

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ

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БИОЛОГИЯ

Сборник текстов для чтения и заданий по английскому языку
для студентов-биологов

Практикум

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Сборник текстов для чтения и заданий по английскому языку «Биология» предназначен для студентов-бакалавров 1 курса обучения. Он состоит из шести уроков и содержит современные оригинальные материалы по темам, связанным со специальностью. Каждый урок включает активный словарь, основной текст, послетекстовые упражнения, дополнительное чтение, а также грамматические упражнения. В конце разработки имеется словарь специальных слов и выражений, встречающихся в основных и дополнительных текстах.

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Contents.

1. Unit 1. Biology. From the History of Biology.....	4
Grammar: Present Simple. Present Continuous.	
2. Unit 2. Life. Origin of Life.	10
Grammar: Past Simple. Past Continuous.	
3. Unit 3. Evolution. Evidence for Evolution.	16
Grammar: Future forms.	
4. Unit 4. Ecology. Ecosystems.	24
Grammar: Present Perfect. Present Perfect and Past Simple.	
5. Unit 5. Cell.	29
Grammar: Past Perfect. Past Perfect and Past Simple.	
6. Unit 6. Chromosomes. Genes.	34
Grammar: Passive Voice.	
7. Vocabulary.	39

Unit 1.

Biology. From the History of Biology.

1. Active vocabulary.

biology - биология	creation - создание
science - наука	species – вид, разновидность
life - жизнь	survive - выживать
living thing – живое существо, живой организм	consume – потреблять
evolution - эволюция	transform - преобразовывать
plant - растение	internal – внутренний
animal - животное	maintain - поддерживать
fungus – fungi (pl.) - гриб	stable - стабильный
microorganism - микроорганизм	vital – жизненно важный
bacterium - bacteria (pl.) - бактерии	condition - состояние
archean - archaea (pl.) – архея	branch – ветвь, отрасль
biologist – биолог	rudimentary – рудиментарный, зачаточный
react – реагировать, влиять	chemistry - химия
environment – окружающая среда	molecular - молекулярный
exist - существовать	interaction - взаимодействие
research – исследовать; исследование. изучение	molecule - молекула
field - область	botany - ботаника
govern - управлять	cellular - клеточный
recognize - признавать	building-block – структурный элемент
cell - клетка	physiology – физиология
unit – единица, часть	tissue - ткань
gene - ген	diversity – разнообразие
heredity - наследственность	ecology – экология
synthesis - синтез	interact - взаимодействовать

2. Text . Biology.

Biology is the science of life and living things, and their evolution. Living things include plants, animals, fungi (such as mushrooms), and microorganisms such as bacteria and archaea.

People who study biology are called biologists. Biology looks at how animals and other organisms behave and work, and what they are like. Biology also studies how organisms react with each other and the environment. It has existed as a science for about 200 years. Biology has many research fields. Like all sciences, biology uses the scientific method. There are certain general concepts that govern all biological

study and research. In general, biology recognizes the cell as the basic unit of life, genes as the basic unit of heredity, and evolution as the engine that propels the synthesis and creation of new species. It is also understood today that all organisms survive by consuming and transforming energy and by regulating their internal environment to maintain a stable and vital condition.

Biology has several branches. Biochemistry examines the rudimentary chemistry of life; molecular biology studies the complex interactions among biological molecules; botany studies the biology of plants; cellular biology examines the basic building-block of all life, the cell; physiology examines the physical and chemical functions of tissues, organs, and organ systems of an organism; evolutionary biology examines the processes that produced the diversity of life; and ecology examines how organisms interact in their environment.

