories to describe the results of these activities		
Chemistry	[ˈkemɪstri]	the scientific study of the basic characteristics of substances and the ways in which they react or combine		
Biology	[baɪˈɒlədʒi]	the scientific study of the natural processes of living things		
Physics	[ˈfɪzɪks]	the scientific study of matter and energy and the effect that they have on each other		
Maths	[mæθs]	(formal mathematics) the study of numbers, shapes, and space using reason and usually a special system of symbols and rules for organizing them		
Thales	[teɪlz]	a philosopher		
mythology	[mɪˈθɒlədʒi]	myths in general		
Zeus	[zju:s]	in Greek mythology (= ancient stories), the greatest of the gods, the god of the sky and the weather, who ruled over human beings and the other gods		
thunder	[ˈθʌndər] the sudden loud noise that comes from the sky especially during a storm			
air	[eər]	the mixture of gases that surrounds the earth and that we breathe		
earth	[3:0]	the planet third in order of distance from the sun, between Venus and Mars; the world on which we live		
seed	[si:d]	a small, round or oval object produced by a plant and from which, when it is planted, a new plant can grow		
come up	[kʌm]	to move towards someone		

Listen to a class discussion about some famous people from the past. Then tick the statements that are true.

In ancient times there were no strict separations between philosophy and science.	
Thales rightly believed water was the basis of all composition in nature.	
Thales' importance lies in his use of science rather than mythology.	
Empedocles' theory of the four elements included earth and water.	
Anaxagoras agreed with Empedocles' theory.	
Anaxagoras also claimed things kept the same form.	

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

myth	[mɪθ]	an ancient story or set of stories, especially explaining the early history of a group of people or about natural events and facts			
acid	[ˈæsɪd]	any of various usually liquid substances that can react with and sometimes dissolve other materials			
glow	[gləʊ]	to produce a continuous light and sometimes heat			
obtain	[əbˈteɪn]	to get something, especially by asking for it, buying it, working for it, or producing it from something else			
dawn	[dɔːn]	the period in the day when light from the sun begins to appear in the sky			

chlorine ['klɔːriːn] — хлор, platinum ['plætɪnəm] — платина, охудеп ['pksɪdʒən] — кислород, phosphorus ['fɒsfərəs] — фосфор, ruthenium [ruːˈθiːnɪəm] — рутений, francium ['frænsɪəm] — франций, germanium [dʒəˈmeɪniəm] — германий, polonium [pəˈləʊniəm] — полоний, соррег ['kɒpər] — медь, yttrium ['ɪtrɪəm] — иттрий, terbium ['tɜːbɪəm] — тербий, erbium ['ɜːbɪəm] — эрбий, ytterbium [ɪˈtɜːbɪəm] — иттербий, iridium [ɪˈrɪdiəm] — иридий, titanium [taɪˈteɪniəm] — титан, aurum [ˈɔːrəm] — золото, thorium ['θɔːrɪəm] — торий.

Listen to a teacher explaining how chemical elements got their names to a class of high school students. Then choose the correct answer.

- 1. Chlorine comes from a word meaning
- A silver
- B fair
- C green
- 2. An element that can be seen in the dark is
- A platinum
- B phosphorus
- C oxygen
- 3. Four elements were named after a village in
- A Sweden
- **B** Russia
- C France
- 4. Iridium received its name from
- A mythology
- B a range of colours
- C a rainbow
- 5. The name for gold and its chemical symbol
- A are from two different languages.
- B are both taken from mythology.
- C mean the same thing.

Part III

Write an essay giving your opinion on the Unit topics.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

conduct	[kənˈdʌkt]	[kənˈdʌkt] to organize and perform a particular activity; to allow electricity or heat to go through	
safety	[ˈseɪfti]	a state in which or a place where you are safe and not in danger or at risk	
glass	[gla:s]	a hard, transparent material, used to make windows, bottles, and other objects	
jar	[dʒɑːr]	a glass or clay container with a wide opening at the top and sometimes a fitted lid, usually used for storing food	
beaker	['bi:kər] a glass or plastic container used in chemistry		
first-aid kit	[ˌfɜːst ˈeɪd ˌkɪt]	a box or bag containing basic medical equipment such as bandages and antiseptic cream	
fire extinguisher	[ɪkˈstɪŋgwɪʃər]	a device containing water or a special gas, powder, or foam (= a mass of small bubbles) that is put onto a fire to stop it from burning	
acid	[ˈæsɪd]	any of various usually liquid substances that can react with and sometimes dissolve other materials	
obvious	[ˈɒbviəs]	easy to see, recognize, or understand	

Listen to the conversation between a Chemistry teacher and a class of students. Then listen again and choose the best answer A, B or C.

- 1. To ensure safety in a lab students should
- A have short hair.
- B wear special shoes.
- C protect their clothes and eyes.
- 2. If somebody spills a chemical on their skin, they
- A will definitely need a first aid kit.
- B should place it under cold, running water.
- C should use the emergency cupboard.
- 3. Check chemical labels twice because
- A it's easy to choose the wrong one.
- B the names are basically numbers.
- C the formulae depend on letters.
- 4. Dangerous substances
- A are only bases and acids.
- B can burn you.
- C are easier to spill.
- 5. Another rule in the lab is
- A avoid running unless necessary.
- B the teacher must present all experiments alone.
- C clean and tidy up at the end of class.

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

periodic table	[ˌpɪəriɒdɪk ˈteɪbəl]	an arrangement of the symbols of chemical elements in rows and columns, showing similarities in chemical behaviour, especially between elements in the same columns	
solely	[ˈsəʊlli]	only and not involving anyone or anything else	
atomic weight	[əˌtɒmɪk 'weɪt]	the mass of an atom of a particular chemical element, usually expressed in atomic mass units	
randomly	[ˈrændəmli]	in a way that happens, is done, or is chosen by chance rather than following any system, plan, or rule	
nucleus	['nju:kliəs] the central part of an atom, usually made up o protons and neutrons		
electron shell	in very simple terms an electron shell is the operation of an atom that surrounds the atomic of the shells are orbital paths that are followed electrons around the nucleus		
valence	['veɪləns] the ability of an atom to combine with other a measured by the number of electrons it will lose or share		
layer	[ˈleɪər]	a level of material, such as a type of rock or gas, that is different from the material above or below it, or a thin sheet of a substance	

lithium [ˈlɪθiəm] — литий, sodium [ˈsəʊdiəm] — натрий, beryllium [bəˈrɪliəm] — бериллий, magnesium [mægˈniːziəm] — магний, hydrogen [ˈhaɪdrədʒən] — водород, helium [ˈhiːliəm] — гелий, boron [ˈbɔːrɒn] — бор.

Listen to a teacher explaining to a class how electrons work. Then complete each sentence with one word.

- 1. Mendeleev didn't know about ...
- 2. The periodic table arranged by Mendeleev was based on atomic ...
- 3. Electrons are located in ... around the nucleus of an atom.
- 4. Valence electrons determine the ... properties of an element.
- 5. Lithium and ... have only one valence electron.
- 6. Lithium and boron have ... electron shells.

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

substance	[ˈsʌbstəns]	material with particular physical characteristics
reactant	[riˈæktənt]	a chemical substance that reacts with another
release	[rɪˈliːs]	to give freedom or free movement to someone or something
absorb	[əbˈzɔːb]	to take something in, especially gradually
salt	[sɒlt]	a common white substance found in sea water and in the ground, used especially to add flavour to food or to preserve it; a chemical substance that is a combination of a metal or a base with an acid
sodium chloride	[ˌsəʊdiəm ˈklɔːraɪd]	salt
chloride ion	['klɔːraɪd 'aɪənz]	the chloride ion is an anion (negatively charged ion) with the charge Cl ⁻
chlorine	[ˈkləːriːn]	a chemical element that is a greenish-yellow gas with a strong smell, added to water in order to kill organisms that might cause infection

Listen to two students talking about chemical reactions. Then listen again and decide if the following statements are true or false.

- 1. A chemical reaction begins with reactants.
- (a) true
- (b) false
- 2. Weight is released in a chemical reaction.
- (a) true
- (b) false
- 3. Salt is a metal.
- (a) true
- (b) false
- 4. Sodium and chlorine are solids.
- (a) true
- (b) false
- 5. In a chemical reaction combined substances make new ones.
- (a) true
- (b) false

Part II

Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

atomic	[əˈtɒmɪk]	relating to atoms; using the energy that is created when an atom is divided
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nuclear power	[ˌnjuːkliə ˈpaʊər]	the power produced when the nucleus (= central part) of an atom is divided or joined to another nucleus			
nuclear fission	[ˌnjuːklɪə ˈfɪʃən]	the process of dividing the nucleus of an atom, resulting in the release of a large amount of energy			
split	[splɪt]	to (cause to) divide into two or more parts, especially along a particular line			
uranium	[jʊəˈreɪniəm]	a chemical element that is a heavy, radioactive metal, used in the production of nuclear power and in some types of nuclear weapon			
nuclear fusion	[ˌnjuːklɪə ˈfjuːʒən]	the process of joining two nuclei to produce energy			
hydrogen	a chemical element that is the lightest gas ['haɪdrədʒən] a chemical element that is the lightest gas colour, taste, or smell, and combines with of form water				
helium	a chemical element that is a gas lighter than air, th will not burn and is used in balloons, airships, ar some types of lights				
gamma radiation	[ˌgæmə reɪdiˈeɪʃən]	a type of radiation with a very short wavelength that passes through most solid objects			
chain reaction	[ˌtʃeɪn riækʃən]	a set of related events in which each event causes the next one, or a chemical reaction in which each change causes another			
radioactive	[ˌreɪdiəʊˈæktɪv]	having or producing powerful and dangerou energy that comes from the breaking up of atoms			

questions in your	id nuclear	energy	and keep	notes.	1 nen	answer	tno

- 1. Where is energy contained?
- 2. What is nuclear fission?
- 3. What is used to split an atom?
- 4. What is nuclear fusion?
- 5. When a uranium atom is split into two, what particles are released?
- 6. How could a *nuclear winter* affect life on Earth?

Part III

Write an essay giving your opinion on the Unit topics.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

heliocentric	having the sun at the centre, with the Earth and other planets moving around it, or based on the idea that this is what the universe is like		
sun-centered	[sʌn-ˈsɛntəd]	[sʌn-ˈsɛntəd] Copernican heliocentrism is the name given to the astronomical model developed by Nicolaus Copernical and published in 1543. This model positioned the Sunthe center of the Universe, motionless, with Earth and the other planets orbiting around it in circular paths, modified by epicycles, and at uniform speeds	
solar system	[səʊlə ˌsɪstəm]	the sun and the group of planets that move around it	
hypothesis	[haɪˈpɒθəsɪs]	plural hypotheses an idea or explanation for something that is based on known facts but has not yet been proved	
universe	[ˈjuːnɪvɜːs]	everything that exists, especially all physical matter, including all the stars, planets, galaxies, etc. in space	
motion	[ˈməʊʃən]	the act or process of moving, or a particular action or movement	

Listen to a radio programme about Copernicus. Then listen again and complete these notes.

- 1. Copernicus provided a heliocentric (1) ... theory of the solar system.
- 2. People used to believe the Sun went round the (2) ...
- 3. Copernicus led the way for science to (3) ... existing theories.
- 4. Copernicus held that the Earth is not the centre of the (4) ...
- 5. He also explained the phenomenon of (5) ... and gave the correct order of the planets.

$$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

Big Bang	[ˌbɪg ˈbæŋ]	the large explosion that many scientists believe created the universe
expansion	[ɪkˈspænʃən]	the increase of something in size, number, or importance
trigger	[ˈtrɪgər]	an event or situation, etc. that causes something to start
nanosecond	[ˈnænəʊˌsekənd]	a measurement equal to one billionth of a second, used to describe the speed at which a computer works on data
collide	[kəˈlaɪd]	(especially of moving objects) to hit something violently

Listen to a teacher and a student discussing her project about the Big Bang. Then listen again and answer the questions.

- 1. When did the Big Bang occur?
- 2. In what two ways is the phrase Big Bang used?
- 3. In which direction is all matter moving nowadays?
- 4. At one time, in the distant past in what form was all matter?
- 5. What chain of events did the Big Bang set off?
- 6. After the Big Bang, why did hydrogen atoms fuse together?
- 7. Can you describe the beginnings of simple galaxies?

Part III

Write an essay giving your opinion on the Unit topics.
Описание структуры эссе, особенности композиции и практические рекомендации представлены в Приложении к данному пособию.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

electricity	[ˌelɪkˈtrɪsəti]	a form of energy that can be produced in several ways and that provides power to devices that create light, heat, etc.
fuel	[ˈfjuːəl]	a substance that is used to provide heat or power, usually by being burned
turbine	[ˈtɜːbaɪn]	a type of machine through which liquid or gas flows and turns a special wheel with blades in order to produce power
nuclear	[ˈnjuːklɪər]	being or using the power produced when the nucleus of an atom is divided or joined to another nucleus
hydroelectricity	[ˌhaɪdrəʊɪlekˈtrɪsəti]	electricity produced by the force of fast-moving water such as rivers or waterfalls
coal	[kəʊl]	a hard, black substance that is dug from the earth in pieces, and can be burned to produce heat or power, or a single piece of this
pollution	[pəˈluːʃən]	damage caused to water, air, etc. by harmful substances or waste
radioactive	[ˌreɪdiəʊˈæktɪv]	having or producing powerful and dangerous energy that comes from the breaking up of atoms

Listen to the extract from a lecture on generating electricity. Then listen again and complete the table.

•	Ways of generating electricity			
	<u>Advantages</u>	<u>Disadvantages</u>		
	F	uel		
1.		2.		
	Nuclea	ar power		
3.		4.		
	Hydroe	electricity		
5.		6.		
	Wind	power		
7.	·	8.		

Part II
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

hairdryer	[ˈheəˌdraɪər]	an electrical device, usually held in the hand, that blows out hot air and is used for drying a person's hair
motor	[ˈməʊtər]	a device that changes electricity or fuel into movement and makes a machine work
heating element	['hiːtɪŋ 'elɪmənt]	A heating element is a material or device that directly converts electrical energy into heat or thermal energy through a principle known as Joule heating

current	[ˈkʌrənt]	a movement of water, air, or electricity in a particular direction
thermostat	[ˈθɜːməstæt]	a device that keeps a building, engine, etc. within a limited temperature range by automatically switching the supply of heat on and off

Listen to the conversation and fill in the gaps in the notes.

- 1. A hairdryer works with ...
- 2. The electric ... operates a fan.
- 3. The electric ... warms the heating element.
- 4. Air is ... the element.
- 5. A ... controls the heat in the element.

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

observation	[ˈɒpsəˌn]	the act of observing (watching) something or someone
accident	[ˈæksɪdnt]	something bad that happens that is not expected or intended and that often damages something or injures someone
measurement	[ˈmeʒəmənt]	the act or process of measuring
measure	[ˈmeʒər]	to discover the exact size or amount of something
constellation	[ˌkɒnstəˈleɪʃən]	any of the groups of stars in the sky that seem from earth to form a pattern and have been given names
astral	[ˈæstrəl]	relating to the stars or outer space
nova	[ˈnəʊvə]	a type of star that shines much more brightly for a few months as a result of a nuclear explosion
hybrid	[ˈhaɪbrɪd]	something that is a mixture of two very different things
orbit	[ˈɔːbɪt]	the curved path through which objects in space move around a planet or star

You will hear five students talking about famous scientists. Match each statement with the speaker. There is one statement which you do not need to use.

SPEAKER 1 ...

SPEAKER 2 ...

SPEAKER 3 ...

SPEAKER 4 ...

SPEAKER 5 ...

A He believed in a combination of the geocentric and heliocentric theories.

B He used scientific methods to explain planetary motion.

C He believed in the heliocentric theory.

D He believed nothing was accidental.

E He believed in the geocentric theory.

F He was the first to measure the movement of the stars.

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

alchemy	[ˈælkəmi]	a type of chemistry, especially in the Middle Ages, that dealt with trying to find a way to change ordinary metals into gold and with trying to find a medicine that would cure any disease
optics	[ˈɒptɪks]	the study of light and of instruments using light
refraction	[rɪˈfrækʃən]	the fact of light or sound being caused to change direction or to separate when it travels through water, glass, etc.
scientific	[ˌsaɪənˈtɪfɪk]	relating to science, or using the organized methods of science
prism	[ˈprɪzəm]	a transparent glass or plastic object that separates white light that passes through it into different colours:
decompose	[ˌdiːkəmˈpəʊz]	to break, or to break something, into smaller parts
spectrum	[ˈspektrəm]	the set of colours into which a beam of light can be separated, or a range of waves, such as light waves or radio waves

lens	[lenz]	a curved piece of glass, plastic, or other transparent material, used in cameras, glasses, and scientific equipment, that makes objects seem closer, larger, smaller, etc.
beam	[biːm]	a line of light that shines from a bright object
headway	[ˈhedweɪ]	to make progress or get closer to achieving something

You will hear part of a radio programme about great scientists. Listen and fill in the notes.

- 1. Optics is the branch of physics that studies the physical (1) ... of light known as optics.
- 2. Newton claimed that a prism could (2) ... white light into a spectrum of colours.
- 3. A second prism and lens could recompose the multi-coloured spectrum into (3) ... light.
- 4. Newton said (4) ... with coloured light caused us to see colours.
- 5. Newton believed light is made up of particles connected to (5) ...
- 6. Newton's calculations said gravity kept the Moon in (6) ...

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

grasp	[gra:sp]	to quickly take something in your hand(s) and hold it firmly
photoelectric	[ˌfəʊtəʊɪˈlektrɪk]	of or using an electrical current or voltage that is produced because of light
surface	[ˈsɜːfɪs]	the outer or top part or layer of something
wave	[weiv]	the pattern in which some types of energy, such as sound, light, and heat, are spread or carried
particle	[ˈpɑːtɪkəl]	an extremely small piece of matter, that together with others makes up an atom
prediction	[prɪˈdɪkʃən]	a statement about what you think will happen in the future

Listen to a teacher and a student discussing the photoelectric effect. Then complete each sentence with one word.

- 1. When light shines on a ... surface, electrons can be released.
- 2. Isaac Newton and Albert Einstein both believed that light was made of ...
- 3. The role of science is to find out the ...
- 4. In experiments with the photoelectric effect the ... agreed with Einstein's predictions.
- 5. Einstein didn't win the Nobel Prize for his ... of Relativity.
- 6. From different points of view, ... can be a particle or a wave.

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

movement	[ˈmuːvmənt]	a change of position	
rainbow	[ˈreɪnbəʊ]	an arch (= curved shape) of different colours seen in the	
		sky when rain is falling and the sun is shining	
glow	[gləʊ]	to produce a continuous light and sometimes heat	
spectral line	[ˈspektrəl laɪn]	a dark or bright line in an otherwise uniform and	
		continuous spectrum, resulting from the emission or	
		absorption of light in a narrow frequency range, compared	
		with the nearby frequencies	
spectroscopy	[spekˈtrɒskəpi]	the study of the way matter absorbs or sends out light and	
	_	other radiation (= energy from light or heat that you cannot	
		see)	
radiation	[ˈreɪdiˈeɪʃən]	a form of energy that comes from a nuclear reaction and	
		that can be very dangerous to health	
flash	[flæʃ]	to shine brightly and suddenly, or to make something shine	
		in this way	
photon	[ˈfəʊtɒn]	a single unit of light	

Listen to a teacher explaining spectral lines to a class of physics students. Then listen again and decide if the following statements are true or false.

- 1. Atoms inside electrons produce light.
- (a) true
- (b) false

- 2. Elements that glow produce all the colours.
- (a) true
- (b) false
- 3. Spectral lines are unique for each element.
- (a) true
- (b) false
- 4. Stars are too far away to be tested through spectroscopy.
- (a) true
- (b) false
- 5. A large number of atoms together will produce many lines.
- (a) true
- (b) false

Part III

Write an essay giving your opinion on the Unit topics.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

announce	[əˈnaʊns]	to make something known or tell people about something officially
relativity	[ˌreləˈtɪvəti]	either of two theories of physics giving the relationship between space, time, and energy, especially for two objects moving in different ways
quantum	[ˈkwɒn.təm]	the smallest amount or unit of something, especially energy
promote	[prəˈməʊt]	to encourage people to like, buy, use, do, or support something
colleague	[ˈkɒliːg]	one of a group of people who work together
equation	[ıˈkweɪʒən]	a mathematical statement in which you show that two amounts are equal using mathematical symbols
electricity	[ˌelɪkˈtrɪsəti]	a form of energy that can be produced in several ways and that provides power to devices that create light, heat, etc.
magnetism	[ˈmægnətɪzəm]	the power of being able to attract iron and steel objects
electromagnetic	[iˌlektrəʊmægˈnetɪk]	relating to the electrical and magnetic forces produced by an electric current
disturbance	[dɪˈstɜːbəns]	something that interrupts someone or makes someone feel worried

You will hear five famous scientists talking about research involving relativity. Match each statement with the speaker. There is one statement which you do not need to use.