3. Translate the following word-combinations:

a) research field, scientific method, certain general concepts, biological study, basic unit, new species, internal environment, vital condition, rudimentary chemistry, molecular biology, cellular biology, basic building-block, chemical function, evolutionary biology;

b) science of life, unit of life, unit of heredity, creation of new species, chemistry of life, biology of plants, building-block of all life, functions of tissues, diversity of life

4. Match the following English and Russian word-combinations.

- | | | |
|----------------------------------|------------------------------------|----------------|
| 1. react with each other | a. взаимодействовать | в |
| 2. exist as a science | окружающей среде | |
| 3. govern biological study | b. взаимодействовать друг с другом | |
| 4. propel the synthesis | с. выживать путем потребления | |
| 5. survive by consuming | d. поддерживать | стабильное |
| 6. maintain a stable condition | состояние | |
| 7. examine the processes | e. создавать разнообразие | |
| 8. produce the diversity | f. стимулировать синтез | |
| 9. interact in their environment | g. существовать как наука | |
| | h. управлять | биологическими |
| | исследованиям | |
| | i. изучать процессы | |

5. Fill in the blanks with the words in the box and translate them.

rudimentary vital species condition diversity cells molecule survive
--

1. All plants and animals are made up of
2. If we don't take care of our planet nobody will
3. The vitamins are ... for our health.
4. The rainforests are in a critical ... nowadays.
5. Some dinosaurs had only ... teeth.
6. A ... of water consists of two atoms of hydrogen and one atom of oxygen.
7. There's the need to preserve biological
8. Africa is rich in different animal

6. What do you call:

- a) a living thing that grows in the earth and usually has leaves and roots?
- b) the simplest and smallest forms of life?
- c) the gradual development of plants, animals, etc. over many years?
- d) the conditions that effect the behaviour and development of smb/smith?
- e) the process by which mental and physical characteristics are passed by parents to their children?
- f) a unit inside a cell which controls a particular quality in a living thing that has been passed on from its parents?
- g) a collection of cells that form the different parts of humans, animals and plants?

7. Answer the questions.

1. What is biology?
2. What are living things?
3. What does biology study?
4. How old is biology?
5. What general concepts govern all biological study and research?
6. What branches does biology have?
7. What do these branches of biology study?

8. Read the text with a dictionary and answer the questions:

1. When did the biological sciences emerge?
2. Who was the ancient work developed by in the Middle Ages?
3. What was the European Renaissance famous for?
4. When did botany and zoology become scientific disciplines?
5. Who laid the foundations of biogeography and ecology?
6. What biological science rapidly developed in the 20th century?

Text. From the History of Biology

The history of biology traces the study of the living world from ancient to modern times. The biological sciences emerged from traditions of medicine of ayurveda, ancient Egyptian medicine and the works of Aristotle and Galen in the ancient Greco-Roman world. This ancient work was further developed in the Middle Ages by Muslim physicians and scholars such as Avicenna. During the European Renaissance and early modern period, naturalists such as Linnaeus and Buffon began to classify the diversity of life and the fossil record, as well as the development and behavior of organisms. Microscopy revealed the world of microorganisms, laying the groundwork for cell theory.

Over the 18th and 19th centuries, biological sciences such as botany and zoology became scientific disciplines. Lavoisier and other scientists began to connect the animate and inanimate worlds through physics and chemistry. Naturalists such as Alexander von Humboldt investigated the interaction between organisms and their environment, and the ways this relationship depends on geography—laying the foundations for biogeography and ecology. Cell theory provided a new perspective on the fundamental basis of life. These developments, as well as the results from embryology and paleontology, were synthesized in Charles Darwin's theory of evolution by natural selection.

In the 20th century there was a rapid development of genetics.

The genetic code was cracked by Har Gobind Khorana, Robert W. Holley and Marshall Warren Nirenberg. Finally, the Human Genome Project was launched in 1990 with the aim of mapping the general human genome. The Human Genome Project was the first step in a globalized effort to incorporate accumulated knowledge of biology into a functional, molecular definition of the human body and the bodies of other organisms.

9. Mind your Grammar

Present Simple or Present Continuous?

(I do or I am doing?)

1. Choose the correct sentences.

- 1 a Frank plays football every weekend.
b Frank is playing football every weekend.
- 2 a It is raining in Prague today.
b It rains in Prague today.
- 3 a The sun is shining at the moment.
b The sun shines at the moment.
- 4 a James usually wears a shirt and tie.
b James is usually wearing a shirt and tie.
- 5 a They do their homework now.

- b They are doing their homework now.
- 6 a Charles is catching the bus to work every morning.
- b Charles catches the bus to work every morning.
- 7 a I seldom do morning exercises.
- b I am seldom doing morning exercises.

2. Put in am/is/are/don't/does/doesn't.

1. Have a cigarette.' 'No, thank you, I ... smoke.
2. Why ... you laughing at me?
3. 'What ... you do?' 'I ... a dentist.'
4. I ... want to go out. It ... raining.
5. 'Where ... you come from?' 'From Canada.'
6. How much ...it cost to send a letter to Canada?
7. I can't talk to you at the moment. I ... working .
8. George is a good tennis player but he ... play very often.
9. ... you like cats?

3. Put the verbs in brackets into the present simple or present continuous.

1. Jim usually (wake up) late on Sundays.
2. I (play) tennis at the moment.
3. Sheila (listen) to music in her free time.
4. The children (swim) now.
5. She (go) on a picnic every Sunday.
6. Bill (have) a shower right now.
7. Joe (not/watch) TV very often.
8. Excuse me, (you/speak) English?
9. George (drive) to work every morning.
10. He (walk) in the park now.
11. Listen! Somebody (sing).
12. It (snow) heavily today.
13. 'Where are you, Roy?' 'I'm in the sitting-room. I (read).
14. How often (you/read) a newspaper.

4. Correct the mistakes.

1. Dolphins are living for about fifty years.
2. She often go to the beach on Sundays.
3. They visits Paris every year.
4. This house cost \$400 per month to rent.
5. Every day Paul catch the bus at 8 am.
6. Jane have got red hair and blue eyes.
7. I don't often writes letters to my friend.

8. She are driving to the beach now.
9. John wears black trousers and a T-shirt today.
10. Every summer we goes on holiday.
11. These books isn't mine.
12. My brother doesn't speaks English.

5. Present Simple or Present Continuous?

'My name (to be) Peter. I (to live) in Boston with my family. Most people (to think) we (to be) rich because we (to live) in a big house. But our family (to be) like any other one. Have a look:

Maggy, my wife, (to like) cooking. She (to enjoy) being in the kitchen with her friends. At the moment she (to make) a cake and you can't talk to her.

What really (to worry) her is our daughter who (to prefer) to chat in front of her computer instead of cooking with her. Like many teenagers Jenny (to think) it (to be) easier to get advice from someone you (not + to go to) see later. Paul, my son, (to play) basketball in the garden and I (to watch TV), I (to wait) for this delicious cake that Maggy (to cook). I told you, a family as yours.'

Peter.

Unit 2.

Life. Origin of Life.

1. Active vocabulary.

concept - понятие	wrap - заворачивать
characteristic - характеристика	membrane - мембрана
state - состояние	form - образовывать
mode – образ действий	Universe - Вселенная
dead - мертвый	exchange – обменивать(ся)
matter - материя	undergo - подвергаться
living being – живое существо	metabolism – метаболизм, обмен веществ
ongoing – идущий, непрерывный	maintain – поддерживать, сохранять -
functional - функциональный	homeostasis - гомеостаз
birth – рождение	possess – иметь, обладать -
death - смерть	capacity - способность
lifespan - продолжительность жизни	respond (to) – реагировать отвечать
average – средний	stimulus – stimuli (pl.) - раздражитель
length – длина, продолжительность	reproduce - воспроизводить, размножаться
species – вид, разновидность, род	natural - естественный
power – энергия; давать энергию	selection – выбор, отбор
solar - солнечный	adapt (to) - приспособливаться
exist - существовать	successive - последующий
carbon - углерод	generation - поколение
compound - соединение	complex - сложный
involve - включать	communicate - общаться
chain – цепь, цепочка	various - различный
long-chain – длинно-цепной	means - средство
protein - белок	
nucleic - нуклеиновый	
acid - кислота	
essential – важный, существенный	

2. Text. Life.

Life is a biological concept regarding the characteristic, state, or mode that separates a living thing from dead matter.

The word itself may refer to a living being or ongoing processes which living things are a part of. It may also refer to the period during which something is functional (as between birth and death).

A lifespan is the average length of life in a species. All known life on Earth is powered by solar energy. Without energy from the sun no life could exist. All life on Earth is based on the chemistry of carbon compounds, involving long-chain

molecules such as proteins and nucleic acid. With water, which is essential, the long molecules are wrapped inside membranes to form cells. This may or may not be true of all possible forms of life in the Universe: it is true of all life on Earth today.