SPEAKER 1 ...

SPEAKER 2 ...

SPEAKER 3 ...

SPEAKER 4 ...

SPEAKER 5 ...

A He discovered one of the first principles of relativity.

B His work led to the discovery of the Theory of Relativity.

C He discovered the two theories of relativity.

D He disagreed with the Theory of Relativity.

E He supported the Theory of Relativity.

F He tested the Theory of Relativity.

Part II

Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

magnetic compass	[mægˈnetɪkˈkʌmpəs]	in navigation or surveying, an instrument for determining direction on the surface of Earth by means of a magnetic pointer that aligns itself with Earth's magnetic field.
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needle	[ˈniːdəl]	a thin metal pin used as an instrument for determining direction in compass
amazement	[əˈmeɪzmənt]	extreme surprise
calculus	[ˈkælkjələs]	an area of advanced mathematics in which continuously changing values are studied
conclusion	[kənˈkluːʒən]	the final part of something
relativity	[ˌreləˈtɪvəti]	either of two theories of physics giving the relationship between space, time, and energy, especially for two objects moving in different ways

Listen to part of a radio interview with a historian talking about Einstein. Then complete each sentence with a word or short phrase.

- 1. Einstein made his first scientific discovery when he was ... years old.
- 2. He realised that something was causing the needle of the compass ... in a certain way.
- 3. He taught himself ... at the age of 12.
- 4. Einstein tried to get information about the speed of ... by looking into a ...
- 5. Recent research shows that there is no ... in the belief that Einstein had a learning difficulty.

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

numeral	[ˈnjuːmərəl]	a symbol that represents a number
multiplication	[ˌmʌltɪplɪˈkeɪʃən]	the process of adding a number to itself a particular number of times, or a calculation in which this is done
decimal system	['desiməl sistəm]	a system of counting based on the number ten, with numbers from 0 to 9
line up	[laɪn]	to arrange people or things in a row or to stand in a row
multiply	[ˈmʌltɪplaɪ]	to add a number to itself a particular number of times

Listen to the extract from a radio programme about number systems. Then listen again and choose the correct answer.

1. The Arabic system

A is a decimal system.

B causes difficulties.

C is only for multiplication.

2. The decimal system

A is based only on hundreds.

B can express any figures simply.

C is complicated.

3. Roman numerals

A can be divided easily.

B are useful for complex maths.

C can't be easily multiplied.

4. In Roman numerals C means

A two hundred.

B fifty.

C one hundred.

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

maths	[mæθs]	(formal mathematics) the study of numbers, shapes, and space using reason and usually a special system of symbols and rules for organizing them	
geometry	[dʒiˈɒmətri]	the area of mathematics relating to the study of space and the relationships between points, lines, curves, and surfaces	
shape	[ʃeɪp]	an arrangement that is formed by joining lines together in a particular way or by the line or lines around its outer edge	
size	[saiz]	how large or small something or someone is	
algebra	[ˈældʒəbrə]	a part of mathematics in which signs and letters represent numbers	

trigonometry	[ˌtrɪgəˈnɒmətri]	a type of mathematics that deals with the relationship between the angles and sides of triangles, used in measuring the height of buildings, mountains, etc.
subtract	[səbˈtrækt]	to remove a number from another number

Listen to these people talking about mathematics in everyday life. Then listen again and match the activity to the area of mathematics. There is one activity which you do not need to use.

1 estimating sizesA algebra2 the arrangement of partsB arithmetic3 avoiding collisionsC geometry

4 paying for goods D Probability Theory 5 calculating wages E trigonometry

6 predicting lottery numbers

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

algebra	[ˈældʒəbrə]	a part of mathematics in which signs and letters represent numbers
definition	[ˌdefɪˈnɪʃən]	a statement that explains the meaning of a word or phrase
equation	[1'kwe13ən]	a mathematical statement in which you show that two amounts are equal using mathematical symbols
scary	[ˈskeəri]	frightening
variable	['veəriəbəl] a number, amount, or situation that can change	
numerical	[nju: merɪkəl] involving or expressed in numbers	
coefficient	[ˌkəʊɪˈfɪʃənt]	a value, in mathematics, that appears in front of and multiplies another value
sign	[saɪn]	a written or printed mark that has a standard meaning
subtraction	[səbˈtrækʃən]	the process of removing one number from another
multiplication	[ˌmʌltɪplɪˈkeɪʃən]	the process of adding a number to itself a particular number of times, or a calculation in which this is done
division	[dɪˈvɪʒən]	the act of separating something into parts or groups, or the way that it is separated

Listen to a teacher talking to a class. Then listen again and complete the sentences.

- 1. Algebra is a branch of mathematics that uses mathematical to ... describe variables.
- 2. In a mathematical statement, letters are often used to represent a(n) ... which is not fixed.
- 3. A(n) ... is a mathematical statement containing letters or symbols to represent numbers.
- 4. A term is a number or a(n) ... of a number and one or more variables.
- 5. An expression is a collection of numbers, variables and ... positive or negative, of operations that make mathematical and logical sense.

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

matrix	[ˈmeɪtrɪks]	a group of numbers or other symbols arranged in a rectangle that can be used together as a single unit to solve particular mathematical problems
add	[æd]	to put something with something else to increase the number or amount or to improve the whole
multiply	[ˈmʌltɪplaɪ]	to add a number to itself a particular number of times
trace back	[treis bæk]	If you trace back the origin or development of something, you find out or describe how it started or developed
equation	[ɪˈkweɪʒən]	a mathematical statement in which you show that two amounts are equal using mathematical symbols
coefficient	[ˌkəʊɪˈfɪʃənt]	a value, in mathematics, that appears in front of and multiplies another value
decompose	[ˌdiːkəmˈpəʊz]	to break, or to break something, into smaller parts

dimension	[day'men [an / dy'men [an]	a measurement of something in a particular direction, especially its height, length, or width
difficusion	[[dar menjan / dr menjan]	direction, especially its height, length, or width

Listen to the extract from a lecture about matrices. Then listen again and tick the statements which are true.

- 1. A matrix is a table of abstract quantities that can be added or multiplied.
- (a) true
- (b) false
- 2. No form of matrix was used in prehistoric times.
- (a) true
- (b) false
- 3. Matrices can be added, multiplied, and decomposed in different ways.
- (a) true
- (b) false
- 4. The horizontal lines in a matrix are the columns.
- (a) true
- (b) false
- 5. A matrix with m rows and n columns is known as an m-by-n matrix.
- (a) true
- (b) false

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

art	[ɑːt]	the activity of painting, drawing, and making sculpture
artist	[ˈɑːtɪst]	someone who paints, draws, or makes sculptures
projective geometry	[prəˈdʒektɪvdʒiˈɒmətri]	the branch of mathematics that deals with the relationships between geometric figures and the images, or mappings, that result from projecting them onto another surface
perspective	[pəˈspektɪv]	the way that objects appear smaller when they are further away and the way parallel lines appear to meet each other at a point in the distance
flat	[flæt]	level and smooth, with no curved, high, or hollow parts
dimension	[ˌdaɪˈmenʃən]	a measurement of something in a particular direction, especially its height, length, or width
linear	[ˈlɪniər]	consisting of relating to lines or length
aerial	[ˈeəriəl]	a structure made of metal rods or wires in or from the air
triangle	[ˈtraɪæŋgəl]	a flat shape with three straight sides
collinear	[kɒlˈɪniər]	(of three or more points) lying on a single straight line

Listen to a conversation between two friends. Then complete the sentences with a word or short phrase.

- 1. The boy is learning about ... geometry.
- 2. Artists paint on a flat, one- ... surface.
- 3. Objects that are nearer to us look ... than objects that are further away.
- 4. Desargues invented a way to understand ...
- 5. Desargues theorem said when two triangles are in perspective the corresponding sides lie on the same...

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

ancient	[ˈeɪnʃənt]	of or from a long time ago, having lasted for a very long time
geometry	[dʒiˈɒmətri]	the area of mathematics relating to the study of space and the relationships between points, lines, curves, and surfaces
stone tablet	[stəʊnˈtæblət]	ancient paintings that describe the history of ancient civilizations. They contain some stories, prophecies, and sometimes guides that can help people
shell	[ʃel]	the hard outer covering of something, especially nuts, eggs, and some animals

jewellery	[ˈdʒuːəlri]	decorative objects worn on your clothes or body that are usually made from valuable metals, such as gold and silver, and precious stones
ceramic	[səˈræmɪk]	made from clay that has been shaped and then baked until hard

You will hear part of a talk about the history of mathematics. Listen and choose the correct answer.

1. The ancient Egyptians

A didn't know a lot about geometry.

B built small structures.

C were quite knowledgeable regarding geometrical ideas.

2. The Chinese

A may have had geometrical measurement systems.

B certainly didn't have geometrical measurement systems.

C had advanced measurement systems.

3. A recovered object ancients used for measuring

A was probably worn on the hand.

B was found in the sea.

C may have been a kind of compass.

4. Ancient people from India may have

A known a lot about astronomy.

B taught the Greeks astronomy.

C measured the seas.

5. Most ancient civilisations used geometry

A in their architecture.

B in some way.

C to plan their cities.

Part III

Write an essay giving your opinion on the Unit topics.

Part I
Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

calculus	[ˈkælkjələs]	an area of advanced mathematics in which continuously changing values are studied
pebble	[ˈpebəl]	a small smooth round stone, especially one found on a beach or in a river
contributor	[kənˈtrɪbjətər]	a person who contributes something, especially money, in order to provide or achieve something together with other people
flux	[flʌks]	continuous change
convince	[kənˈvɪns]	to persuade someone or make someone certain
integration	[ˌɪntɪˈgreɪʃən]	the action or process of combining two or more things in an effective way
differentiation	[ˌdɪfərenʃiˈeɪʃən]	the process or fact of being different or making something different from other similar things

Listen to a teacher and students discussing some of the history of calculus. Then answer the questions in your own words.

- 1. What was the original meaning of the word *calculus?*
- 2. Who named the branch of mathematics known as calculus?
- 3. Why did Newton name it *the science of fluxions*?
- 4. What did Newton accuse Leibniz of doing?
- 5. Leibniz and Newton had different starting points in their work on calculus what were they?

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

struggle	[ˈstrʌgəl]	to experience difficulty and make a very great effort in order to do something
margin	[ˈmɑːdʒɪn]	the amount by which one thing is different from another the empty space to the side of the text on a page, sometimes separated from the rest of the page by a vertical line
square	[skweər]	a flat shape with four sides of equal length and four angles of 90°
equal	[ˈiːkwəl]	the same in amount, number, or size
cube	[kjuːb]	a solid object with six square sides of equal size
challenge	[ˈtʃælɪndʒ]	(the situation of being faced with) something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability

Listen to a teacher talking to a class about Fermat's Last Theorem. Then complete the sentences below.

- 1. Fermat's Last Theorem was the world's most puzzling ... problem.
- 2. Fermat left no ... of the proof he had found.
- 3. Fermat claimed there was no solution for any equation beyond the ...
- 4. Proof is a line of reasoning that consists of many ...
- 5. Andrew Wiles published a proof to the Last Theorem in ...

Part III

Write an essay giving your opinion on the Unit topics.

Part I Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

exciting	[ɪkˈsaɪtɪŋ]	making you feel excited
pure	[pjʊər]	not mixed with anything else
apply	[əˈplaɪ]	(especially of rules or laws) to have a connection or be important
proof	[pruːf]	a fact or piece of information that shows that something exists or is
proor		true
elsewhere	[ˌelsˈweər]	at, in, from, or to another place or other places; anywhere or
eisewhere		somewhere else
comp	[kæmp]	a place where people stay in tents or other temporary structures;
camp		a group of people who share an opinion, especially a political one
technique	[tek'ni:k]	a way of doing an activity that needs skill
point	[point]	an idea, opinion, or piece of information that is said or written

Listen to a course director giving some information to a group of potential maths students. Then decide if the following statements are true or false.

- 1. Mathematics is an expanding area with good job prospects.
- (a) true
- (b) false
- 2. The difference between pure and applied mathematics lies in the content of the studies.
- (a) true
- (b) false
- 3. An applied mathematician finds answers to questions raised by mathematics.
- (a) true
- (b) false
- 4. A pure mathematician's answers take the form of general propositions with exact, formal proof.
- (a) true
- (b) false
- 5. The two kinds of mathematics can come to the same conclusions.
- (a) true
- (b) false

 $$\operatorname{Part} II$$ Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

extraordinary	[ɪkˈstrɔːdɪnəri]	very unusual, special, unexpected, or strange
exterior	[ɪkˈstɪəriər]	on or from the outside
hide	[haɪd]	to put something or someone in a place where that thing or person cannot be seen or found, or to put yourself somewhere where you cannot be seen or found
knowledgeable	[ˈnɒlɪdʒəbəl]	knowing a lot
PhD	[ˌpiːeɪtʃˈdiː]	abbreviation for doctor of philosophy: the highest college or university degree, or someone who has this

span	[spæn]	the period of time that something exists or happens
influence	[ˈɪnfluəns]	the power to have an effect on people or things, or a person or thing that is able to do this
cybernetic	[ˌsaɪbəˈnetɪk]	relating to or using cybernetics (= the study of how information is communicated in machines and electronic devices, compared with how information is communicated in the brain and nervous system)
multitude	[ˈmʌltɪtʃuːd]	a large number of people or things

Listen to a teacher talking about a famous mathematician. Then listen again and correct the statements which are wrong.

- 1. Wiener enjoyed the fine arts.
- 2. Wiener was only ever taught at home.
- 3. Wiener got his undergraduate degree at the age of 18.
- 4. Wiener's working life was 50 years long.
- 5. Only a few cyber terms have been coined.

Part III

Write an essay giving your opinion on the Unit topics.

prodigy	[ˈprɒdɪdʒi]	someone with a very great ability that usually shows itself when that person is a young child
genius	[ˈdʒiːniəs]	very great and rare natural ability or skill, especially in a particular area such as science or art, or a person who has this
eligible	[ˈelɪdʒəbəl]	having the necessary qualities or satisfying the necessary conditions
award	[əˈwɔːd]	to give money or a prize following an official decision
honour	[ˈɒnər]	a quality that combines respect, being proud, and honesty
crater	[ˈkreɪtər]	the round hole at the top of a volcano, or a hole in the ground similar to this
injure	[ˈɪndʒər]	to hurt or cause physical harm to a person or animal
miraculously	[mɪˈrækjələsli]	in a way that is very surprising or difficult to believe

You will hear part of a talk about a famous Russian physicist. Listen and complete the sentences.

- 1. As a child, Dr Landau was a mathematical ...
- 2. He became a university student when he was ... years old.
- 3. Dr Landau worked both in Russia and ...
- 4. Dr Landau won the Nobel Prize in ...
- 5. One of the Moon's ... is named after him.

Part II Before listening. Give the Russian equivalents to the next words. Pay attention to the pronunciation.

prize	[praɪz]	something valuable, such as an amount of money, that is given to someone who succeeds in a competition or game or that is given to someone as a reward for doing very good work
peace	[piːs]	freedom from war and violence, especially when people live and work together happily without disagreements
monetary	[ˈmʌnɪtri]	relating to the money in a country
committee	[kəˈmɪti]	a small group of people chosen to represent a larger organization and either make decisions or collect information for it
vote	[vəʊt]	to express your choice or opinion, especially by officially writing a mark on a paper or by raising your hand or speaking in a meeting
announce	[əˈnaʊns]	to make something known or tell people about something officially
dynamite	[ˈdaɪnəmaɪt]	a type of explosive
weapon	[ˈwepən]	any object used in fighting or war, such as a gun, bomb, knife, etc.
explosive	[ıkˈspləʊsɪv]	exploding or able to explode easily
gossip	[ˈgɒsɪp]	conversation or reports about other people's private lives that might be unkind, disapproving, or not true

Listen to an interview where a commentator is talking about the Nobel Prize. Then answer the questions.

- 1. According to Bradford, what is the greatest reward for winning a Nobel Prize?
- A. the money
- B. the medal
- C. the certificate
- D. the honour
- 2. How are people nominated for the Prizes?
- A. Alfred Nobel chooses them.
- B. The committee chooses one of their friends.
- C. Institutions suggest people who have done outstanding work.
- D. They are voted for.
- 3. Why did Alfred Nobel decide to set up the Nobel Prizes?
- A. He didn't know what to do with his money.
- B. He wanted to do some good with his money.
- C. He wanted to help scientists only.
- D. He wanted to show people how rich he was.
- 4. How much money did Alfred Nobel give to set up the Prizes?
- A. more than \$400,000
- B. more than \$400,000,000
- C. more than \$40,000
- D. more than \$4,000,000
- 5. Which is true about the Nobel Prize winners?
- A. Most of them are women.
- B. Most of them are men.
- C. They must be European.
- D. They must be young.
- 6. There is NO Nobel Prize for
- A. literature
- B. physics
- C. peace
- D. mathematics

Part III

Write an essay giving your opinion on the Unit topics.

Раздел III. Контрольные работы

КОНТРОЛЬНЫЕ РАБОТЫ ДЛЯ СТУДЕНТОВ ЗАОЧНОЙ ФОРМЫ ОБУЧЕНИЯ

Выполнение контрольных заданий и оформление контрольных работ

Выполнять письменную контрольную работу следует в отдельной тетради. На обложке тетради напишите вариант, свою фамилию, номер группы, факультет, курс, номер вашего студенческого билета.

Выбор варианта осуществляется по последней цифре номера вашего студенческого билета или зачетной книжки.

Если номер вашего билета оканчивается на 0, 1, 2, 3, вы выполняете задания, предложенные в первом варианте.

Второй вариант выполняется студентами, номер студенческого билета которых оканчивается на 4, 5, 6.

И если последняя цифра номера билета 7, 8 или 9, ваш вариант – третий.

КОНТРОЛЬНАЯ РАБОТА № 1

ВАРИАНТ 1

Задание 1. Выберите правильный вариант ответа. Перед выполнением изучите следующие грамматические темы: 1. Имя существительное: множественное число, неисчисляемые существительные, употребление слов much, many, a lot of, (a) few, (a) little, притяжательный падеж. 2. Местоимения.

- 1. When we went shopping we wanted to buy ... new.
- A) nothing
- B) any
- C) something
- 2. I'm sorry, but I haven't got ... advice to give you.
- A) some
- B) any
- C) no
- 3. He looked at the engine but he couldn't see
- A) nothing
- B) somewhere
- C) anything
- 4. She had ... free time after she retired than previously.
- A) more
- B) most
- C) many
- 5. We usually drink ... water in hot weather.
- A) few
- B) a lot of
- C) much
- 6. He wants ... sugar in his tea.
- A) a few
- B) a little
- C) any

7. Those are files. A) Bill's B) Bill C) Bills'
8. There is in our garden. A) a nest of a bird B) a bird's nest C) a nest's bird
9. This is these ball. A) boys B) boy's C) boys'
10. Ann had to use my ruler as she had left at home.A) herB) herselfC) hers
11) The boys are with mum today. A) theirs B) them C) their
12. Last Saturday we went fishing, but we didn't catch manyA) fishesB) fishC) fishs
13. I can give you some money in my wallet.A) They areB) It isC) This are
14. Our two are crying all the time.A) babiesB) babysC) babyes
15. What do you need these for? A) boxes B) boxs C) boxis
Задание 2. Заполните пропуски артиклями, если это необходимо, и переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Артикли английского языка и особенности их употребления.
 I wrote to her but letter never arrived. Britain is island. What is name of this village? Jane is very nice person. You must meet her.

- 5. Montreal is ... large city in ... Canada.
- 6. What is ... largest city in ... USA?
- 7. "What time is it?" "I don't know. I haven't got ... watch."
- 8. You look very tired. You need ... holiday.
- 9. Don't sit on ... floor. It's very dirty.
- 10. "Let's go to ... restaurant this evening." "That's ... good idea. Which restaurant shall we go to?"

Задание 3. Раскройте скобки и поставьте прилагательные в правильную форму. Переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Имя прилагательное. Степени сравнения имен прилагательных.

- 1. This year it's ... than it was last year. (hot)
- 2. What's ... way to get to the centre? (good)
- 3. The library's ... place in the university for studying. (quiet)
- 4. Books are ... than computer games. (entertaining)
- 5. A computer is ... than a typewriter. (useful)
- 6. That's ... excuse I've ever heard! (bad)
- 7. The first story she told was ... than the second one. (funny)

Задание 4. Переведите предложения и определите видовременную форму сказуемых. Перед выполнением изучите следующие грамматические темы: Видо-временные формы глагола английского языка в активном и пассивном залогах.

- 1. Almost everyone has friends but ideas about friendship vary from person to person.
- 2. After the wedding party spouses went on honeymoon.
- 3. The magazine is read by millions of people.
- 4. Have you ever been to the Canary Islands?
- 5. I'm reading an interesting article about the art of Feng Shui.
- 6. Our windows will be washed by robots.
- 7. We got to the hotel late that evening because we had got lost.
- 8. For centuries, the grain quinoa has been grown in the mountains.
- 9. He has been practicing for Olympics since 2008.
- 10. When the actress arrived a crowd had been waiting for several hours to greet her.

Задание 5. Раскройте скобки, употребляя глагол в правильной форме, и переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Видо-временные формы глагола английского языка в активном и пассивном залогах.

- 1. We have been living in London since we ... (graduate) from the University.
- 2. My life ... (be) very different from that of my parents' generation.
- 3. For example, my parents ... (not / have) to live with pollution when they ... (be) young.
- 4. Only guests who carry their cards ... (allow) inside.
- 5. When we arrived at the stadium, the match ... (start). We missed the kick off.
- 6. By 2035, commercial space travel ... (start).
- 7. My computer ... (repair) now. I can't send you an email.
- 8. Who ... the mobile phone ... (invent) by?
- 9. Mary always forgets to close the fridge after she ... (use) it.
- 10. People ... (not / eat) late at night in Britain.

Задание 6. Заполните пропуски предложенными фрагментами (а-е) и переведите полученный текст.

Interior Design Ideas for Small Spaces

If you are living in house having smaller area, (1) ... But in fact, there are many interior design ideas for small spaces.

For interior design ideas for small living room, first you need to concentrate on making it look more spacious. Most of the time guest will only see your living room. (2) ... so it should be well-organized as this creates an image of the entire house. Keeping the furniture to minimal is one of the important interior design ideas for small spaces. One couch, a backless single seat chair, small side tables with storage space would be enough. Wall mount for television set is a great idea. Fix some floating shelves around it to arrange the music system and speakers.

One of the interior design ideas for small kitchens is to have a lot of shelves on either sides of the countertop. $(3) \dots$

A trendy wall paneling pattern for an entire wall of the bedroom with storage space inside is a wonderful idea. Another decorating tip for small bedrooms is (4)

Take off wall decorating items to have a plain and wide wall. (5) Remember that painting the ceiling in white color is a must for small spaces.

Make sure that you have enough of lighting to illuminate the area. Brightly illuminated area will look more roomy.

- (a). to have a large mirror on the wall opposite the window to create the illusion of space.
- (b). you might find decorating it a tough task.
- (c). You can also have a foldable dining table.
- (d). Don't have more than one frame for a wall.
- (e). It's the main area.

Задание 7. Прочитайте текст и определите, являются ли приведенные утверждения (1-8) правдивыми или ложными, исходя из его содержания.

ENROLMENT IN SIGN LANGUAGE CLASSES GROW

Some people believe that if more money and resources aren't given to traditional foreign language classrooms in the USA, languages such as French or German might die out. However, this doesn't mean that all language learning is in danger. More and more people are learning to speak with their hands.

One professor at an American university reports: "If we offer American Sign Language (ASL), we'll have enough students for three courses. We cannot keep up with all the students who want to take the courses."

One of the students also says, 'I just thought Sign Language was a beautiful language. I picked it up easily.'

Another student who has slowly lost her hearing since birth was also surprised by the course. "Unless colleges offer these kinds of courses, deaf people will never really be part of society. The course also let me meet other people in the deaf community. It opened up a new world to me!"

However, some people have criticized the US schools offering American Sign Language. One reason is because some colleges won't accept it as a language if you can't speak it. Douglas Baynton, an ASL professor at the University of Iowa, says: "The idea that you can have a language on your hands is just very foreign." ASL also uses space, gesture and body language.

But critics reply that ASL is not equal to languages like Chinese. Dr Lin, a professor of Chinese, comments that: "If ASL is equal to traditional languages, it will have the same

number of words and emotional range. In my opinion, it doesn't!"

But many ASL users say this is untrue. As one deaf student said: "If you understand and use sign language, you'll understand the world the same as in any other language."

- 1. People are 100% certain that languages such as French and German will disappear in the USA.
- 2. The whole sphere of language learning is in danger now.
- 3. One American university has too many students for its courses in ASL.
- 4. ASL is easier to learn than a foreign language.
- 5. One ASL student also benefited by meeting other deaf people.
- 6. Douglas Baynton thinks people are critical of ASL because it's very strange and unusual.
- 7. Dr Lin believes you can say as much in ASL as you can in Chinese.
- 8. The student in the final paragraph believes people will understand the world as soon as they learn ASL.

ВАРИАНТ 2

Задание 1. Выберите правильный вариант ответа. Перед выполнением изучите следующие грамматические темы: 1. Имя существительное: множественное число, неисчисляемые существительные, употребление слов much, many, a lot of, (a) few, (a) little, притяжательный падеж. 2. Местоимения.

- 1. I have hardly ... free time these days.
- A) some
- B) any
- C) no
- 2. I can lend you ... money if you need it.
- A) some
- B) any
- C) no
- 3. I don't know ... at the party.
- A) anybody
- B) somebody
- C) nobody
- 4) Not ... people know what the capital of Bolivia is.
- A) much
- B) more
- C) many
- 5) There is ... chance of him getting the money back. She's spent it all.
- A) little
- B) few
- C) a few
- 6) He has ... work to do.
- A) much
- B) a lot of
- C) many

A) sister's-in-law B) sister-in law's C) sister-in-laws
8. We should paintA) the house's roofB) the roof of the houseC) the roof's house
 9. I like this car. Is it yours? – No, this is A) Tom's and Alice's car B) Tom and Alice's car C) Tom and Alice car's
10. I've got several pencils you can use one ofA) myB) meC) mine
11. This is my brother's dog. It is A) his B) him C) hims
12. The comes every morning.A) postmanB) postmenC) postpeople
13. A cook should have a lot ofA) knifesB) knivesC) knifs
14. In summer we eat a lot ofA) fruitB) fruitsC) fruites
15. We can see a lot of in this place.A) childrenB) childC) childrens
Задание 2. Заполните пропуски артиклями, если это необходимо, и переведите по лученные предложения. Перед выполнением изучите следующие грамматические темы: Артикли английского языка и особенности их употребления.
 Rome is city in Italy. When we were in London, we stayed at hotel. Can you ride horse? What's that man doing on roof of that house? Is he repairing something?

7. My ... garden is really beautiful.

- 5. We went to the theatre last night but ... play wasn't very good.
- 6. Do you think English is ... difficult language for people to learn?
- 7. "Would you like ... cigarette?" "No, thanks. I don't smoke".
- 8. "Where is Jack?" "He's in ... kitchen. He's cooking something."
- 9. Excuse me, what time is ... train to London?
- 10. It's ... nice day today. Let's go out.

Задание 3. Раскройте скобки и поставьте прилагательные в правильную форму. Переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Имя прилагательное. Степени сравнения имен прилагательных.

- 1. Accommodation here is ... than in my country. (expensive)
- 2. Don't worry. The river isn't as ... as it looks. (deep)
- 3. I think you're ... than your father now. (tall)
- 4. His homework was ... than mine. (bad)
- 5. The city is ... than it used to be. (crowded)
- 6. He's ... of all the assistants. (helpful)
- 7. It was ... music I had ever heard. (beautiful)

Задание 4. Переведите предложения и определите видовременную форму сказуемых. Перед выполнением изучите следующие грамматические темы: Видовременные формы глагола английского языка в активном и пассивном залогах.

- 1. Hello from Malta! I'm having such a good time that I don't want to leave.
- 2. When I come home my English will be so good that you won't believe it.
- 3. A blog is a personal webpage and sometimes a journal.
- 4. Your interview went badly because you hadn't prepared for it.
- 5. The first modern Olympic Games were held in Athens in 1896.
- 6. I think computers will do everything for us in the future.
- 7. The Eiffel Tower is painted every seven years.
- 8. The report has been produced at the request of trade unions.
- 9. We found that the road had been blocked by a tree.
- 10. You will be examined by a top consultant.

Задание 5. Раскройте скобки, употребляя глагол в правильной форме, и переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Видо-временные формы глагола английского языка в активном и пассивном залогах.

- 1. The Brazilians ... (export) the most coffee in the world.
- 2. Chocolate ... (bring) to Europe by the explorer Cortes.
- 3. The hostages ... (sit) in the plane without food or water since Wednesday.
- 4. Most people ... only (interested) in bad news.
- 5. My parents ... (not / travel) much when they ... (be) young.
- 6. I promise. I ... (do) my best to help you.
- 7. Nowadays supermarkets ... (put off) small shopkeepers out of business.
- 8. The style of the exam ... (not / change) since 1999.
- 9. When I went to Argentina I ... never (fly) before.
- 10. What ... (predict) by the Mayans?

Задание 6. Заполните пропуски предложенными фрагментами (а-е) и переведите полученный текст.

Importance of Leisure: Why is Leisure Important

When was the last time you had time for yourself doing things you really enjoy? With work taking over the lives of many, (1) So, have you ever wondered what is the importance of leisure and recreational activities.

What is the meaning of Leisure?

When one speaks about leisure time, (2) Leisure activities are meant to de-stress a person and carry the attention away from work. This could mean type of recreational activity. The primary aim is to give you sense of self.

Importance of Leisure:

(3) These activities help to refresh the mind. There are various different recreational activities one can choose from to suit individual tastes. At the end of the day, how positive you feel is all that is important!

Examples of Leisure Activities:

There are two types of leisure activities you can choose from. Active leisure activities include energetic activities that even require one to use mental strength. (4) ... and can even mean watching a movie with friends or reading.

You can learn to dance, listen to music, go hiking, camping, fishing, swimming, or even try adventure sports. (5) ... and surfing are equally popular as leisure activities for those who crave for adventure.

- (a). it simply means a period which you spend doing things other than your work
- (b). Rock climbing, skiing
- (c). people have very little time for any kind of leisure activities
- (d). Passive leisure activities are all about relaxation
- (e). Leisure activities are important to bring about a positive flow of energy in a person

Задание 7. Прочитайте текст и определите, являются ли приведенные утверждения (1-8) правдивыми или ложными, исходя из его содержания.

CAREERS IN JOURNALISM: BECOMING A FOREIGN CORRESPONDENT

So, you want to be a foreign correspondent. Unfortunately so do lots of other journalists. Many see it as their free passport to travel far and wide. As the world gets smaller, the competition for working overseas gets tougher. But if you remain undaunted you could be able to wangle your way into reporting on the latest crisis.

Some journalists say that they want to be foreign correspondents "while they can". After a few years of work, they reason, they can settle down to a comfortable job and cover less adventurous stories at home. But whenever you decide to go, here are some skills and talents you'll need:

LEARN A FOREIGN LANGUAGE.

Many correspondents find that they need to work among several languages, but knowing at least one very well will increase your skills and show editors that you have an aptitude for language.

INDEPENDENCE AND CHUTZPAH

No newspaper editor will send a reporter who needs a lot of direction and management while reporting to their boss half a world away. You'll need plenty of self-confidence and be prepared sometimes to break some rules.

BE THE BEST

Many journalists can report well but foreign correspondents also need to be great writers. You have to be able to convey the scene of war to readers in less than 1000 words - with

bombs and bullets going off around you. Every word you write will need to bring home to readers what's really happening with objective honesty and integrity.

- 1. Very few journalists want to be foreign correspondents.
- 2. Some journalists want to become a foreign correspondent because their life is exciting.
- 3. To get a job as a foreign correspondent, you must be sensitive.
- 4. An editor will be most impressed with you if you have lots of skills.
- 5. You may be able to get sent as a correspondent if you are clever and maybe even a little dishonest.
- 6. Newspaper editors will send journalists who regularly call the editor and report back.
- 7. The final paragraph gives readers a real sense of the events.
- 8. Talent of a writer is essential for a good journalist.

1. Why are you upset? – I can't find my passport ...!

A) somewhereB) nowhereC) anywhere

B) friend'sC) friend

2. There's ... cheese in the fridge.

ВАРИАНТ 3

Задание 1. Выберите правильный вариант ответа. Перед выполнением изучите следующие грамматические темы: 1. Имя существительное: множественное число, неисчисляемые существительные, употребление слов much, many, a lot of, (a) few, (a) little, притяжательный падеж. 2. Местоимения.

A) some B) any C) every
3 happened to his car and it stopped.A) anythingB) noC) something
4. There were so different flavours of ice-cream that I couldn't choose.A) muchB) manyC) lots of
5. This text is easy; there are new words in it.A) littleB) fewC) much
6. I haven't got paper.A) fewB) a littleC) much
7. My name is Akim. A) friends'

8. We should paint A) the house's roof B) the roof of the house C) the roof's house 9. Is that ... over there? A) the car of the Smiths B) the Smiths' car C) the car's Smiths 10. Mary is in hospital. I'm going to visit A) hers B) she C) her 11. We can dance. Look at ...! A) us B) them C) you 12. How many high is this house? A) feet B) foot C) foots 13. Tell me the news. I didn't hear ... yesterday. A) them B) it C) they 14. We saw a lot of ... in the field. A) sheep B) sheeps C) sheepes 15. The police ... coming. A) is

Задание 2. Заполните пропуски артиклями, если это необходимо, и переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Артикли английского языка и особенности их употребления.

- 1. Can you turn on ... radio, please? I want to listen to some ... music.
- 2. Tom is in ... bathroom. He's having ... bath.
- 3. This is ... nice room, but I don't like ... colour of ... carpet.
- 4. We live in ... old house near ... station. It's ... two miles from ... center.
- 5. I turned off ... light, opened ... door and went out.
- 6. Excuse me, can I ask ... question, please?
- 7. Alan is ... best player in our ... football team.
- 8. How far is from here to ... airport?

B) are C) am

- 9. Enjoy your holiday and don't forget to send me ... postcard!
- 10. Have you got ... ticket for concert tomorrow night?

Задание 3. Раскройте скобки и поставьте прилагательные в правильную форму. Переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Имя прилагательное. Степени сравнения имен прилагательных.

- 1. Ithink that the new salesmanis ... than the lastone. (hardworking)
- 2. This is ... country in the world. (poor)
- 3. My new dictionary is a lot ... than the last one. (useful)
- 4. Do you think French is as ... to learn as English? (difficult)
- 5. This system is ... than the last one we had. (easy)
- 6. She was feeling ... than she had been earlier. (bad)
- 7. Who's ... businessman, do you think? (rich)

Задание 4. Переведите предложения и определите видовременную форму сказуемых. Перед выполнением изучите следующие грамматические темы: Видовременные формы глагола английского языка в активном и пассивном залогах.

- 1. Medical science has made enormous advances in the twentieth century.
- 2. Ludwig van Beethoven is sometimes known as "the Shakespeare of music".
- 3. In the capital cities of the world, the sight of people begging on the streets is becoming increasingly common.
- 4. Barry resigned from his job in order to go back to university.
- 5. When Ann heard she had been accepted to medical school, she called all her friends.
- 6. A sleeping cat will not catch a rat.
- 7. The luggage was damaged by the airline.
- 8. It was snowing heavily and the winds were fierce.
- 9. In two years, engineers will have designed a new factory.
- 10. Have you ever taken any Asian martial arts?

Задание 5. Раскройте скобки, употребляя глагол в правильной форме, и переведите полученные предложения. Перед выполнением изучите следующие грамматические темы: Видо-временные формы глагола английского языка в активном и пассивном залогах.

- 1. They ... recently (make) plans to get married.
- 2. Dr. Ballard ... (search) for shipwrecks for 30 years.
- 3. People whose lies ... (discover) lose the trust of others.
- 4. The Queen ... (address) Parliament next week.
- 5. Although the family lived in a small, crowded apartment, the boy ... (give) his own room.
- 7. In the future, appliances ... (link) to each other and to the Internet as well.
- 8. This time we ... (try) to do without imported products.
- 9. When ... you (buy) your first computer?
- 10. When I was a teenager, my parents never let me play until I ... (finish) allmyhomework.

Задание 6. Заполните пропуски предложенными фрагментами (а-е) и переведите полученный текст.

Healthy Lunch Ideas That Taste Great

Remember when your mom packed you a peanut butter and jelly sandwich with an apple and cookie every day? Of course, you were excited about this lunch when you were a kid, but now that you're an adult and going to work every day, you crave healthier food and some variety. (1) ... go out to eat every day because they want a delicious variety of food. Food

bought from restaurants and cafes is often high in calories and is much more expensive than packing your own lunch. With just a few simple tricks, you'll bring your lunches and save money and calories.

Sandwiches

Sandwiches are always compact and portable. Instead of the traditional peanut butter and jelly, try sandwiches made of cheese and roasted or grilled vegetables with pre-sliced deli meat. (2)

Salads

Often, salads from cafes are higher in calories than a typical sandwich. However, bringing your own salad from home can help cut calories and costs. Salads are great to bring to work, too, because you can put anything in them, (3) ...

Other Entrée Meals

(4) ... little bit too much dinner and pack it up to bring to work the next day, you can have a delicious meal without any extra expense and without a lot of extra preparation. When you're finished with your dinner, just put a portion of the leftovers in reusable containers.

Snacks and Sides

If mid-morning or mid-afternoon hunger catches you off guard, having a snack packed and ready to go can help you make it to your next meal. Some great ideas for healthy snacks that won't break the budget include cheese, (5)

- (a). If you make a
- (b). Many working adults
- (c). from leftover meat to your favorite fruits and vegetables
- (d). yogurt, hummus and veggies, apple slices, and mixed nuts
- (e). Tuna, egg, and chicken salad sandwiches are also great and easy to make

Задание 7. Прочитайте текст и определите, являются ли приведенные утверждения (1-8) правдивыми или ложными, исходя из его содержания.

GRETA GARBO

It has been said that she was the most beautiful woman who ever lived. Whether this is true or not, Greta Garbo will always be remembered for starring in some of Hollywood's greatest masterpieces, from the silent movies of the twenties through to her last film in 1941. Her decision never to make a film again shocked the movie world. She accepted an honorary Oscar in 1954 but soon afterwards she was rarely seen in public again. She famously said, "I want to be alone." She bought a seven-room apartment in New York City where she lived on her own for the rest of her life. Throughout the years leading up to her death in 1990, Garbo wasn't a total recluse. It was reported that she still spent time with the rich and famous and that she would go for long walks in New York wearing dark glasses and casual clothes. She had invested the money she had made from films wisely and there are still rumours that she wrote an autobiography. However, the book has never been published. Her final interview took place in Cannes with the journalist Raul Callan. He started the interview by saying, "I wonder..." Garbo interrupted, said, "Why wonder?" and walked away. It is probably one of the shortest interviews in celebrity history.

- 1. She made films during three decades.
- 2. All her films were silent.
- 3. People were surprised when she ended her career in 1941.
- 4. She lived in New York until she died.
- 5. She never saw anyone ever again after 1954.
- 6. After she stopped making films, she could afford not to work.
- 7. You can read her autobiography.
- 8. In her final interview, Garbo let the journalist finish his first question.

КОНТРОЛЬНАЯ РАБОТА № 2

ВАРИАНТ 1

Задание 1. Выберите правильный вариант ответа.

- 1. These sunglasses cost just 10. What $a(n) \dots !$
- a) business
- b) investment
- c) bargain
- 2. People will never live on the moon. That's just ... fiction!
- a) scientist
- b) science
- c) impossible
- 3. You should think about getting a ... if you want to get a better job.
- a) referees
- b) qualification
- c) personal details
- 4. It is ... to smoke too many cigarettes.
- a) unhealthy
- b) illegal
- c) safe
- 5. The service charge was not included in the
- a) bill
- b) course
- c) speciality
- 6. So, Mrs Brown, you have a headache and a high temperature. Have you got any other ...?
- a) treatment
- b) diagnosis
- c) symptoms
- 7. Bob must be After all, he's been working here since he finished university.
- a) adolescent
- b) elderly
- c) thirty something
- 8. I have several friends who live
- a) abroad
- b) outside
- c) foreign

Задание 2. Заполните пропуски (1-12) словами из списка:

local, souvenir, spray, air conditioning, go back, looking forward, security, checked in, destination, luggage, breath-taking, control.