Living organisms are open systems. They are always changing, because they exchange materials and information with their environment. They undergo metabolism, maintain homeostasis, possess a capacity to grow, respond to stimuli and reproduce.

Through natural selection, they adapt to their environment in successive generations. More complex living organisms can communicate through various means.

3. Match the following English and Russian word combinations.

- | | |
|----------------------------|------------------------------|
| 1. dead matter | a. углеродные соединения |
| 2. ongoing process | b. средняя продолжительность |
| 3. average length of life | жизни |
| 4. long-chain molecules | с. солнечная энергия |
| 5. all known life | d. различные средства |
| 6. solar energy | e. последующие поколения |
| 7. carbon compounds | f. нуклеиновая кислота |
| 8. nucleic acid | g. непрерывный процесс |
| 9. possible forms | h. мертвая материя |
| 10. successive generations | i. естественный отбор |
| 11. natural selection | j. длинно-цепные молекулы |
| 12. various means | к. вся известная жизнь |
| | l. возможные формы |

4. Complete the sentences with the prepositions in the box and translate them.

inside from to (3) on by

1. The word 'life' may refer ... the period during which something is functional.

2. All known life on Earth is powered ... solar energy.

Without energy ... the sun no life could exist.

3. All life on Earth is based ... the chemistry of carbon compounds.

4. The long molecules are wrapped ... membranes to form cells.

5. All living organisms respond ... stimuli.

6. Living organisms adapt ... their environment.

5. Fill in the blanks with the words in the box and translate them.

carbon communicate lifespan Universe compound protein generations reproduce
--

1. Salt is a ... of sodium and chlorine.
2. ... is a chemical element existing in a pure state as diamond.
3. Many single cell organisms ... by splitting into two.
4. Dolphins use sound to
5. The forest will be preserved for future
6. The Big Bang Theory is a widely accepted theory on how the ... began.
7. Gluten is a ... found in wheat and other grains.
8. Worms have a ... of s few months.

7. What do you call:

2. a natural substance found in meat, eggs, fish, some vegetables, etc.?
3. the fact of smb dying?
4. the chemical process in living things that change food, etc. into energy and materials for growth?
5. the process by which the body reacts to changes in order to keep conditions inside the body, for example temperature?
6. the process by which plants, animals, etc. adapt to their environment?
7. the time when a baby is born?

7. Answer the questions.

1. What is life?
2. What may the word 'life' refer to?
3. What is a lifespan?
4. Could life exist without solar energy?
5. The chemistry of what compounds is life on Earth based on?
6. How are cells formed?
7. Is it true for all the forms of life in the Universe?
8. What systems do living organisms belong to?
9. What processes do living organisms undergo?
10. How do they adapt to the environment?
11. Can all living organisms communicate?

8. Read the text with a dictionary and answer the questions:

1. Have you ever wondered how life on Earth began?
2. How do the first and the oldest hypotheses explain the origin of life on Earth?
3. Why aren't these ideas considered scientific?

4. What does the second theory suggest?
5. What is the most common hypothesis in scientific community?
6. Does the theory have any proofs?

Text. The origin of life on Earth.

How did life begin on Earth? Though no one is ever likely to know the whole story, in fact everyone has wondered at one time or another, how life on Earth began.

There are at least three types of hypothesis which attempt to explain the origin of life on Earth. The first and oldest of these hypotheses suggest that life was created by a supreme being or spiritual force. Most cultures and religions have their own explanation of creation that are passed down from generation to generation. Because these ideas cannot be proved or disproved, they are considered outside the boundaries of science.

The second hypothesis suggests that life began in another part of the universe and arrived on Earth by chance, such as with the crash of a comet or meteor.

The third, and most common hypothesis in the scientific community, is that life began approximately 3.5 billion years ago as the result of a complex sequence of chemical reactions that took place spontaneously in Earth's atmosphere. In the 1950's two biochemists conducted an experiment which showed that certain molecules of life (amino acids) could form spontaneously when the conditions of Earth's early atmosphere were recreated in the lab. It is assumed that over time, these molecules interacted with one another eventually leading to the earliest forms of life.