Last year I chose Colombia for my holiday (1) I almost missed my flight because a (2) ... guard stopped me at passport (3) ... and asked me a lot of questions. When I finally got to the departure gate, they were taking my (4) ... off the plane!

The flight to Colombia was ten hours, and then I took another flight into the Amazon jungle. When I got there I (5) ... at a cheap hotel. The hotel didn't have any (6) ..., so I had

to buy some insect (7) ... because there were a lot of mosquitoes. I found a (8) ... guide, and he took me up the Amazon river in a kayak. It was a (9) ... journey. At the end of the holiday, my guide gave me a (10) ... of my visit: a small kayak made from wood. I had such a great holiday, and I plan to (11) ... to Colombia again next year. I'm already (12) ... to seeing the Amazon jungle again.

Задание 3. Заполните пропуски предлогами.

- 1. Who did she get married ...?
- 2. They arrived home late ... night.
- 3. What's a kimono? It's a kind ... clothes.
- 4. They had a lot ... common and fell ... love very quickly.
- 5. When does the train leave? $\dots 5$ p.m.
- 6. How long has Ian been out ... work?
- 7. The cinema is on the corner ... the street.
- 8. I am not sure ... that!
- 9. You should take a few days ... work if you want to get better.

Задание 4. Поставьте реплики диалога (а-h) в правильной последовательности.

- a) I'm sorry. I'm afraid he's not here right now.
- b) Certainly. I'll pass on your message.
- c) Yes, please. Could you tell him that Sandra called?
- d) No, I'm afraid not. Would you like to leave a message for him?
- e) Hello, 722155. Can I help you?
- f) Oh dear. Do you know when he'll be back?
- g) Thanks. Bye.
- h) Yes, I'd like to speak to Harry, please.
- $(1) \dots (2) \dots (3) \dots (4) \dots (5) \dots (6) \dots (7) \dots (8) \dots$

Задание 5. Подберите к вопросу (1-8) подходящий ответ (А-Н).

1	Do you like learning English?	A	She is quite tall.
2	What is he like?	В	That's a good idea! I'll meet you in the pub at 7.
3	What language is he speaking?	C	Hardly ever. I haven't been for ages.
4	How long does it take you to do the homework?	D	Oh, yes! But sometimes I find it rather difficult.
5	What do you do?	Е	He is very intelligent.
6	What does she look like?	F	It sounds like Norwegian.
7	Shall we go for a drink after work?	G	It depends on the amount of work.
8	How often do you go to the cinema?	Н	I'm a lawyer.

Задание 6. Заполните пропуски (1-6) фрагментами (А-F) и переведите полученный текст.

Katy Smith, career consultant, has a few tricks up her sleeve for those (1) Go on and get it right!

Read recruitment sections in newspapers and on the Internet. A good permanent job (2) ... can be difficult to find, so why not take a temporary job, even if it is only for a few months? Every day (3) ... there are attractive advertisements for both full-time and part-time jobs, so don't miss them!

When you've decided to apply for a job, send your application with a CV as soon as possible. Don't forget to (4) ... and any previous experience you have with this kind of work.

At the interview, do not be afraid to ask about working conditions (e.g. hours or holidays) but (5) ... to mention the question of starting salary. Money is a delicate issue and being

greedy will not get you a job.

Dress for success! Put on smart clothes and (6) ... to boost your confidence at the interview.

- a) list all your qualifications (degrees and diplomas)
- b) wear something bright
- c) in most local newspapers
- d) looking for a job
- e) wait for the interviewer
- f) with a promise of long-term employment

Задание 7. Прочитайте текст и определите, правдивыми или ложными являются утверждения (1-5):

New technology always brings changes and new additions to the language, but the telecommunications revolution of the last few years has caused some of the most rapid and widespread changes yet seen.

New words, such as webcast, are entering the language all the time to put a name to concepts that haven't existed before, and existing words are being used in a new way. For example, the words access and text, previously used only as nouns, are now commonly used as verbs. Other words, such as chat, which used to mean "casual verbal communication" but now means "live email communication", have taken on entire new meanings.

In addition many of these English words – the most obvious being computer itself have spread outside of the English-speaking world and become part of a global language of technology. Thanks to the influence of the American computer industry, users of British English have abandoned some British spellings in favour of their American equivalents. Finally, the style and the tone of the language itself is changing. Although they are written forms of communication, the immediacy of emails and text messages means that their language is usually much more informal than a letter would be, even in a business context. And, to the concern of many people, spelling and punctuation are paid much less attention to.

- 1. The telecommunications revolution had almost no influence on the language.
- 2. We start using some words as different parts of speech.
- 3. Emails are normally less formal because that have to be sent quickly without delay.
- 4. American spelling is never used in British English.
- 5. Nobody is worried about decreasing importance of correct spelling.

ВАРИАНТ 2

Задание 1. Выберите правильный вариант ответа.

- 1. That suit fits you and ... you really well.
- a) suits
- b) looks
- c) styles
- 2. Is it easy to find ... food in supermarkets in your country?
- a) biological
- b) genetic
- c) organic
- 3. I had several ... before I became a social worker.
- a) careers
- b) works
- c) jobs

- 4. Peter always understands how I'm feeling. He's so
- a) honest
- b) ambitious
- c) sensitive
- 5. Don't eat it. This piece of cake is
- a) fresh
- b) natural
- c) stale
- 6. Do you think scientists will ever find a ... for cancer?
- a) cure
- b) disease
- c) medicine
- 7. Most people think that life as a ... is boring. But I don't think so. Now I can catch up with all those things I didn't have time for when I was working.
- a) adolescent
- b) elderly
- c) pensioner
- 8. The public ... system in Liverpool is very good.
- a) traffic
- b) metro
- c) transport

Задание 2. Заполните пропуски (1-12) словами из списка: registry office, crazy, bridesmaid, couple, guests, ceremony, made, romantic, honeymoon, dates, reception, in love.

I went to a very nice wedding last year. The bride was one of my best friends from school, and she asked me to be her (1) She met her husband at work, which is not very (2) ... I suppose. But they were very much (3) ... , and they only went out on two or three (4) ... before he asked her to marry him. They were (5) ... about each other. Their marriage (6) ... was at a (7) Then, afterwards, there was a (8) ... at a hotel. There were a lot of (9) ... and we drank a lot of champagne! The bride's father (10) ... a lovely speech and then the happy (11) ... cut the wedding cake and left the party to go on their (12) It was a wonderful day.

Задание 3. Заполните пропуски предлогами.

- 1. I don't have a lot ... common with my neighbours.
- 2. I get ... really well with my mother-in-law.
- 3. Sally is very worried ... her exam results.
- 4. When is a good time ... call you back?
- 5. I am sorry, but she is busy ... the moment.
- 6. Take the first street ... the left.
- 7. Are you afraid ... spiders?
- 8. Did you know that Lance was fired ... his last job?
- 9. Who were the James Bond books written ...?

Задание 4. Поставьте реплики диалога (а-h) в правильной последовательности.

- a) Where are you going?
- b) Yes, I'd love to. Where are you meeting?
- c) Hello, Edgar. Listen, are you doing anything this afternoon?

- d) No problem. I will get some money. See you at the waterfall in 20 minutes.
- e) Yes, I'm meeting Liz and Garry in about 20 minutes.
- f) ayaking. Would you like to come too?
- g) At the waterfall. You will need to rent a kayak.
- h) Hello, Tim.
- $(1) \dots (2) \dots (3) \dots (4) \dots (5) \dots (6) \dots (7) \dots (8) \dots$

Задание 5. Подберите к вопросу (1-8) подходящий ответ (А-Н).

1	What are you reading at the moment?	A	She is lovely and her lessons are fantastic!
2	What's up? Are you all right?	В	Yes, it was wonderful. How did you make the source?
3	What is your new teacher like?	C	He is bald and he's got a long beard.
4	How about going to the cinema tonight?	D	Not really. I split up with my boyfriend last night.
5	What does he look like?	Е	Oh, once or twice a week usually.
6	How often do you go to the gym?	F	That's a good idea! I'll buy the tickets.
7	Is there anything you don't like about your job?	G	Nothing. I've just finished something.
8	Did you enjoy your lunch?	Н	No, not at all. I think it's perfect.

Задание 6. Заполните пропуски (1-6) фрагментами (А-F) и переведите полученный текст.

An eco-tourism project (1) ... has just been launched in the South Luangwa National Park in Zambia. Tourists will be offered the chance to encounter a wide range of wildlife and a great deal more. This project was set up by the local villagers (2) ... in the national economy. They decided to raise money themselves (3) ... and welfare projects. Tourists will be invited to live the African Village Experience. The tours are led (4) ..., and visitors can choose from activities such as (5) ... to taking part in cooking or farming. Visitors are also offered the option of staying the night in the village. What's more, they are encouraged to join in all the local traditions, such as using the left hand to eat with and (6) ... for males and females.

- a) meeting the local healer
- b) by English speaking villagers
- c) eating in separate dining areas
- d) who were suffering from a downturn
- e) with a difference
- f) to cover the cost of educational

Задание 7. Прочитайте текст и определите, правдивыми или ложными являются утверждения (1-6):

Advice before visiting a new country

These days many people travel to new places and countries. Before you go, there is a lot to think about. Months before you go away you should ask your doctor what vaccinations you have to have. You should also check your passport is up-to-date and find out if you need a visa for the country you are visiting. You might also want to sort out travel insurance.

A week or two before my holiday I tell my bank where I am going and for how long. This way they know it is me using my bank card. I also make sure I have some local currency and dollars as these can be very useful when travelling. Not everywhere has a bank or cash machine.

It is also a good idea make a list of all the things you must take on holiday. Make sure passports and tickets are at the top of this list – sometimes people forget to take them. When deciding on what clothes to take, check on the climate of your holiday destination and the cultural rules. Weather, culture and religion are all things to consider as in some countries you must cover your arms and in others it rains a lot but is also hot.

Lastly, check the details of your booking: the dates and times of departure and arrival, which flight you are on and the terminal it leaves from, which airline you are travelling with and where you are staying. Your travel agent can answer questions and help you before you go on holiday but they may not be able to do much after your plane takes off.

- 1. Your travel agent should tell you about the injections you need to have.
- 2. The writer recommends checking if you have to get a visa for the country you are going to visit.
- 3. The writer says you do not need to organize travel insurance before you go on holiday.
- 4. It is a good idea to take local currency and dollars on holiday with you.
- 5. You should check what clothes are appropriate for the country you are visiting.
- 6. If you have any questions when you are on holiday, contact your travel agent.

ВАРИАНТ 3

Задание 1. Выберите правильный вариант ответа.

- 1. The department store has ... of MP3 players again!
- a) sold up
- b) sold out
- c) sold away
- 2. Is Ildiko a ... Hungarian speaker?
- a) native
- b) national
- c) dialect
- 3. My father used to earn ... in a travelling circus!
- a) a life
- b) a living
- c) a salary
- 4. I'm sorry I'm late. Thank you for your
- a) independence
- b) emotion
- c) patience
- 5. Food companies put a lot of ... flavours in their junk food products.
- a) preservative
- b) artificial
- c) healthy
- 6. I drank too much last night. I've got a bad
- a) symptom
- b) brain
- c) hangover
- 7. Jamie is two years old and like all ... he is very active.
- a) babies
- b) toddlers
- c) teenagers

- 8. Oxford has some beautiful
- a) cathedral
- b) pollution
- c) countryside

Задание 2. Заполните пропуски (1-12) словами из списка: soundtrack, matinee, chat show, fan, exciting, stalls, viewers, disappointed, fee, row, actor, annoying.

I've always been a (1) ... of James Bond films, so I really wanted to see the new one. I went on the opening day and I wasn't (2) ... at all. It was just as (3) ... as all the other James Bond films. What I liked about the film, was the (4) ... and the special effects. The acting was really good, too. The (5) ... who played the role of James Bond's enemy, was really frightening!

I tried to buy my tickets on the internet, but I had to go to the evening performance because the (6) ... was sold out. I bought the tickets at the box office so I didn't have to pay a booking (7) ... I sat on the back (8) ... of the (9) The person sitting in front of me was quite tall, which was a little bit (10) But the film was just great! And tonight the director is being interviewed about the film on a TV (11) ... , which should be fascinating. So, I'll definitely be one of the (12) ... tonight!

Задание 3. Заполните пропуски предлогами.

- 1. Can you tell me who is responsible ... training, please?
- 2. Not many of my friends still live ... home.
- 3. Can I speak to the person ... charge of recruitment, please?
- 4. What does Jacky do ... a living?
- 5. I got bored ... my maths homework and I didn't finish it.
- 6. We went to the party ... the evening and I didn't go to work ... Monday.
- 7. Do you agree ... his point of view?
- 8. This red hat doesn't go ... your new dress.
- 9. He was afraid to get ... troubles with the police.

Задание 4. Поставьте реплики диалога (а-h) в правильной последовательности.

- a) Would you like to see the menu before you order, sir?
- b) Yes, you can, sir. Can I take your coat?
- c) Good afternoon. I'd like a table for one, please.
- d) Very good, sir. That's one set menu and a beer. I'll be back in a moment.
- e) Thank you. I'd like to order straightaway, please. I don't have much time.
- f) Certainly, sir. Let me show you to your table. Here you are, sir.
- g) No. I'd like the set menu, please. And I'll have a beer as well.
- h) I'd prefer a non-smoking table if you have one. Can I sit over here?
- $(1) \dots (2) \dots (3) \dots (4) \dots (5) \dots (6) \dots (7) \dots (8) \dots$

Задание 5. Подберите к вопросу (1-8) подходящий ответ (А-Н).

	34Amm 64 116A66 PM 16 11 2011 PG 17 (12 12)4			
1	Do you think this tattoo suits me?	A	Thanks for coming. Have a safe journey.	
2	What's your best friend like?	В	Not really. I have never been to a match in my life.	
3	Let's watch a film tonight.	C	Everything! She even looks like me!	
4	Thanks for having us. It's been lovely seeing you again.	D	I think it makes you look a bit silly.	
5	What do they look like?	Е	I am afraid I can't. I am busy with my homework.	
6	Are you interested in football?	F	It was a birthday present from my parents.	
7	What do you have in common with your sister?	G	He is very honest and reliable.	

8	What a beautiful watch! Where did you get it?	Н	They usually wear a uniform.
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Задание 6. Заполните пропуски (1-6) фрагментами (А-F) и переведите полученный текст.

Being famous has disadvantages. Stars lose their privacy and are affected by negative publicity — and (1) The growing number of magazines and newspapers that publish stories about the private lives of celebrities means there are more paparazzi now. Celebrities accuse the media of harassing them and spreading gossip. The media say everyone (2) Appearing in the press, they say, is the price of fame. "Famous people know they will be photographed; (3) ...," says teenager Lisa Michaels. Previously, people were happy to see posed photographs of the stars. However, today we have reality TV and the Internet. People write about (4) What is "public" and what is "private" is no longer so clear. "Nowadays," says sociologist Norman Newman," we want to know (5) ..., or when they are behaving badly. However, many celebrities complain that because of paparazzi they can never relax. For some people, it can get so bad it affects (6)

- a) loves human interest stories
- b) their health and quality of life
- c) it's part of being a celebrity
- d) this is very stressful
- e) their private lives in blogs and posts on Facebook or Twitter
- f) what the stars look like without make up

Задание 7. Прочитайте текст и определите, правдивыми или ложными являются утверждения (1-5).

Sport and the Olympics

People play sport and games for fun, to keep fit, because they want to win, or as part of a festival. There are hundreds of different sports. Many need fitness and great skill. Some games and sports, like cycling, are done by just one person. Others, such as cricket and soccer, are played in teams, where everyone has to work together to succeed. Sports and games can be very good for you. Playing a sport helps to keep you fit and healthy. Team sports can be great fun, too.

Today the Olympics are the world's main sporting event. The Games take place every four years, in different cities around the world. The first Olympics were held in the town of Olympia, in Greece. They were started by King Iphitus in 776 BC. At this time the Games were a local religious festival to celebrate the Greek gods. For the first 70 years, there was just one running race of about 180 metres. As time went on, the festival became larger and more important. Longer races and other sports were added.

At their most popular, during the 4th century BC, the Olympics attracted people from places as far away as Libya and Egypt. Poets and other writers came, as well as those who wanted to buy and sell horses.

The Olympics continued in a new form under the Romans, who replaced the traditional games with their own sports and competitions. Slaves replaced free-born Greeks as the competitors. In AD 394, the last Olympics were held. But the Games had lasted more than a thousand years and returned again in the 19th century, when the first modern Olympics were held.

- 1. All kinds of sports are quite the same.
- 2. The first Olympics were a celebration for King Iphitus.
- 3. In the early years there was only one sporting event.
- 4. In the 4th century BC Libya and Egypt had their own festival and games.
- 5. The Romans changed the events at the games and used slaves as competitors.

Структура эссе

Структура эссе в английском языке одинаковая:

- 1. Введение.
- 2. Основная часть.
- 3. Заключение.

Во введении надо рассказать, о чем пойдет речь в работе. Обычно эта часть небольшая, 2-3 предложения.

Например, введение к эссе на тему: «There is nothing that an uneducated person can teach an educated person»:

Nowadays education is very popular among young people. Usually good education gives a chance to have a well-paid job, big house, high-level insurance etc. Hence some people suppose, that only an educated person is able to teach an educated person.

Ваше введение — это предложение с ясно выраженным собственным мнением, что является важной частью эссе. Оно должно идти в последнем предложении первого (вводного) параграфа, таким образом, задавая направление всему тексту.

Основную часть необходимо разбить на абзацы. В первом абзаце Вы формулируете свой тезис. Следующие абзацы — это аргументы, которые подтверждают или опровергают тезис. Можно привести примеры, факты, статистику, литературный образ — все, что подтвердит Ваше утверждение:

<u>In my opinion</u>, there are many uneducated people who can teach interesting things.

<u>First</u>, some jobs do not require education, but require communication skills, big experience and talent. For example, my driving instructor does not have a bachelor degree, but he tough me how to drive. He is a very friendly and patient man. Also, he drove cars more than 20 years. That skill helps him to teach people without good education.

<u>The second</u> example of a situation, where an education is not necessary, is any traditional activity. In France there are many traditional winery. Every winery has old wine recipes. The wine-maker knows recipes from his father, who was tough by his father etc.

В заключении необходимо резюмировать сказанное выше и подвести итоги. Не пересказывайте все эссе. Просто покажите, что тезис, который вы дали в начале, подтвержден, и тема эссе раскрыта:

In conclusion, I have shown that uneducated people may be very good teachers. Many areas do not require education for success. Experience, character and wisdom are very important as in modern life as in the past.

Некоторые полезные советы при написании эссе:

 ✓ Используйте слова-связки, чтобы переходы между предложениями и параграфами звучали плавно.

Чтобы указать на схожие черты чего-то, используйте слова «likewise – также, подобно», «similarto – подобный», «comparatively – сравнительно, относительно, достаточно, довольно».

Для структурирования эссе употребляйте такие слова, как «first – сначала, сперва, первоначально, прежде всего, в первую очередь», «now – сейчас, теперь, в настоящий момент, в настоящее время, ныне», «next – затем, потом, далее, дальше», «inaddition – в дополнение, в добавок, кроме того, к тому же, кроме этого».

✓ Для приведения примеров или иллюстраций используйте «forinstance – например, к примеру», «specifically – в частности, в особенности, особенно, особо, определенно», «including – в том числе, включительно», «especially – особенно, в особенности, особо, тем более, в частности», «chiefly – главным образом, преимущественно, особенно».

- ✓ Для выделения определенного мнения используйте «particularly особенно», «chiefly главным образом, преимущественно, особенно», «aboveall превыше всего, прежде всего, в первую очередь», «especially особенно, в особенности, особо, тем более, в частности».
- ✓ Для подведения итогов или обобщения можно написать «inconclusion в заключение, в завершение» «inbrief короче говоря», «insummary подводя итог, резюмируя, подытоживая», «inshort короче говоря, одним словом», «allinall в целом, в общем», «allthingsconsidered учитывая все обстоятельства», «tosumup подводя итог, подытоживая, резюмируя, суммируя».
- ✓ Используйте короткие, ясно выраженные и простые предложения. Избегайте сложных предложений и витиеватого языка.
- ✓ Не начинайте предложения с написания союзов, используйте их лишь для связки предложений.

Фонетический справочник

В результате сложного исторического развития английского языка и системы его письменности возникло значительное расхождение между написанием слова и его произношением. Это привело к системе специальной записи звукового образа слова — фонетической транскрипции. Знание знаков транскрипции — это ключ к правильному чтению и произношению слова.

Английский алфавит состоит из 26 букв, которые передают 44 звука.

ENGLISH ALPHABET

(Английский алфавит)³⁷

Буква	Название	Буква	Название
Aa	[eɪ]	Nn	[en]
Bb	[bɪ:]	Oo	[ou]
Cc	[si:]	Pp	[pɪ:]
Dd	[dɪ:]	Qq	[kju:]
Ee	[I:]	Rr	[a:]
Ff	[ef]	Ss	[es]
Gg	[dʒ1:]	Tt	[tɪ:]
Hh	[eɪʧ]	Uu	[ju:]
Ii	[ai]	Vv	[vi:]
Jj	[ʤeɪ]	Ww	[ˈdʌblju:]
Kk	[keɪ]	Xx	[eks]
Ll	[el]	Yy	[waɪ]
Mm	[em]	Zz	[zed]

Exercise 1. Прочитайте и правильно произнесите буквы.

B, D, F, A, H, K, L, M, E, N, P, T, V, I, Z; c, g, j, o, q, r, s, u, w, x.

Exercise 2. Назовите буквы в следующих словах:

what, young, chalk, page, switch, social, bridge, mouth, knife, just, quarter, union, why, vegetable, parent, experiment, yesterday, pleasant, accept, resource, space.

Exercise 3. Προчитайте транскрипцию слов и попытайтесь понять значение слова. ['sɪstəm]³⁸, ['pɔlətɪks], [dɪ'mɔkrəsɪ], ['sekrət(ə)rɪ], ['prezɪd(ə)nt], ['kɔŋgres], ['telɪgræm], ['prəuses], ['meθəd], ['prəugres], [ˌɔːg(ə)naɪ'zeɪʃ(ə)n], [blɔk], [dɪ'skʌʃ(ə)n], [ˌdelɪ'geɪʃ(ə)n], ['tuərɪst], [gruːp], ['pɑːtɪ], [əˈfɪʃ(ə)l], ['vɪzɪt], [mjuː'ziːəm], ['steɪdɪəm], [əˈtæk], ['θɪətə], [bæˈleɪ], ['ɔp(ə)rə], [klɑːk], [ˌɔkjəˈpeɪʃ(ə)n], [ˌendʒɪ'nɪə], [ɪˈkɔnəmɪst], [kəuˈɔp(ə)reɪt], [ɪnˈten(t)sətɪ], [ɪkˈspɔːt], ['beɪsɪs], [test].

Помните, что транскрипционные значки звуков заключаются в квадратные скобки.

³⁸ Апостроф (запятая) над согласной перед гласным звуком обозначает ударение.

³⁷ Двумя вертикальными точками обозначается долгота звука.

Рассмотрим более подробно произношение английских гласных звуков.

а) гласные (монофтонги³⁹)

[1:] – долгий, протяжный [и] напоминает	
протяжный звук в словах ива, иго, игры,	[ɔ:] – закрытый, близкий к у звук [ɔ].
избы, иволга.	Напоминает звук в слове полно, порт.
Запомните: сочетания ее, еа читаются как	Tranominaet sbyk b estobe nonto, nopm.
[I:] meet, peat.	
[1] – краткий, открытый [и] напоминает звук	[u] – краткий [y] со слабым
в словах игла, шить, шило, игра.	округлением губ, как в русском слове
в словах исла, шито, шило, игра.	тут, пустой, тупой.
[е] – напоминает звук [э] в словах этот,	[u:] – долгий у без сильного округления
экий, жесть, эти.	губ, как в слове <i>у-мный, у-голь</i> .
[æ] – более открытый, чем [э], средний	[л] – краткий гласный,
между [а] и [э]. Для правильной артикуляции	приближающийся к русскому [а] в
этого звука необходимо открыть рот как для	словах в а рить, бр а нить, к а мыш, с а ды,
произнесения звука [а], а произнести [э].	в а лы, к а з а к.
	[ə] – <u>безударный</u> гласный,
[a:] — долгий, глубокий [a], как в слове ∂a - a й,	напоминающий русский безударный
к а-а к.	гласный в словах <i>нужен, молото</i> к,
	пять комн а т.
[a] resourch of the rest of th	[ә:] – в русском отсутствует, средний
[э] – краткий, открытый [о], как в слове <i>тот</i> ,	между [о] и [э], напоминает [ё] как в
м о ст.	имени Г ё те.

Exercise 4. Прочитайте вслух следующие слова. Помните о долготе звука.

a) [I:] – be, bee, me, fee, deem, pete, eve, peeve, mete, feed, he.

[1] – bin, pin, tin, kin, bit, kit, fit.

b)

lead – lid	sit – seat
beat – bit	did – deed
kill – keel	pit – peat
feel – fill	it – eat
fit – feet	fit – feat
mill – meal	steel – still

c)

be – been – bean	me – meet – meat
see – seat – seed	meal – seal – mean
sea – see – meet	bee – been – feet
mean – steel – feel	meet – meat – ill
bill – steel – feel	

Exercise 5. Прочитайте вслух следующие слова:

- a) [e] met, men, hen, tent, tell, bend, ben, pen, fed, bed, bet, let, led.
 - [æ] bad, pan, an, lad, hat, am, Ann, lamp, man, can, cat, sat, hat, bat, Pat, rat, cam.

 $^{^{39}}$ Монофтонг [от греч. monos – один и phthoggos – звук] (лингв). Гласный звук, не распадающийся на два элемента.

b)

,	
tan – ten	fan – fen
pan – pen	man – men
bad – bed	pat – pet
land – lend	bat – bet
tanned – tent	

Exercise 6. Прочитайте вслух следующие слова. Помните о долготе звука.

- a) [a:] car, bar, farm, barn, bard, card.
 - $[\Lambda]$ tub, nut, bud, mud, under.

b)

car – far – bar	half – calf – bath
part – park – smart	cart – barter – shark
spark – bath – mark	park – raft – plant

c)

cup − up − love	us – bus
blush – duck – front	must – sum
much – mud – nut	trust – bust
honey – money – sonney	tub - mud

В чистом виде звуков [a:] и [Λ] в английском языке нет. Первый звук образуется при сочетании гласного и согласной буквы r – это так называемый третий тип слога. Второй же звук – второй (закрытый) тип слога. Но об этом более подробно будет сказано ниже.

Exercise 7. Прочитайте вслух следующие слова. Помните о долготе звука.

- a) [5:] p<u>or</u>t, sp<u>or</u>t, b<u>or</u>n, f<u>or</u>m, c<u>or</u>n, '<u>or</u>bit.
 - $[\mathfrak{d}]$ on, pot, dog, log, nod.

b)

more – score – pour	floor – for – form
fork – pork – sport	dawn – hawk – because

c) not - top - hot - dot - mop - mob. Rostov-on-Don

В чистом виде звуков [\mathfrak{z} :] и [\mathfrak{z}] в английском языке нет. Первый звук образуются при сочетании гласного и согласной буквы \mathfrak{r} – \mathfrak{z} то так называемый третий тип слога – по аналогии с предыдущим упражнением. Второй же звук – второй (закрытый) тип слога. Но об \mathfrak{z} том более подробно будет сказано ниже.

Exercise 8. Прочитайте вслух следующие слова. Помните о долготе звука.

- a) $[u:] n\underline{oo}n, m\underline{oo}n, l\underline{oo}m, t\underline{ool}, f\underline{oo}l.$
 - [u] book, took, look, good, foot.

b)

_ ()	
too – tooth – food	fool – pool – hook
soon – spoon – tooth	cook – boot – loop
boot – fool – foot	shook – soon – spoon – moon
boot – mood – shook	pool – too – book
took – shook – zoom	foot – cool – mood

Как вы обратили внимание, сочетание двух букв **оо** дает долгий звук [u:].

Exercise 9. Прочитайте вслух следующие слова. Помните о долготе звука.

- a) [a:] fir, fur, firm, first, work, word.
- [$\mathfrak d$] как уже отмечалось, в безударных слогах слышится неопределенный звук [$\mathfrak d$]. Он встречается и в русском языке. Если быстро произнести предложение «возьми картину со стены в моей комнате», то в слове «комнате» и в предлоге «с $\mathfrak d$ » появиться неясный, неопределенный звук, встречающийся в неударных слогах. Helen ['helən], Peter ['pi:t $\mathfrak d$].

В чистом виде звуков [\Rightarrow :] и [\Rightarrow] в английском языке нет. Первый звук образуется при сочетании гласной и согласной буквы r – \Rightarrow то так называемый третий тип слога – по аналогии с упражнениями 6 и 7. Второй же звук – второй (закрытый) тип слога. Но об \Rightarrow том более подробно будет сказано ниже.

Exercise 10. Прочитайте и переведите следующие слова. Помните, что их значение может зависеть от правильного произношения долгих и кратких звуков.

[1:]	lead	wheat	cheeks	seek	feel	neat	eat
[1]	lid	wit	chicks	sick	fill	knit	it
[a:]	lark	charm	barn	harm	cart	dark	bard
[A]	luck	chum	bun	hum	cut	duck	bud
[u:]	pool	fool	food	lose	cool	wound	boot
[u]	pull	full	foot	look	cook	would	book
[3:]	chalk	court	port	horse	board	raw	walk
[ə]	chock	cot	pot	hostel	body	wrong	wash

Как вы уже заметили, гласные звуки читаются по-разному в зависимости от типа слога. В английском языке, как и в русском, существуют открытые и закрытые слоги.

Закрытым называется слог, оканчивающийся согласным звуком: hat, cat. Открытым – оканчивающийся гласным be. К открытому слогу также относят слоги, оканчивающиеся гласной «е», которая не читается. Эта «немая «е» лишь указывает на то, что слог необходимо условно считать открытым. В закрытых слогах гласные, как правило, произносятся кратко и изображают краткий звук. В открытых же слогах гласные произносятся так же, как и в алфавите.

Чтен	Чтения английских гласных в открытом и закрытом слогах							
	открыт	ый слог	закрытый слог					
Aa	[eɪ]	name	[æ]	man				
Ee	[I:]	be	[e]	pen				
Ii	[aɪ]	pie	[I]	pin				
Oo	[ou]	no	[c]	pot				
Uu	[ju:]	tune	[Λ]	but				
Yy	[aɪ]	my	[1]	symbol				

б) двугласные (дифтонги⁴⁰)

- [eɪ] напоминает звук [эй] в слове шейка; bade, pane, lane, hate,
- [ou] напоминает звук [oy] в слове клоун; pole, note, mode, zone, home.
- [аɪ] напоминает звук [аи] в слове Байкал; line, pine, mile, type, pike, file.
- [au] напоминает звук [ay] в слове *nayзa*; house, mouse, now, about.
- [от] напоминает звук [ой] в слове бойня.
- [1ә] напоминает звук [иэ]

_

 $^{^{40}}$ Дифтонг (гр., от dis вдвое, и phone звук) — сочетание в одном слоге двух гласных звуков, не разделённых согласными.

- $[\varepsilon \]$ напоминает звук [эа] в слове э(а)то.
- [uə] напоминает звук [уэ].

Exercise 11. Сопоставьте произношение монофтонгов и дифтонгов.

[e]	[eɪ]	[æ]	[eɪ]	[æ]	[aɪ]	[I]	[aɪ]
men	main	tack	take	hat	hight	pin	pine
pen	pain	sat	sate	fat	fight	film	fine
wet	wait	cat	Kate	sad	side	myth	my
sell	sail	fat	fate	man	mine	fifth	five
pepper	paper	plan	plane	dad	died	typical	type

[6]	[01]	[5]	[ou]	[A]	[ou]	[ə:]	[ou]
pot	point	not	no	love	low	burn	bone
spot	spoilt	god	go	done	dole	turn	tone
John	join	hot	home	son	snow	learn	alone
toss	toys	stock	stone	London	lonely	curly	cosy
joy	joint	rock	robe	another	alone	first	phone
olive	oil	top	tope	front	froze	work	woke

в) согласные

- [p] [n] (произносится с придыханием),
- [b] [6],
- [m]-[M],
- [w] звук, образующийся только при помощи губ (огубленный звук) как в слове Уильямс.
- [s] [c],
- [z] [3],
- $[t]-[\tau]$, произносится не у зубов, а у десен, кончик языка должен находиться на бугорке над верхними зубами.
- [d] [д], произносится не у зубов, а у десен, кончик языка должен находиться на бугорке над верхними зубами.
- [n]-[H],
- $[1] [\pi],$
- [r] [p] звук произносится без вибрации кончика языка в отличие от русского.
- [3] мягкий русский [ж] в слове вожжи, железо.
- $[\mathfrak{f}] [\mathfrak{q}],$
- [ф] озвонченный [дж] как в слове джил.
- $[k] [\kappa],$
- $[g]-[\Gamma],$
- [ŋ] заднеязычный [н], произнесенный задней частью спинки языка,
- [h] простой выдох,
- [j] [й],
- [f] [φ],
- [V] [B].

Exercise 12. Прочитайте следующие слова по вертикали и горизонтали, уделяя внимание произношению гласных и согласных звуков.

гласные		согласные					
	[b]	[r]	[s]	[t]	[w]	[1]	
[1:]	bee	reach	sea	tea	weak	lead	
[1]	big	rich	sin	tip	wit	lip	
[e]	beg	red	sell	tell	wet	leg	
[æ]	bag	ran	sat	tab	wag	land	
[A]	but	run	sun	tub	won	luck	
[6]	box	wrong	song	top	wash	lock	
[eɪ]	bake	rain	save	take	wait	late	
[aɪ]	bite	rise	side	time	wine	lie	

Сочетания согласных

Буквосочетание	Звук	Пример
ch	[ʧ] мягкий русский звук [ч] в слове черта	ch air
sh	[ʃ] мягкий русский [ш] в слове <i>шест</i>	she
th	[θ] межзубный глухой. Для его произнесения поместите	th ink
	кончик языка между зубов и произнесите русский звук	
	[c].	
th	[ð] межзубный звонкий. Для его произнесения поместите	this
	кончик языка между зубов и произнесите русский звук	
	$[3]^{41}$	
wh	[w] артикуляцию данного звука смотри выше	wh at
wh	[h] артикуляцию данного звука смотри выше	who
ng	[ŋ] артикуляцию данного звука смотри выше	lo ng
ck	[k] артикуляцию данного звука смотри выше	lo ck

Exercise 13. Отработайте произношение следующих согласных.

[ʃ]	[ʧ]	[3]	[dʒ]		h]	[j]
ship	chess	usual	jam	his	horse	yet
shoes	cheese	vision	Jane	her	house	you
shop	culture	measure	January	high	hill	yellow
share	fetch	pleasure	George	his	hope	yesterday
finish	match	decision	badge	her	husband	year

Exercise 14. Сопоставьте произношение звонких и глухих звуков.

[p]	[b]	[k]	[g]	[t]	[d]
pea	bea	crew	grew	try	dry
pie	buy	sick	fog	true	drew
pap	pub	dock	dog	Kate	laid
pride	bride	pick	big	set	said
cap	cab	come	gum	built	build

 $^{^{41}}$ Никогда не подменяйте звуки [θ] и [ð] на [с] и [з], от этого может измениться смысл слова.

[f]	[v]	[0]	[ð]	[s]	[z]
fame	vain	though	throw	docks	dogs
few	view	third	those	said	zed
safe	save	this	this	peace	please
leaf	leave	that	that	cease	seize
knife	knives	without	without	niece	knees

Exercise 15. Отработайте произношение следующих сочетаний звуков.

[tr]	[pr]	[kr]	[tw]	[kw]
tram	proud	cry	twice	quick
tree	pretty	crowd	twelve	queen
try	present	cruel	twenty	quarter
street	spring	critic	twist	quite
strong	opera	crown	twins	question

Некоторые английские согласные, как вы уже поняли, имеют двойное чтение. Сочетания двух согласных могут передавать один согласный звук, а 6 гласных букв передают 20 гласных звуков в зависимости от положения гласной в слове (ударное или неударное) и, как уже было сказано выше, от типа слога (открытый или закрытый).

Рекомендуется выучить три основных правила произношения английских слов, которые значительно влияют на смысл слова:

- 1. Краткость или долгота гласных звуков в русском языке не влияет на смысл слова. В английском же языке долгота или краткость произнесенного гласного звука меняет смысл слова. Так, [ʃɪp] корабль, а [ʃi:p] овца.
- 2. В отличие от русского языка в английском языке согласные звуки не оглушаются в конце слова. Оглушение согласных отражается на смысле слова. Например: [bæg] сумка, [bæk] спина.
- 3. Гласная буква е в конце слова не читается. Чтение гласной буквы в английском языке зависит от ее положения в слове (ударное или неударное) и от типа слога (открытый или закрытый).

В английском языке чтение гласной буквы, как мы уже говорили, в односложных словах зависит от типа слога: открытый / закрытый. Слог называется открытым или закрытым в зависимости от того, заканчивается ли он на согласную или на гласную букву.

Кроме того, чтение гласных букв в открытых или закрытых слогах изменяется в зависимости от наличия буквы г после гласной. Это так называемые третий и четвертый тип чтения гласных.

Таким образом, каждая гласная буква английского языка может передавать четыре различных звука:

Гласная	Без буквы г после гласной		С буквой г после гласной	
буква	закрытый	открытый	закрытый слог	открытый
	слог	слог	(гл+r)	слог (гл+r+е)
	I	II	III	IV
a	[æ] m a n	[eɪ] n a m <u>e</u>	[a:] c ar	[εә] car <u>e</u>
0	[o] not	[ou] not <u>e</u>	[o:] n or	[ɔ:] m or e
e	[e] met	[I:] m e t <u>e</u>	[ə:] h er	[1ə] her <u>e</u>
u	[Λ] b u t	[ju:] m u t <u>e</u>	[ə:] b ur n	[ju:ə] c ur<u>e</u>
i/y	[ɪ] p i n	[aɪ] p i n <u>e</u>	[ə:] f ir st	[aɪə] f ir<u>e</u>
	[1] g y p	[aɪ] t y p <u>e</u>	-	[aɪə] t yr<u>e</u>

Чтобы научиться правильно читать ударные и неударные гласные в двусложных словах, необходимо, прежде всего, уметь делить двусложные слова на слоги. Для этого следует усвоить следующие правила графического слогоделения:

- а) если между ударной и неударной гласной в двусложном слове стоят две согласных, то граница слогоделения проходит между согласными: as=pect, ob=ject, pen=cil;
- б) одна согласная буква между двумя гласными отходит к слогу, стоящему справа: fa=tal, fo=cus, be=gin, de=fine;
- в) когда две смежные гласные буквы передают не один звук, а два, то слоговая граница проходит между ними: sci=ence, li=on, fu=el;
- г) если в состав конечного неударного слога входят согласные 1 и г, то при графическом слогоделении они увлекают за собой ближайшую предыдущую согласную, оставляя ударный слог закрытым или открытым и зависимости от числа согласных перед l, r: ta=ble, o=nly, fra=grant, me=tre, set=tie, han=dle, bot=tle.

Exercise 16. Прочитайте следующие слова по вертикали, а затем по горизонтали. Обратите внимание и запомните правила чтения гласных в различных типах слога.