9. Mind your Grammar.

Past Simple (I did)

1. Choose the correct sentence:

1. He bought new shoes.
He buyed new shoes.
2. Where you went yesterday?
Where did you go yesterday?
3. You see Jane last week?
Did you see Jane last week?
4. Did she find a new job?
Did she found a new job?
5. We didn't liked the film.
We didn't like the film.
6. I didn't go out yesterday evening.
I didn't go out last evening.
7. Last night I have dinner with my friends.
Last night I had dinner with my friens.
8. It didn't be hot yesterday.
It was not hot yesterday.

2. Make the positive verbs negative. Make the negative verbs positive:

Example.

I didn't know the answer.

I knew the answer.

1. My aunt gave me a birthday present.
2. It didn't rain yesterday morning.
3. I didn't drink the coffee, but I ate the cake.
4. She brought a bottle of wine.
5. I wasn't tired, so I didn't go to bed early.
6. He lost his passport.
7. The coat didn't cost a lot of money.
8. I didn't have a lot of money, so I didn't go shopping.

10. Past Simple and Past Continuous (I did/ I was doing)

1. Choose the correct form of the verb:

1. I saw/was seeing a very good programme on TV last night.
2. While I shopped/ was shopping, I lost/was losing my money. I don't know how.
3. Last week the police stopped/was stopping Alan in his car, because he travelled/was travelling very fast.
4. How did you cut/were you cutting your finger?
5. While I cooked/was cooking, I burnt/was burning my hand.
6. He met/was meeting his friend when he waited/was waiting for the bus at the bus stop.
7. When I came/was coming to the party. Everybody danced/ was dancing.
2. Open the brackets using either Past Simple or Past Continuous:
 1. I (not want) to get up this morning. It (rain) and it was cold, and my bed was so warm.
 2. When Rosie (skate) on the pond, she (fall) and (break) her leg.
 3. I (listen) to the news on the radio when the phone (ring).
 4. I said "Hello" to the children, but they didn't say anything, because they (watch) TV.
 5. Margaretha (meet) her future husband while she (learn) English in Cambridge.
 6. He (not drive) fast when the accident (happen).
 7. Ann still (wait) for me when I (come). She was really angry.
 8. What (you/read) when I (come)?
 9. I (take) an umbrella, because it (rain).
 10. Where (you/go) when I (see) you?

2. Past Simple or Past Continuous.

I (buy) a new alarm clock the other day in Taylor's the jewellers, when I (see) somebody shoplifting. I'd just finished paying for my clock and as I (turn) round, an elderly woman slowly (put) a silver plate into a bag that she (carry). Then she (walk) over to another part of the shop and (pick up) an expensive-looking watch a number of times. When she (think) that nobody (look), she (drop) it into the bag. Before I (have) a chance to tell the staff in the shop, she (notice) that I (watch) her and (hurry) out. Unfortunately for her, two police officers (walk) past just at that moment and she (run) straight into them.

jeweler - ювелир

see somebody shoplifting – видеть, как кто-то совершает кражу в магазине

staff - персонал

Unit 3. Evolution.

Evidence for Evolution.

1. Active vocabulary.

sense –смысл	quantitative - количественный
change – изменение, менять	formal – формальный, официальный
layer - слой	unity – единство
rock - скала, горная порода	belong (to)– принадлежать
geology - геология	admit - признавать
remains – остатки, останки	parentage - происхождение
fossil – окаменелость, ископаемое, ископаемые остатки	allied – родственный, близкий
support – поддерживать, подтверждать; подтверждение	modification - модификация, изменение, видоизменение
evidence – свидетельство доказательство	insect - насекомое
comparison - сравнение	relate – связывать иметь отношение
DNA – ДНК	share – делить, разделять
similar – схожий, похожий	master regulatory genes – главные регуляторные гены
sequence - последовательность, ряд	exoskeleton - экзоскелет
allow – разрешать, позволять	separate - отдельный
phylogenetic - филогенетический	chamber - камера
common - общий	descendant - потомок
descent - происхождение	single – один, единственный
	evolve – развивать, эволюционировать

2. Text. Part 1. Evolution.

The theory of evolution is the basis of modern biology. "Nothing in biology makes sense except in the light of evolution".