		Aa		
[eɪ]	[æ]	[a:]	[63]	[6]
name	tram	hard	share	ago
late	can	car	rare	about
lake	map	dark	care	sofa
game	stand	start	compare	above
plane	plan	party	prepare	historical
fate	factory	farm	hare	legal
		Ee		
[1:]	[e]	[ə:]	[[61]	[e][ɪ]
hi	get	her	here	begin
she	egg	term	mere	return
we	fell	verb	sphere	ticket
be	let	serve	material	sister
week	tent	prefer	serial	present
repeat	ten	person	period	absent
Ii / Yy				
[aɪ]	[1]	[ə:]	[aɪə]	[1]
time	it	sir	fire	engine
type	ill	bird	lyre	sorry
my	syntax	girl	hire	family
mine	milk	dirty	wire	music
fly	system	Byrn	tired	public
fine	wish	myrtle	satire	English
Uu				
[ju:]	[Λ]	[ə:]	[ju:ə]	[ə]
tune	cup	burn	pure	success
student	under	burst	cure	difficult
use	fun	turn	lure	upon
union	uncle	return	curious	product
human	butter	Turkey	during	cucumber
pupil	supper	furniture	secure	luxury

Oo				
[ou]	[5]	[ə:]	[3:]	[ou]
home	not	or	ore	tomato
hope	god	nor	more	photo
note	clock	North	shore	metro
nose	fond	sport	explore	potato
rose	dog	lord	before	negro
smoke	shop	short	store	zero

Справочник по чтению (Reading Support)

Буква	Чтение в алфавите	обозначаемый звук(и)
		[eɪ] – K a t <u>e</u>
Aa	[ox]	[x] – Pat
	[eɪ]	[a:] – Mar k
		[ɛə] – Cl are
Bb	[bɪ:]	[b] – b ag
		[s] – перед e, i, y c <u>i</u> ty
Ca	[1	[k] – c ake
Cc	[si:]	[k] – ck Ni ck
		[ʧ] – pea ch
Dd	[dɪ:]	[d] – d uck
		[I:] – Pet <u>e</u>
Ee	[*•]	[e] – Be n
Ee	[1:]	[ə:] – B er t
		[ɪə] – h ere
Ff	[ef]	$[f] - \mathbf{f}$ ish
	[ત્રુા:]	[dʒ] – перед e, i, y oran g e
Gg		[g] – g love
		$[\mathfrak{g}]$ – \mathbf{ng} so \mathbf{ng}
Hh	[eɪʧ]	[h] – h at
	[ai]	[aɪ] – Mi k <u>e</u>
Ii		[1] – N i ck
11		[ə:] — b ir d
		[aɪə] – f ire
Jj	[ʤeɪ]	[dʒ] — j ar
Kk	[keɪ]	[k] – k itten
IXK		[n] – knkn ife
Ll	[el]	[1] — l amp
Mm	[em]	[m] – m ouse
Nn	[en]	[n] – n ice
	[ou]	[ou] – R o s <u>e</u>
Oo		$[\mathfrak{d}] - \mathbf{Tom}$
		[ə:] — Nor man
		[ɔ:] – m ore
Pp	[pɪ:]	[p] – p en
		[f] – ph one
Qq	[kju:]	[kw] - qu een
Rr	[a:]	[r] – r ocket
Ss	[es]	[s] – s even
28		[∫] – shsh ip

		T
Tt	[tɪ:]	[t] – t en [θ] – th ree
		[ŏ] – th is
	[ju:]	[ju:] – S u san
Uu		$[\Lambda] - m\mathbf{u}m$
		[ə:] – f ur
		[ju:ə] – p ure
Vv	[vi:]	[v] – v ase
Ww	[ˈdʌblju:]	[w] – whwh at
VV W		[r] – wrwr ong
Xx	[eks]	[ks] - box
	[waɪ]	[aɪ] – b y
Yy		[1] – S i d
		[ə:] — s ir
		[aɪə] – f ire
Zz	[zed]	[z] – z oo

Tapescripts

Unit 1

Tapescript

Teacher: OK, listen up class. Today we're going to learn what germs actually are. So let's begin by clearing up one mistaken belief many people have. Germs are not all bad. No, indeed, germs are basically microbes and they can live in many places, such as in or on humans, animals or plants. While you might think that sounds disgusting, let me explain something: some germs actually help the human body. For instance, they help us digest our food. Of course, there are some bad ones which can make us ill too, giving us sore throats, for example.

Anyway, to be more specific, there are actually four basic types of germ - bacteria, viruses, protozoa and fungi. Starting with bacteria, they are single-celled animals and are found everywhere. Be it in the air, the water, the earth or even in us, this is where they find their food. As you know, we can't see them without a microscope and that's because they are so small that there can be literally billions in, for example, a few drops of water.

You may well ask what they look like and the answer is that it depends. They can be round, like balls, but others are completely different; perhaps long and thin. Alternatively, some have hairs over their bodies which help with their movement. Now' moving on to viruses...

Tapescript

Presenter: Good afternoon. Today we're considering how worried we really need to be about climate change. In particular, how worried we should be about plant life and the future of animals on this earth. Sarah's report gives us some reasons to be optimistic and some reasons to really worry. Sarah.

Sarah: Hello there. Yes, it's true that climatic change does affect animal and plant life but not always to the point of disaster. Many animals and plants are actually very adaptable - you know, able to change

according to conditions. Of course, historically ice ages and droughts – a severe lack of water – have completely destroyed certain types of animal and plant life, but many managed to survive extreme, long-term climate change by adapting.

Now, many biologists and ecologists believe the Earth today may again be in the middle of climate change because over the last century many studies have shown rising global temperatures, on average about half a degree centigrade, and although this may seem very little, it is actually happening much faster than before and it can affect life enormously.

Climate change leads some plants and animals to find new homes, while others that are not so luckybecome extinct. Mountains give a good example of this. A hotter climate means trees and plants can grow higher up mountains. In the Alps, it's been observed that every decade sees plants moving up about four metres. And how does influence animal life? Well. unfortunately, some animals, which have become highly specialised in order to live on mountain tops, have no escape if conditions change. They simply cannot survive in warm weather.

So let's go over to Dr Bernard in Switzerland who will fill us in with more details...

Unit 2

Tapescript

Teacher: Well, today we're going to talk about the micro-organisms known as protozoa. Now the word protozoa comes from the Greek and it literally means first animal. Of all the life forms in the world they have the largest population. Yes, Harry. What do you want to say?

Harry: Erm, Miss, isn't it true that protozoa are very important for maintaining the earth so it is suitable for other life forms to live on?

Teacher: Yes, indeed. Probably one of the most important ecological functions these

tiny animals have is that they consume bacteria, which keeps them under control and enables us to have an environment in which we can survive. Right, what I'd like now is for somebody to give me a basic definition of this form of life. Yes, Emily, you tell us.

Emily: I looked it up on the Internet, Miss, and I found out that they are one-celled forms. They're the smallest of all animals and can only be seen under a microscope. The reason they can be considered animal life is because they share features we connect with animals: they breathe, they reproduce and they move. And...

Keith: Can I butt in there? Ifound out more about what they look like. Well, they don't have an inner or outer skeleton but apart from that their appearance varies. For example, an amoeba doesn't have a fixed shape and it is very simple in its internal organisation. On the other hand, a paramecium has a fixed shape and a more complicated internal organisation.

Teacher: Good! Well done both of you! Let me add a bit more to that information. Firstly, although we said protozoa are helpful, there are also some which aren't. What I mean is that some can be parasites and others can be the cause of certain diseases. When I say parasite, that means they feed off their host - the animal or human in which they are living As far as what they eat is concerned, they can take in organisms such as bacteria and algae (a kind of water plant) or organic particles such as waste from animals or plants. Some types take in nutrient- through the cell mouth, others absorb nutrient- through their cell walls.

Let's go on to look more closely at the different types of protozoa...

Tapescript

Historically, being immunised against diseases is a relatively new thing but that doesn't mean the idea hadn't been thought of before. If we go as far back as 429 BC, the historian Thucydides noted that after a smallpox plague in Athens survivors did not become infected again. This was at a time

before there was even recognition of such things as bacteria and viruses.

Nowadays, we take it for granted that we will be vaccinated and avoid diseases like polio, but how many of us actually stop to ask ourselves what is behind the injection we have? How does vaccination work?

Basically, it is the process by which a person is exposed to an agent so that his or her immune system develops against that agent. The immune system makes antibodies which fight against infection. Once the human immune system is exposed, that is, made open to a disease, it is able to act against any future infection. Vaccination exposes a person to an immunogen - something which helps develop immunity - in a controlled way by using a weak dose so he or she doesn't become ill while being immunised.

The good thing about a vaccination programme is that it can limit the spread of a disease among a population, reducing the risk for people who have not been vaccinated so we have something which is known as herd immunity. That means when the number of non-immune people has dropped to a certain level, the disease will disappear from the whole population. This is how nowadays we have achieved the elimination of many diseases.

Unit 3

Tapescript

Teacher: One of the most interesting animals was the Tasmanian tiger. First of all, it wasn't a tiger, or any sort of cat.

Student 1: What was it?

Teacher: It was actually a dog. In fact, its scientific name means 'dog with a wolf's head'.

Student 2: So, why was it called a tiger?

Teacher: It was called a tiger because it had stripes on its body. That's probably why the first Europeans who set foot in Tasmania killed it – they thought it was dangerous

Student 1: Was it really dangerous?

Teacher: Not really, no. It was a very shy animal, and it stayed away from humans.

Student 2: Is it extinct now?

Teacher: Well, we're not sure about that. The last Tasmanian tiger died in captivity –

that is, in a zoo – in 1936, and the species was officially declared extinct in 1986 but people still claim they have seen them in the wilder parts of Tasmania.

Tapescript

Teacher: Many years ago – in fact, billions of years ago – uranium began to enter the Earth's crust.

Student 1: Where did it come from?

Teacher: It had been released from an exploding star, and floated around the universe. Uranium is the heaviest of all the naturally occurring elements. It has an atomic number of 92.

Student 2: Does that mean there are 92 protons in the atom's nucleus?

Teacher: Yes, it does. That is a huge amount. Just to compare it to lighter elements, can anyone tell me how many protons there are in, for example, hydrogen or oxygen?

Student 1: There's just one in hydrogen, and there are eight in oxygen.

Teacher: That's right. Uranium is also radioactive. What does that mean?

Student 3: It means that it is an atom that can release huge amounts of energy.

Teacher: Correct. We can use uranium – that is, nuclear power – to produce energy, such as electricity. But before this happens, the uranium must be mined and refined into very small pieces about the size of a piece of chewing gum. These pieces are then put into small tubes, and are used in nuclear reactors as fuel.

Student 2: How much energy can it produce?

Teacher: Well, because it contains more energy than any other element, a small amount – about a handful, in fact – can provide as much energy as 390 barrels of oil.

Student 3: It's dangerous though, isn't it?

Teacher: Yes, it can be extremely dangerous, and accidents have occurred in the past.

Student 3: Why is it used then?

Teacher: Because it is cleaner than other forms of energy that we use to produce the huge amounts of electricity that we need. At the moment, if we didn't have any nuclear

power, an extra two billion tonnes of carbon dioxide would be poured into the atmosphere by other forms of energy, such as coal. There are alternative forms being developed though...

Unit 4

Tapescript

Student 1: What are you going to write about in your Biologyreport? I haven't decided yet, but I might write about Gregor Mendel's experiments, you know, the ones with the pea plants.

Student 2: Actually. I'm thinking of writing about modern genetics and how we can change genetic information. I'll probably write about genetic engineering. I think it's fascinating. It's incredible how scientists can change information in genes. It's like something from a science fiction film.

Student 1: Yes, it is. But just like in films, scientists sometimes create strange things in their laboratories.

Student 2: Oh? Like what?

Student 1: Well, I read that they have used genetic engineering to produce square watermelons. Isn't that crazy?

Student 2: Square watermelons? Why would anyone want a square watermelon?

Student 1: Apparently, normal watermelons are difficult to store and transport because of their shape. These square ones can be easily put one on top of the other, so more can be transported at the same time. In this way, it costs less to transport them.

Student 2: That's amazing. But it makes sense, doesn't it? I mean, that's what genetic engineering is all about – making life easier for us. I had no idea about those watermelons though. I was going to write about food crops, like wheat, and how scientists can change them so that the wheat can survive in different weather conditions.

Student 1: Yes, that's important. That means there'll be more wheat for food. I think they also use genetic engineering to create plants that are used to make certain medicines. That's a good idea.

Student 2: I agree. It's a great idea, although of course there is quite a lot of public concern about genetic engineering

that is carried out on food crops...

Tapescript

Charles Darwin was an English scientist who put forward a theory of evolution. He outlined this theory in his book *The Origin of Species*. He also wrote another book called The *Descent of Man*. In the second book he used his theory to suggest that human beings evolved from apes and monkeys. Many people disagreed with what he said. However, despite the fact that some of Darwin's ideas have been disproved, his basic ideas are still accepted.

travelling and collecting After specimens of animal and plant life, he returned to England in 1836. There he began to classify his findings, and the similarities between the fossil mammals Darwin collected and modern mammals led him to believe that species change over time. However, he had to answer the question, 'if evolution occurred, by what means did it do it?' So began his studies, spread over twenty odd years which finally led Darwin to the that those conclusion who possessed advantageous variations, that is helpful differences, were more likely to survive and reproduce than those without advantageous variations. In other words, the fittest would survive. He coined the term 'natural selection' to describe this process by which organisms with favourable variations survived and reproduced more offspring. He called an inherited variation which increased an organism's chance of survival in a particular environment an 'adaptation'. Over many generations, an adaptation would spread throughout an entire species and thus, according to Darwin, evolution by natural selection would happen.

Unit 5

Tapescript

When we say something is written in our DNA what do we actually mean? What kind of alphabet are we suggesting? Well actually, it's a very good description as the strands or lengths of DNA contain 3.2 billion letters of coding. That's a lot of information. The nature of the information depends on the order of the base pairs along

its length. Of course, we inherit this information from our parents. Not just hair colour or skin tone, sometimes the chances of getting certain diseases. That's why DNA is so important for the future of health care. From our mothers we get mitochondrial DNA, and the male Y chromosome only comes from our fathers. Now this is interesting since DNA isn't destroyed by time and because there is so much of it, we can often find it in animals that have been dead for thousands of years. Archaeologists for example, might find it in the teeth of ancient man, and since DNA is handed down from generation to generation it would be possible to find a living relative of someone who had been dead for four thousand years. Bringing things up to date, don't forget that the police can use samples of DNA left .it a crime scene to find criminals!

Tapescript

At the beginning of the 1950s one of the players in the race to identify the structure of DNA was a woman – Rosalind Franklin. However, due to her early death – she died at the age of 37 and because she was a woman working at a time when women were not treated equally in the workplace, it is often argued that the history of science didn't give her the credit she deserved.

So what is it that she contributed? Well, she was a talented and committed researcher and she developed particular skill in taking photos of crystals. Added to that, she was able to interpret the photos better than anybody else. Using the technique known as X-ray crystallography she could map the atoms in a crystal. When she showed her photo of the DNA molecule to James Watson, he was very excited because it was the first time that the structure of DNA – its double-helix shape — could be seen. Moreover, identifying the structure of DNA would also help explain how it reproduced itself.

Even nowadays there is disagreement about how important Franklin's contribution to learning the structure of DNA was but her genius cannot be denied. After the problems she had working on DNA she decided to move to Birkbeck College, perhaps to a friendlier climate, where she did work on the tobacco mosaic virus and the polio virus. Unfortunately, she died in 1958, thus ending a brilliant career.

Unit 6

Tapescript

... and so by describing something everyone knows about we can see how chemistry affects every part of our lives. Take two elements, in this case hydrogen and oxygen. They are both very common and are different from each other. Hydrogen has the atomic number 1 and oxygen, 8. Because they are elements there is nothing we can do to break them down any more, nor can we turn one element into another. What we can do is join them together, to bond them as a chemist would say. Let's take two molecules of hydrogen and one of oxygen; we then have not two elements, but one compound. To a chemist it is H₂O, but to the nonscientist it's water. Now we can reduce the temperature of this water to 0°C and it becomes ice. Or we can increase the temperature to 100°C and it becomes steam. To a chemist though, it's still H₂O. What has happened is that the substance has changed its form. As ice, it's water in a solid form, as steam, it's water in the form of a gas. Of course, we are most familiar with water as a liquid. However, by adding or taking away heat from H₂0 we've made it undergo a transformation, and this adding or taking away heat is, in a very simple form, a chemical process. We see it happen very often, when we make ice for a drink, or in the winter when the rain falls as snow. We see it even time we boil water for cooking. Other chemical processes look more complicated because they have more different materials bonding in different quantities, but the process is the same. For example, when oil is used to make petrol...

Tapescript

I work for a big, international corporation. We make medical drugs. It sounds simple but it's rather complicated. First there is the research, we spend several years testing and trying out new compounds. We look

especially at how the chemicals react with those in the human body. Then, when we have found a drug that works, we have to find the best way of getting it into the system. It might be a tablet, a liquid or something else. Finally, we have to test it very carefully before we are allowed to call it a medicine.

I work in the laboratory where we find ways of getting the drug into the body more effectively, that is, better and quicker. I run experiments to see how the drug reacts to what we make the tablet out of. It's very interesting. You never know how an experiment is going to come out. Sometimes we work for months, only to find the treatment just doesn't work properly However, more than fifty per cent of our experiments are successful.

Unit 7

Tapescript

Man: Have you heard about these new cars? They don't use petrol, they run on hydrogen. Woman: I've heard something about them. It's just an experiment, really, isn't it? The idea will never work.

Man: Well, actually, it's almost ready to go on the market. A few people are driving that type of car already.

Woman: Oh, it's just another trick to sell new cars

Man: It's more than that. It's a new type of engine. Instead of burning petrol and producing all those exhaust fumes, it burns hydrogen and guess what comes out of the back of the car?

Woman: No idea.

Man: Water. The only waste product is water. This could be the answer to all our pollution problems.

Woman: Ibet it's really expensive. It's just another way to get your money off you.

Man: It's expensive now, because it's new. But there's noway hydrogen will be as expensive as petrol. It's the most common element in the world – inthe universe. We'll never run out of it. On the other hand, there'll be no petrol in fifty years.

Woman: Wait a minute, though. Isn't hydrogen dangerous? I mean, doesn't it burn

easily and explode sometimes?

Man: Yes, but so does petrol. Hydrogen fuel isn't liquid, like petrol. One day we'll be filling up our cars with pellets of hydrogen, it's safer that way. You'll have thirty kilos in the tank, not thirty litres.

Woman: Sounds crazy. I'll keep on using my bike, I think.

Tapescript

Only about one tenth of all the animals used in medical research in the UK are used to test the potential safety of medicines. This is because, in recent years, there is much greater international cooperation between countries about the safety levels of certain drugs. The only time when the authorities might not carry out a safety study is when results of a study are available from an identical medicine.

Why do we use animal tests? Well, they will show us if any new medicines may act as a poison in the human system or if they may cause other illnesses Sometimes, the liver or the heart may be badly affected by the new medicine and it's very important to find that out during the testing stages.

This type of safety testing is also used for all sorts of new chemicals and the preservatives we put into food. So, you see, in this way we are trying hard to preserve the health of all of us who are healthy as well as those who are already in need of medical help!

Unit 8

Tapescript

Teacher: I know you are all science students – some of you are studying Chemistry, others are studying Biology or Physics, and a few of you are studying Maths – so you might be surprised when I tell you today we are going to discuss ancient philosophers.

Student 1: Why? Did they contribute to science?

Teacher: Yes, they definitely did. A few thousand years ago, philosophers were also scientists, and scientists were also philosophers! Let's look at the Greeks, for example. Has anyone here heard of Thales?

Student 2: I have. Wasn't he the first ever western philosopher?

Teacher: That's right, he was. He was one of the Seven Wise Men of Greece. He believed that everything in nature was composed of one basic substance, water. Now, we all know this isn't true, but do you know why Thales' idea was so important?

Student 2: No.

Teacher: Well, before Thales, ancient people had used mythology to explain the world around them. For example, they thought that Zeus – the father of the gods – was responsible for thunder because they didn't know about electricity. So, Thales' idea was very important because of his scientific approach – he tried to explain the world in scientific terms, and not by relying on mythology.

Student 1: Didn't one of the Greek thinkers come up with an idea that was similar to the conservation of mass?

Teacher: Yes. That was Anaxagoras. The Greeks were very interested in 'substances' and what things were made of. Thales, as I said, believed everything was composed of water. Empedocles came up with the theory of the 'four elements' - that everything was composed of air, water, earth or fire. His contemporary, Anaxagoras, rejected that theory and stated that there were many different elements, which he called 'seeds', and each had unique qualities. He also said that these particles had existed forever and that everything was a mix of these preexisting particles, so that nothing could come into being, and nothing could be destroyed – it just changed form.

Student 2: And he came up with this idea two and a half thousand years ago?

Teacher: Yes, he did.

Tapescript

The origin of the names of chemical elements is very interesting indeed. The elements were named after people, places, myths, colours, chemical properties and functions. Let's take a look at some examples.

Chlorine was named from the Greek 'chloros' meaning 'pale green', the colour of the element. You may have noticed that when fair-haired people spend too much

time in swimming pools, their hair may turn green – this is because of the chlorine in the water. Platinum received its name from the Spanish 'platina' for silver because of its silvery colour.

Oxygen was derived from the Greek word for acid – oxy – and the word for forming – genes. Thus we get 'oxygen', which was named by Lavoisier who believed that oxygen was an acid producer. Phosphorus means 'bringing light' in Greek, and it was thus named because white phosphorus glows in the dark.

Places are very popular sources tor the of the elements. Ruthenium, names francium. germanium and polonium were named alter Russia. France, Germany and Poland respectively. Copper, which has been known since ancient times, comes from the Latin 'cuprum' for Cyprus, the island where first obtained the Romans copper. Amazingly, a village in Sweden has had four elements named after it. The village of Ytterby gave its name to the elements yttrium, terbium, erbium, and ytterbium because they were all discovered in the mineral ytterbite, which had originally been found in the village. Mythology has also been a popular source for the names of elements. Iridium was named after Iris, the Greek goddess of rainbows, because of the variety of colours in the element. Titanium was named after the Greek Titans - the mythological first sons of the earth. Gold received its name from the Sanskrit word 'ival', which means 'to shine'. Its chemical symbol - Au - is from the Latin aurum from Aurora, the Roman goddess of the dawn. Thor, the Norse god of thunder, gave his name to thorium.

Famous scientists who have been honoured in this way include Albert Einstein, Enrico Fermi, Dimitri Mendeleev, Alfred Nobel, and Neils Bohr.

Unit 9

Tapescript

Teacher: Welcome to Chemistry class. For this subject you will conduct many experiments, and sometimes they can be dangerous. If you use your common sense,

however, you won't have any problems. Does anyone in the class know anything about safety in the lab?

Student 1: I think we have to wear a laboratory coat and protective glasses when we do laboratory work.

Teacher: Yes, and another thing is to wear shoes, not sandals. Protect your feet. Also, if you have long hair, tie it back so that it doesn't catch fire!

Student 2: We should be careful when we transfer chemicals from a jar into a test tube or beaker.

Student 3: If you spill a chemical on your skin, you have to put the affected area under cold, running water.

Teacher: Yes, very good. For those little emergencies, you have to know where all the safety equipment is in the laboratory. In this cupboard over here you'll find the eye wash, a first-aid kit, a fire extinguisher, and blankets. Hopefully, you'll never need them, but it's good to know where they are.

Student 1: What else do we need to know? Is that all?

Teacher: No. there's more. It's important that you check chemical labels twice to make sure you have the correct substance. Some chemical formulae and names differ by only one letter or number, and that could be the difference between a safe substance and a dangerous one.

Student 3: Do you mean like bases and acids?

Teacher: Yes. that's one example. An acid can burn you if it spills. Oh, and another thing, you must never, ever, run in the lab because you could bump into something and knock it over.

Student 2: Can we do experiments when you're not here?

Teacher: No. For your safety, I must always be present. And I know this is obvious, but please don't ever taste laboratory materials! They're very harmful! Finally, at the end of each class, please return all equipment, chemicals, coats and protective glasses to their proper places, and make sure that the gas pipes are turned off...

Tapescript

When Mendeleev arranged his periodic table of the elements, he wasn't aware of the existence of electrons. His arrangement was solely based on atomic weight, but this was also, more or less, the arrangement followed by elements in relation to their electron configuration, which Mendeleev didn't know. In mapping his table, Mendeleev observed sudden changes in the properties of the elements, which he had expected to show only gradual changes from element to element as atomic weight increased. It was Neils Bohr who accurately explained what was causing the sudden changes. His theory was that electrons are not found randomly around an atom's nucleus, but are found in distinct electron shells. Bohr also discovered that the electrons in the uttermost shell known as valence electrons in the valence shell – were very important in determining the chemical properties of the elements. A valence shell is like a layer covering everything else inside a sphere, which is the atom. It is only the valence shell that can have any interaction with other atoms. That is the reason why it is so important in determining an element's properties.

For the A groups of the periodic table, the group number is equal to the number of valence electrons. Here are some examples to illustrate this: lithium and sodium, which are in group 1A of the periodic table, have valence electron; beryllium magnesium, which are in group IIA of the table, have two valence electrons, and so on. The row, or period, number that an element is in on the table equals the number of total shells that contain electrons in the atom. Hydrogen and helium in the first period have only one shell containing electrons. Lithium, beryllium, and boron, in the second period, are all made up of two electron shells.

In our next lesson, we will be looking at the way scientists and physicists write the electron configuration of elements...

Unit 10

Tapescript

Student 1: How's your Chemistry class going? Are you enjoying it?

Student 2: I'm enjoying the lab work – the experiments are really good – but I'm having trouble understanding the theory and some of the terms. You did Chemistry last year. Can you help me?

Student 1: Sure. What's the problem?

Student 2: Well, let's start with chemical reactions. What exactly are they?

Student 1: A chemical reaction is a process that changes substances. The substance or substances that you start with are called reactants.

Student 2: ... and the substances that are produced are called products.

Student 1: Right. And during a chemical reaction energy is released or absorbed, but there's no change in the total molecular weight – that remains the same. OK?

Student 2: Um ... I'm not sure. Can you give me an example?

Student 1: Yes. Let's look at salt, whose chemical name is sodium chloride. Suppose we start with 'x' weight of salt.

Student 2: OK.

Student 1: Now, let's take that salt and decompose it – that means 'break it down'. Its molecules, which consist of equal parts of sodium and chloride ions, are broken down. The sodium atoms then combine in pairs to form sodium molecules, and the chloride ions combine to form chlorine molecules. Now, instead of salt, you have two different elements.

Student 2: And those two elements' combined weight will be the same as the weight of the salt?

Student 1: Exactly. Also, in a chemical reaction, substances lose their characteristic properties. Salt, for example, is a solid in crystal form, right?

Student 2: Right...

Student 1: ... but in decomposing it, we have produced a metal and a gas...

Student 2:... a metal and a gas?

Student 1: Yes. Sodium is a metal and chlorine is a gas.

Student 2: OK.

Student 1: ... so, from a crystal solid – salt – we have produced a metal and a gas.

Student 2: OK, I get it. I think. In a chemical reaction, substances combine to

form new substances; molecular weight doesn't change; and the characteristic properties of substances can change.

Student 1: Very good!

Tapescript

Atomic and nuclear power can be very destructive - we need only remember Hiroshima and Nagasaki. This kind of power involves the forces that hold the nucleus of an atom together. These forces contain incredible amounts of energy, and there are two basic ways that nuclear energy can be released from an atom. Now, the first one is nuclear fission – fission means separating. In this process a neutron splits the nucleus of a uranium atom into two smaller fragments. The other method is nuclear fusion, which involves bringing atoms together. Two atoms, usually hydrogen, smaller brought together to form a larger one such as helium; in fact, this is how the sun produces energy. In both processes, fission and fusion, large amounts of heat and radiation are given off. A fission bomb uses an element like uranium to create a nuclear explosion.

Uranium is one of the few materials that can become unstable and split immediately when it absorbs a neutron. As soon as the uranium nucleus captures the neutron, it splits into two lighter atoms and also throws off two or three new neutrons. These then emit gamma radiation. The neutrons that are released during the reaction can, in turn, cause another fission reaction. This is what is called a chain reaction — it continues by setting off more reactions. In this way, an incredible amount of energy is released when an atom splits.

The science behind the process is simple to understand, but it can cause total destruction. In the 1980s, scientists considered the possible effects of a nuclear war and proposed the theory that a 'nuclear winter' could occur. The explosion of many bombs would raise huge clouds of dust and radioactive material that would travel high into the Earth's atmosphere. These clouds would block out sunlight. Without sunlight, plants would not survive, and this would disrupt the food chain, resulting in the end of

all life on the planet.

Unit 11

Tapescript

Man: And now we bring you our weekly *Potted history of a famous person.*

Woman: Nicolaus Copernicus (1473 - 1543) a Polish astronomer, provided the first modern theory of a heliocentric, that is a sun-centered, solar system. Nowadays we might find it hard to believe anything different from the idea that the Earth travels round the sun, but in Copernicus' day, a time when people were sure the Earth had to be the most important planet, as it had been created by God, it was believed that the sun went around the Earth.

Copernicus held many important positions and studied in many fields, including math and astronomy. Obviously a great man, he came up with perhaps one of the most important scientific hypotheses in history. Moreover, his ideas led the way for science to question theories already held. He called Aristotle's into question view knowledge came from what we understood with our senses Copernicus argued that a scientific law need not be overly concerned with appearance. This concept brought about a scientific revolution.

So let us consider in more detail what Copernicus was hypothesising in his heliocentric theory. Well, there were seven parts to his theory. These were: Firstly, the universe does not have one centre. Secondly, the Earth is not the centre of the universe. Thirdly, any centre of the universe is near the Sun. Fourthly, the distance from the Earth to the Sun is nothing if you compare it to the distance from the Earth to the stars. Fifthly, the fact that the Earth revolves explains why the stars also revolve. Sixthly, the apparent movement of the sun is caused by the Earth revolving around the sun and finally, the apparent backward motion of the planets is caused by the motion of the Earth, from which they are observed.

Other pieces of knowledge we now take for granted are also due to Copernicus' research: he gave the correct order of the known planets; and he showed why we had seasons.

These are points we'll be looking into in next week's....

Tapescript

Teacher: Well Jade, you've done the research for your project, the Big Bang, so let's go through what you found and I'll answer any questions you have.

Jade: Hmm, it appears that the Big Bang is a scientific theory of how the universe emerged roughly 13.7 billion years ago. The phrase Big Bang is used both to mean a point in time when the expansion of the universe began and more generally to explain the origin and expansion of the universe.

Teacher: Yes. Jade. Well done. Basically, it's an explanation for the beginning of the universe. So tell me. What did you learn about matter as far as the theory is concerned?

Jade: If I've understood correctly, the universe today is expanding because all matter is moving outwards. So if we follow this movement back in time, we come to the conclusion that at one time all matter was concentrated together.

Teacher: Precisely. And then for some reason, which has yet to be explained, it exploded and that sent all the material outwards. This then triggered a chain of events leading to the creation of the galaxies, stars, planets and the beginning of life on Earth.

Jade: Yes, and Ifound out that nanoseconds – that's a really short time – after the Big Bang, the whole universe was made up of a hot, thick cloud of hydrogen atoms. Because it was so dense, the atoms collided violently which caused a lot of the hydrogen atoms to fuse together and form helium.

Teacher: Interestingly enough, that's actually what is going on at the core, that is, the centre of a star too! Anyway, once the Big Bang had occurred it took a couple of hundred million years for the hydrogen and helium to collect together into enormous gas clouds, pushed by gravity. These were the beginnings of simple galaxies. Well, time is getting on so we'll continue this at our next meeting.

Tapescript

What I'm going to talk about today is how electricity is generated for use in our homes and factories.

There are three main ways that we can make electricity; as well as some newly developing technologies that I believe we will come to rely on in the future. They all have one thing in common. That is, they use fuel to turn a turbine, a large wheel. The three most common means of power generation are firstly, by burning fuel to make steam, which turns the turbine. Another way is to use a nuclear reaction to heat the water to make steam. And a third is to use the force of moving water to turn the turbine – hydroelectricity. All advantages and disadvantages. Burning is cheap and the fuel, usually coal, is easily available. However, burning does cause pollution. Nuclear energy is the cheapest way to make electricity; once the costs of building the nuclear power station are taken away. The waste, however, stays radioactive for a very long time, so we have the problem of storage. Hydroelectricity is the cleanest way to generate power - there is no pollution. But, not everywhere has fastrunning rivers, and creating an artificial lake is very expensive and often means moving people away from their homes.

Other, newer ways of generating electricity, for example the use of wind power, do not pollute the atmosphere but they also do not yet produce enough electricity for the needs of a modern city. Of course, improvements in technology are happening all the time. What I'd like to discuss now is...

Tapescript

Girl: Do you know how your hairdryer works?

Boy: You switch it on and it **blows warm** air onto your hair. Easy.

Girl: No, **I** mean how does it **blow the** air, and how does it warm it?

Boy: Erm, electricity, **I suppose.Go on. Tell** me then.

Girl: There's an electric motor inside. When you switch it on, it turns a fan. That's

what blows the air.

Boy: But that doesn't get it warm, does it?

Girl: No, I was about to explain. There's a heating element in there, too. When the current passes through it...

Boy: You mean the electricity?

Girl: That's right, the **electric** current. It passes through the element and it gets hot. Then, air is blown over the element by the fan and this is how it gets warm. There's a thing called a thermostat in there, too. That stops the element getting too hot. **If** it does, it switches it off. Simple.

Boy: Very interesting. **I** think my hair's dry now.

Unit 13

Tapescript

Speaker 1: Well, he was actually the first who wrote about his observations. He believed that things didn't happen by accident but that something caused them to happen. He also believed that the stars and the planets were all moving towards their proper place in the heavens, although he didn't say what that was.

Speaker 2: He was a firm believer in the ancient theory that the Earth was the centre of the solar system. It sounds strange to us, but in those times people didn't have the knowledge or technology we have now. Despite his limited resources, he made measurements of the heavens which were used for astronomical and navigational purposes for hundreds of years.

Speaker 3: One night, he saw a bright new star in one of the constellations. He began to measure its movements and realized it was a new astral phenomenon, which he called a 'nova', a term we still use today. He came up with a new model of the solar system, a kind of hybrid, where the Sun orbited the Earth but all the other planets orbited the Sun.

Speaker 4: He was the first to say that the Sun - and not the Earth – was the centre of the solar system. Well, actually, he believed that although the Sun itself was not the actual centre of the universe, it was close to the centre. The important thing is that he believed that the Earth orbited the Sun, and

not the other way round.

Speaker 5: Although people had been measuring the movements of stars for centuries, he was the first to apply mathematical principles to the thousands of different astral measurements which had been recorded by others. This led to the discovery of three laws of planetary motion, which attracted the interest of later researchers and led to great advances in the field.

Tapescript

Although IsaacNewton is famous for his work in physics and mathematics, he also spent a lot of his time working on alchemy. Nevertheless, nowadays we remember him for his many scientific discoveries.

So what were they? Well, where to begin? At the beginning of the 1670s he was involved in the branch of physics that studies the physical properties of light known as optics and to this end was studying the refraction of light. He found that a prism, which is an optical device with a triangular shape and made of glass and which is used to change the direction of light, could decompose white light into a spectrum of colours. If you're not sure what a spectrum is, it's a whole range of something. He said, if you then used a lens, you know like the glass in a pair of glasses, together with a second prism, you could then recompose the multi-coloured spectrum into white light.

But that wasn't all. Indeed, he also looked at coloured light and found that separation of a coloured beam proved it didn't change its properties. However the beam was shone, its colour remained the same. This gave him an explanation for why we see colours. Basically, he claimed that an object didn't make its colour but its interaction with coloured light caused us to see colours.

Newton also made a lot of headway in the area of light composition. He suggested that light is made up of panicles connected to waves. Modern day science agrees with this idea of a wave-particle relationship although not with his whole theory. Perhaps not surprisingly, Newton may have also been the first to give an exact account of how a

rainbow is formed when he illustrated light passing through the water droplets.

However, for many of us, Newton entered history as the discoverer of gravity. We all know the famous story of an apple supposedly dropping on his head leading him to his realisation of gravity. Well, don't think things were so simple. He knew gravity existed, the question was how farreaching was its influence. Was it responsible for keeping the Moon in orbit, for example? His calculations said yes, hence he named the force 'universal gravitation'.

Unit 14

Tapescript

Student: Could you help me with the photoelectric effect, please? I can't seem to grasp it.

Teacher: Yes, it can be confusing. Well, experiments have shown that when light shines on a metal surface, the surface releases electrons.

Student: Yes. That's the easy part!

Teacher: OK ...What could be the reason

for that?

Student: I'm afraid I don't know.

Teacher: Well, let me ask you this: What is

light made up of?

Student: I'm not sure. Waves? Particles?

Teacher: All right, we'll go back to that later, but for now let's say light is made up of waves... and those waves have energy. So when a wave of light hits an electron in an atom in the metal, that energy can knock the electron out of its atom. Is that clear?

Student: Yes, but what about particles?

Teacher: The truth is we don't really know for sure one way or the other. Isaac Newton thought of light as a particle. Then in 1805 an experiment was conducted which indicated that light was a wave. However, in the early 20th century, some physicists, including Einstein, began to think again of light as a particle.

Student: Particle ... wave ... particle ... no wonder I'm confused!

Teacher: Hold on, there's more. Einstein believed that experiments with the photoelectric effect could prove whether

light consists of particles or waves.

Student: But whether light is made up of waves or particles, wouldn't the photoelectric effect still happen? I mean, light would still have energy to knock electrons out, whether that energy came from particles or waves.

Teacher: That's true, but science is about finding out the truth in the world, so it did matter which of the two it was. And someone did do the experiment Einstein suggested.

Student: What happened?

Teacher: It was found that all of the results agreed exactly with Einstein's predictions, not with the wave theory. In fact, did you know Einstein won the Nobel Prize for the photoelectric effect, not for his more famous theory of relativity?

Student: Wow! I didn't know that. So, light is made up of particles.

Teacher: No, no, no. Some experiments seem to prove that light consists of particles while other experiments prove that it's waves. We can only say that light can be a wave or a particle, depending on how we look at it.

Tapescript

At the end or the 19th century, physicists knew there were electrons inside atoms, and that the movement of these electrons gave off light and other radiation. When you direct sunlight through a prism, you see the whole rainbow because the prism breaks the light into all of its separate colours. But when physicists heated up different elements until they glowed, and then directed the light through a prism, they saw bright lines of certain colours but not all the colours. This indicates that the atoms were only sending out waves of certain frequencies. You see, each type of atom gives off a different set of colours. The coloured lines - known as spectral lines – are special for each atom. In fact, scientists can identify elements just by looking at the lines. This science is called spectroscopy and scientist use it to work out what elements something is made of. Anything that radiates light can be tested in this way including distant stars.

Well, scientists had observed the lines, but they didn't know what was causing them. It was Niels Bohr who found the answer to spectral lines. In order to explain the specific colours, Bohr proposed that electrons can only be in special orbits, and that no other orbits were possible. The electrons jumped between these special orbits, however, and when they jumped they caused radiation. The radiation was like little flashes of light, which are called photons. Each time an electron jumps down a level it produces a photon, and the same jumps produce the same colours. When there are many atoms, there are many different lines appearing at once. And that's what scientists mean by spectral lines and the atomic spectrum.

Unit 15

Tapescript

Speaker I: I had been working in theoretical physics for years when Einstein announced his discovery of the special law of relativity in 1905. Many of my concepts did not fit models of classical physics and led to the birth of a new field of inquiry, quantum physics. But to get back to the point... I immediately recognized the implications of Einstein's theory and spent a lot of time and effort promoting it among my colleagues in the scientific world.

Speaker 2: I discovered a set of mathematical equations to express the basic laws of electricity and magnetism. From there, I eventually found that light is actually an electromagnetic disturbance. My theory wasn't perfect, but it was a success in that a lot of other researchers became interested in aspects of it and it led to great advances in the field of physics. For example, one of those researchers discovered the laws of special and general relativity.

Speaker 3: I didn't come up with the theory, you understand – I wasn't that brilliant. I have to admit. No, I just proved it. You see, I'd read about his ideas and thought there might be some truth to them – he never bothered testing them himself, you see. So, when the opportunity presented itself, I jumped at the chance and became famous for it!

Speaker 4: During the many hours I sat in my office doing my boring job, I thought about physics problems and tried to solve them mathematically – just as one might do any other puzzle in order to pass the time. I didn't have a laboratory to test my theories – I left that task to others. But my thinking turned out to be right after all – I did discover two theories of relativity, so you could say my time wasn't wasted.

Speaker 5: I believed that we should use mathematics instead of logic to solve physical problems – and I ran into a lot of criticism for it in those days, let me tell you. I also tried to measure the speed of light – not very successfully, I'm afraid, but was the first to come up with the concept that there were no absolutes in the cases of motion and rest, which was a basic principle of relativity.

Tapescript

Interviewer: Hello once again to all our listeners! My name is Barry Duke and our guest tonight on the *Lives of Famous Scientists* programme is Dr Emma Steed, the world famous expert on Albert Einstein. She's going to share some little-known facts about the great physicist with us. Welcome, Dr Steed. It's a pleasure to have you on our show.

Dr Steed: Thank you, Mr Duke. It's a pleasure to be here.

Interviewer: So, Doctor, what interesting things are you going to tell us about tonight? **Dr Steed:** Well, I thought I'd start with Einstein's childhood. Did you know that Einstein started making discoveries when he was five?

Interviewer: Five? No, I didn't. What did he discover?

Dr Steed: Well, his father had given him a magnetic compass – you know, the kind we use to show us direction. Well, Einstein realized that something was causing the needle on the compass to move in a certain way, and he began to take an interest in the physical world.

Interviewer: That's amazing!

Dr Steed: Yes, but that's not all. The young Einstein's hobby was building models and

mechanical devices, much to the amazement of his parents and elders. And as if that wasn't enough, when he was twelve years old, he was given a book of Euclidean geometry.

He quickly became fascinated by it and taught it to himself. Once he'd learned that, he started to teach himself calculus.

Interviewer: Wow! All of us who have struggled to learn those subjects are really impressed by that!

Dr Steed: Well, that wasn't all. When he was sixteen, he did a thought experiment called 'Albert Einstein's Mirror.' While he was looking into a mirror, he tried to imagine what would happen to his image if he were moving at the speed of light – he actually drew some important conclusions about that which would later be an important element of his theoryof special relativity.

Interviewer: Tell me, Doctor, is it true that Einstein had some kind of learning difficulty which caused him problems at school?

Dr Steed: I know that's a common tale but recent research has shown that there is no truth to it. **Interviewer:** And what about Einstein's...

Unit 16

Tapescript

... another reason why our present system of Arabic numerals replaced the Roman system is because of the difficulties the Romans had with multiplication. We have a system based on ten numerals, beginning with zero and going on to the numeral nine. Each of those numerals can show not just how many units - how many 'ones' so to speak, but how many ten, hundreds, thousands and so on. This is because we use a decimal system, a system based on groups of ten. So the number 'two, five, four' says that we have two hundreds, five tens and four units, that is, two hundred and fifty four. We can line up the different amount of hundreds, tens and units and multiply across. So, two hundred and fifty four multiplied by four units can be expressed as four two hundreds, plus four fifties, plus four fours. That gives us one thousand and sixteen because four two hundreds are eight hundred, four fifties

are two hundred and four fours are sixteen.

In Roman numerals it's an altogether more complex problem. Two hundred and fifty four would be written as CCLIV, that is a hundred, that's C, plus another hundred, plus fifty that's L, plus four, that's one before five which is I, one, written in front of five, V. Now the question is, how do you multiply CCLIV by IV? You can't. You have to add CCLIV together IV, that's four, times. It's the long way of doing multiplication. Division is even more complex...

Tapescript

Boy: I hate maths, I never use any of the stuff we learn at school.

Girl: Oh, how can you say that? I'm not keen on the subject either, but I use it all the time. It's everywhere.

Boy: Oh, come on. When was the last time you did any geometry outside of school?

Girl: At the weekend. I went to the shops for some new clothes.

Boy: That's fashion, not geometry.

Girl: It involves geometry. You have to look at the shape and the sizes and work out in your head what's too big or small. And it's algebra, too. You have to imagine how the parts will look when you are wearing the clothes and how your other clothes will go with it.

Boy: It's not really maths, though, is it?

Girl: Yes. It is. It's using maths. Just finding your way through the town centre and not bumping into people is using trigonometry And then there's paying for what you buy and counting your change. That's all arithmetic - adding it up, multiplying, subtracting. It's all maths.

Boy: Well I can see that. But what about other things, like Probability Theory? You're not going to tell me we do that every day.

Girl: Some people do. What about choosing lottery numbers?

Boy: Oh. you're always right, aren't you?

Unit 17

Tapescript

Teacher: OK class, are you all ready? Today we start algebra. What I want you to learn today is the definition of algebra and to

be able to recognise when an algebraic statement is an algebraic term, expression, or equation. Well what is this scary subject you're all afraid of? It's simple really. It's a mathematics branch of that mathematical statements describe to relationships between things that vary over time. These are called variables and an example of this is the distance that a car can travel at a certain speed. To describe this relationship with a mathematical statement, letters are often used to represent the quantity, an amount that varies because it's not fixed. The letters and symbols used are called variables.

Right, so have you got that? Make sure you take notes. OK so moving on. The mathematical statements that describe relationships are expressed using algebraic terms, expressions, or equations. 'What's an equation?' you may ask. Quite simply it's a mathematical statement containing letters or symbols to represent numbers. Now some of the basic terminology you need to know. Let's start with terms and expression.

The basic unit of an algebraic expression is a term. This is either a number or a product of a number and one or more variables.

The numerical part of the term, or the number factor of the term, is what we refer to as the numerical coefficient. This numerical coefficient will take on the sign of the operation in front of it.

As for expressions, an expression is a collection of numbers, variables, and signs, positive or negative, of operations that make mathematical and logical sense. They can contain any number of algebraic terms and they use signs of operation. You know, addition, subtraction, multiplication, and division However, they don't use equal signs.

Now I'd like to move on to demonstrate exactly what an equation is. Look at the board....

Tapescript

The term 'matrix' was coined by J.J. Sylvester in 1848. You may wonder exactly what a matrix is, or, in the plural, what matrices are. Yes, indeed. Hmm, an

interesting question. Well, in mathematics it is a table of numbers or what could be better called abstract quantities that can be added or multiplied.

Now, you may be under the impression that we're talking about quite a modern concept but nothing could be further from the truth. Examples of matrices can be traced back to prehistoric times! Anyway, let's get back to the question in hand. So, matrices are used to describe equations, keep track of the coefficients of linear transformations and to record data that depend on two parameters. Matrices can be added, multiplied, and decomposed in various ways which makes them a key concept in linear algebra and matrix theory. If that's all Greek to you, let me explain further and really get you confused. Haha.

If you look at a matrix, the horizontal lines in a matrix are the rows and the vertical lines are the columns. A matrix with m rows and n columns is called an m-by-n matrix. This is written $m \times n$ and m and n are called its dimensions. The dimensions of a matrix are always given first with the number of rows followed by the number of columns.

Unit 18

Tapescript

Girl: Hi, Joey how's your art class going?

Boy: Totell you the truth, it's different from what I'd expected.

Girl: Why? You're a good artist, and you love to paint!

Boy: That's just it: we haven't painted anything yet! We're learning about projective geometry.

Girl: Projective geometry – what's that?

Boy: Well, it's a type of geometry involved with the concept of perspective in art. You know, artists paint on a flat, one-dimensional surface, like a canvas or wall. But they have to somehow show objects in two or three dimensions, as though they were real.

Girl: I think I know what you mean: objects that are closer to us look bigger than objects that are far away, even though they're really not.

Boy: That's right! That's called linear perspective. It happens because our eyes see

things in straight lines. There's also aerial perspective.

Girl: Aerial perspective? ... um ... That must have something to do with the air or atmosphere, but what?

Boy: Well, look over there! See that tree way over there?

Girl: Yes....

Boy: Doesn't it look a bit unclear?... and what about its colour?

Girl: Well. I know it's really green, but it doesn't look green – it looks a bit blue, actually.

Boy: Exactly! Anyway, there's lots more to perspective than that, but Ithink you see what I mean now.

Girl: Yes, I do. But I still don't know what projective geometry really is.

Boy: Well, it was invented by a French artist and mathematician called Gerard Desargues, in the early 17th century as a way for artists to understand and solve some of the problems of perspective. Unfortunately, his work was forgotten until the 19th century, when it was finally rediscovered and worked on by other mathematicians. Essentially, his famous 'perspective theorem' was that when two triangles are in perspective, where the corresponding sides meet are colinear. That means lying on the same line.

Girl: Well, it sounds very difficult to me! I'm glad my talent's basketball. By the way, are you coming to the game...?

Tapescript

Interviewer: Hello, I'm Ralph Banks and I'd like to welcome you all to the *History is Fun* programme. Today's guest is Dr Steven Mera, who will tell us some interesting facts about the history of geometry. Thanks for coming today. Dr Mera. Our listeners are all waiting to hear what you've got to say, so, let's get started...

Dr Mera: Thanks, Mr Banks. It's nice to be here.

Interviewer: Dr Mera, you've just written a book about ancient civilizations and how they used geometry. I've read it and found it quite fascinating, I might add. Would you tell us about it?

Dr Mera: I'd be glad to! Well, I'd like to

mention that if the ancient Egyptians, for example, hadn't known a lot about geometry, they wouldn't have been able to build the great pyramids and other huge structures. The interesting thing was that they knew a lot about the principles of geometry – like proportions and angle and so on – as far back as 3000 BC. **Interviewer:** That's amazing! What about other civilizations, like the Chinese?

Dr Mera: Their culture was also advanced at that time, so they probably also had similar measurement systems, but we have no proof of this.

Interviewer: Really? Why is that?

Dr Mera: Well, it may be because the Chinese used paper for their record keeping, rather than stone tablets, so no proof has been found.

Interviewer: Isee. Well, can you tell us some of the things the ancients measured, and how?

Dr Mera: Yes, of course. An interesting object which looks like a ring and was made from a sea shell was found at the site of Lothal, which is an ancient city dating back to 2450 BC on the west coast of India. The object had markings on it similar to a compass and was probably used to measure sections of the horizon and sky.

Interviewer: What does that tell us?

Dr Mera: It means that they may have been able to measure the position of the stars and planets, perhaps for astronomical or navigational purposes. It's the earliest known object of its kind – in fact, it puts them 2000 years ahead of the Greeks.

Interviewer: What about other civilizations?

Dr Mera: Well, most civilizations used geometry for something, for example, geometric shapes in art. I think we've all seen ancient jewellery or ceramics with designs composed of circles, squares and lines.

Interviewer: Yes, of course.

Dr Mera: And the ancient Mayans used geometric forms in their architecture: they built pyramids, you know, and planned their cities very carefully. For example,...

Tapescript

Teacher: The words 'calculate', 'calculation', and 'calculator' are all derived from the name of the branch of mathematics known as 'calculus'.

Student 1: Butwhere does that name come from, sir?

Teacher: Well, it actually comes from a Greek idea, but it's a Latin word. It stems from the birth of mathematics in ancient Greece. The Greeks used pebbles – that is, small stones that had been made smooth by water – to study maths. Their word for pebble was 'calix'. The Romans borrowed this word and changed it to 'calculus', so the Latin word for pebble is where the term 'calculus' comes from, and the verb 'calculare' means 'to count'. But it wasn't the Greeks or the Romans who named the branch of mathematics.

Student 2: Who coined the term?

Teacher: One of the two most famous contributors to calculus. Can you guess who?

Student 1: Newton? **Student** 2: Leibniz?

Teacher: Yes, they were the two, but it was Leibniz who named the discipline 'calculus'. Newton also gave it a name, but it's not the one we use now.

Student 1: What did Newton call it?

Teacher: Newton called it 'the science of fluxions' Can anyone tell me why he did that? What does 'fluxion' or 'flux' mean?

Student 2: It means 'change', doesn't it?

Teacher: That's right. So how does 'flux' relate to calculus?

Student 2: Differential calculus deals with rates of change.

Teacher: Exactly. Very good. He called it 'the science of fluxions' because it was the way in which rates of change – or flux – could be studied.

Student 1: Why did they give different names to the same thing? Why didn't they just use the one term?

Teacher: Ah, well, as I think you know, Leibniz published his results before Newton but that doesn't mean he got his results before Newton. No, indeed not. What

actually happened was that Newton had got his results first – he just hadn't published them! When Newton saw Leibniz's publication, he was convinced that Leibniz had seen his notes and copied him.

Student 2: Had he?

Teacher: Actually, no, he hadn't. This was proved by the fact that they had arrived at their results in different ways — Leibniz began with integration and Newton began with differentiation, so Leibniz couldn't have copied. Because they worked independently and made equally important contributions, both Newton and Leibniz were recognised as the mathematicians who developed calculus.

Tapescript

Teacher: ... And now let's move on to Fermat's Last Theorem. I will explain what it is, and why it was so special. For over 350 years, some of the greatest minds of science struggled to prove what was known as Fermat's Last Theorem – the world's most famous mathematical problem. It looked so and yet none of the great mathematicians in history could solve it. Fermat had claimed – in a short note in the margin of a maths book – to have found the proof, but left no evidence of itanywhere. The proof he was claiming was in relation toan equation which is closely related to Pythagoras' equation. Pythagoras' equation states that x squared plus ysquared equals z squared. So, for example, 3 squared (which is 9) plus 4 squared (which is 16) equals 25 (which is 5 squared). If you goon looking then you find more and more such solutions. Fermat wondered if the cubed version of this equation also had solutions – x cubed plus y cubed equals z cubed. He claimed that there were none. In fact, he claimed that it was impossible to find a solution for any such equation beyond the square. That's Fermat's Last Theorem

Student 1: So Fermat said because he couldn't find any solutions to this equation, that there were no solutions?

Teacher: Well, he did more than that. Just because we can't find a solution it doesn't mean that there isn't one. The challenge for

mathematicians was that Fermat claimed he had a proof. Unfortunately, all he ever wrote down was that famous note in the margin that says: I have a truly marvellous demonstration of this proposition which this margin is too narrow to contain'.

Student 2: What do you mean by a proof? **Teacher:** A mathematical proof is a line of reasoning that consists of many steps - a mathematician shows how he has proved something by presenting the logical steps used to arrive at a solution. If the proof that is written down is really strong, then nobody can ever prove it wrong.

Student 3: So, the challenge was to rediscover Fermat's proof of the Last Theorem. Why did it become so famous?

Teacher: Some mathematical problems look simple, but it turns out that they're extremely hard to solve. There's no reason why these problems shouldn't be easy, and yet they are extremely complicated. The Last Theorem is the best example of this. And, of course, it's very special because Fermat said that he had a proof.

Student 1: Was it solved?

Teacher: Yes, it was solved by Andrew Wiles, an English mathematician, who created a proof and published it in 1994, 330 years after Fermat's death in 1665.

Unit 20

Tapescript

Good morning. Now I'm here to give you some information about pure and applied mathematics so you can make your own decision about which one to study. Let me start by saying maths is a very exciting area to study – it's an academic area that's still growing with constant new developments. What's more, you'll never be short of a job once you graduate. Jobs are going in every area from research, aeroplane design and statistics to teaching and management.

Well, what is the difference between pure and applied mathematics? Actually, it's often just a question of what you concentrate on rather than the content of your studies. By that I mean that while those of you who choose pure maths will give emphasis to the techniques used for developing proofs, those of you who go for applied maths will concentrate on models and methods. Having said that, of course the pure mathematician basically solves problems so they can answer questions in mathematics. On the other hand, the applied mathematician solves problems which answer questions elsewhere — in economics, for example.

At university there isn't a clear line drawn between the two areas and often it's how you approach a problem which decides in which camp you fall. What do I mean by that? Well, the pure mathematician will be asking questions along the lines of: 'What's happening here?' 'What's the connection to other areas of maths?' 'Does the result generalise?' And their answers formulated in general propositions which have accurate, formal proof. Compared to that, the applied mathematician considers things from a more practical point of view. They'll be asking themselves, 'How can this be used?' 'Is this a useful technique?' The point is, although the different points of view may be coming from different directions, they can still arrive at the same point. Do you get what I mean?...

Tapescript

In our last lesson, we talked about Albert Einstein. Today, we will discuss Norbert Wiener, another extraordinary scientist. Like Einstein, he was one of those absent-minded looking people, whose exterior hid true scientific genius. Actually, it might not be correct to call him a scientist as he was interested — and talented — in so many different things. He reminds me a lot of the great men of the past; people like Aristotle and Newton who were knowledgeable in many different areas. He was very similar to the ancient Greek thinkers who were both philosophers and mathematicians.

Norbert Wiener's personality truly had many aspects. Apart from his astounding abilities in mathematics, science, philosophy and literature, he also had a strong leaning towards the fine arts.

He didn't have what we would call a 'normal' childhood. Because he needed glasses from an early age, he wasn't able to

play the usual games popular amongst young boys such as football or baseball. Also, Norbert's father believed that he destined for great things and decided to teach him at home. He did this until Norbert was seven, and then he went to school. However, this didn't last longit was difficult for Norbert to adjust the environment, so he was taken out of school and continued his education at home. His father's unusual ideas must have been effective because Norbert returned to school when he was nine, and graduated from high school at the age of ten. Most or you will graduate at the age of seventeen or eighteen! At the age of eighteen, he received his PhD from Harvard.

His work, which spanned a fifty-year period, led him into new and fascinating areas of human thought and development. And although most of you may not have heard of him, you will certainly have heard of things that his work directly influenced, such as Indeed. his computers. concept cybernetics – a term coined in 1948 – has led to a multitude of new 'cyber' terms to do with computers and electronic communication. These days, practically anything can have 'cyber' in its name if it involves computers or the internet.

Unit 21

Tapescript

One of the most famous Russian physicists is Lev Davidovich Landau. Dr Landau was born in Baku. Azerbaijan on 22nd January, 1908. His father was an engineer and his mother was a doctor. Dr Landau was a prodigy at mathematics - in fact, he was such a genius that by the age of 13 he was eligible to attend university! His parents thought he was too young to start university studies at that age and sent him to a technical school for a year. Finally, at the age of 14, he started attending Baku University. He later transferred to Leningrad University, where he received his doctoral degree at the age of 19.

After completing his education, Dr Landau carried out research for many years at prominent institutions both in the former Soviet Union and abroad. He held important positions in the Academy of Sciences of the USSR and taught at several universities. He taught or influenced many outstanding Russian scientists, such as 2003 Nobel Prize winners Vitaly Ginsburg and Alexei Abrikosov. Dr Landau was one of the founders of the Moscow Institute of Physics and Technology. Dr Landau worked with many leading Russian and international scientists and received many prestigious awards, including the 1962 Nobel Prize in Physics. The laboratory he worked in at the RAS was renamed the Landau Institute for Theoretical Physics to honour him. He was further honoured by having a crater on the Moon named after him. Dr Landau is also well known for writing a series of textbooks which are still used today.

In 1962, Dr Landau was seriously injured in a car accident. Although he miraculously survived, he was unable to work again. He died on 1st April, 1968.

Tapescript

Interviewer: Good evening, ladies and gentlemen! Tonight on Meet the Experts we have as our guest Dr Anthony Bradford, the famous historian and authority on the Nobel Prizes. Welcome to our show, Dr Bradford.

Dr Bradford: Thank you. Ms Palmer. It's my pleasure to be here.

Interviewer: Well, can you start by telling us something about the Nobel Prizes?

Dr Bradford: Of course. There are five separate prizes, one each for Physics, Chemistry, Medicine, Literature and Peace. The prizes, which include a medal, a special certificate, and a monetary prize, are awarded in memory of the late businessman, Alfred Nobel. But I think for most people, the greatest reward, shall we say, is winning the prize – it's quite an honour, you know

Interviewer: Yes, I agree. But tell me... how are the winners chosen?

Dr Bradford: Well, every year members of the five committees contact universities, institutions and organisations all over the world and ask them to nominate people who have done outstanding work in that field.

Interv iewer: I see. Then what happens? the

Bradford: Well, Dr then all nominations are considered and a vote is taken, and the winners are announced. There's a lot of excitement about it!

Interviewer: Tell me, Dr Bradford, why did Alfred Nobel decide to award prizes?

Dr Bradford: Well, you see, Alfred Nobel was himself a scientist – did you know that he discovered dynamite? Alfred and his family had become rich making different kinds of weapons and explosives. Nobel was criticised by a French newspaper for being responsible for killing so many people with his products, and he was troubled by that. So he turned over most of his money to the Nobel Prizes, to be awarded each year to the most deserving person, without regard for their nationality.

Interviewer: That's very interesting. How much money did he give towards the Prizes? **Dr Bradford:** Over four million dollars – and that was back in 1896, so you can

imagine what a generous move it was on his part.

Interviewer: Yes, quite! Can you tell us any interesting facts about the winners?

Dr Bradford: Well, since 1901, when the first prizes were awarded, there have been 776. Only 33 of them have been women. I'm sad to say. **Interviewer:** What about the ages of the winners?

Dr Bradford: Well, the youngest was Lawrence Bragg – he was just 25 when he won the 1915 Physics prize together with his father. **Interviewer:** And the oldest?

Dr Bradford: The oldest for the Physics prize was Vitaly Ginsburg, the 2003 winner, who was 87 when he received the prize.

Interviewer: Why isn't there a prize in mathematics?

Dr Bradford: That's another story. No one knows for sure, but according to gossip...

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