It explains how living things change over a long time, and how they have come to be the way they are.

The Earth has existed for a very long time. By doing research on the layers of rock, we can find out about its past. That kind of research is called historical geology.

We know that living things have changed over time, because we can see their remains in the rocks. These remains are called 'fossils'. So we know that the animals and plants of today are different from those of long ago. And the further we go back, the more different the fossils are. How has this come about? Evolution has taken place. That evolution has taken place is a fact, because it is supported by evidence.

Comparison of DNA sequences allows organisms to be grouped by how similar their sequences are. In 2010 an analysis compared sequences to phylogenetic trees, and supported the idea of common descent. There is now "strong quantitative support, by a formal test" for the unity of life.

3. Match the following English and Russian word combinations.

- | | |
|---------------------------------------|-------------------------------------|
| 1. make sense | a. количественное подтверждение |
| 2. by doing research | b. общее происхождение |
| 3. the further ... the more different | c. официальный тест |
| 4. take place | d. происходить |
| 5. compare sequences | e. иметь смысл |
| 6. common descent | f. путем исследования |
| 7. quantitative support | g. сравнивать последовательности |
| 8. formal test | h. чем дальше ... тем отличное (от) |

4. Complete the sentences with the prepositions in the box and translate them.

by on over to from for

1. Living things change ... time.
2. The Earth has existed ... a very long time.
3. Scientists do research ... the layers of rock.
4. The animals and plants of today are different ... those of long ago.
5. Evolution is supported ... evidence.
6. An analysis compared sequences ... phylogenetic tree.

5. What do you call:

1. the scientific study of the earth including the origin and the history of the rocks?
2. the parts of smth that are left after the other parts have been used, eaten, etc.?
3. the remains of an animal or a plant which have turned into rock?
4. the facts or objects that make you believe that smth is true?
5. deoxyribonucleic acid?

6. Answer the questions.

1. What theory is the basis of modern biology? Why?
2. What does the theory of evolution explain?
3. What is the subject of historical biology?
4. What are fossils?
5. How do fossils support the theory of evolution?
6. What analyses proved the idea of the unity of life?

7. Part 2. Common descent.

When biologists look at living things, they see that animals and plants belong to groups which have something in common. Charles Darwin explained that this followed naturally if "we admit the common parentage of allied forms, together with their modification through variation and natural selection".

For example, all insects are related. They share a basic body plan, whose development is controlled by master regulatory genes. They have six legs; they have hard parts on the outside of the body (an exoskeleton); they have eyes formed of many separate chambers, and so on. Biologists explain this with evolution. All insects are the descendants of a group of animals who lived a long time ago. They still keep the basic plan (six legs and so on) but the details change. They look different now because they changed in different ways: this is evolution.

It was Darwin who first suggested that all life on Earth had a single origin, and from that beginning "endless forms most beautiful and most wonderful have been, and are being, evolved". Evidence from molecular biology in recent years has supported the idea that all life is related by common descent.

8. Match the following English and Russian word combinations.

- | | |
|----------------------------|------------------------------|
| 1. common parentage | a. жесткие части |
| 2. allied forms | b. естественный отбор |
| 3. natural selection | c. основная схема строения |
| 4. basic body plan | тела |
| 5. master regulatory genes | d. последние годы |
| 6. hard parts | e. общее происхождение (2) |
| 7. single origin | f. главные регуляторные гены |
| 8. endless forms | g. бесконечные формы |
| 9. recent years | h. единое происхождение |
| 10. common descent | i. родственные формы |

9. Complete the sentences with the prepositions in the box and translate them.

with(2) to by of in(3) from

1. Biologists see that animals and plants belong ... groups which have something ... common.

2. We admit the common parentage of allied forms, together ... their modification.

3. Insects have eyes formed ... many separate chambers.

4. Biologists explain this ... evolution.

5. They changed ... different ways.

6. Evidence ... molecular biology ... recent years has supported the idea that all life is related ... common descent.

10. Answer the questions.

1. How did Charles Darwin explain the fact that all living things belong to groups which have something in common?
2. How are all insects related?
3. Why do they look different?
4. Who was the first to suggest a single origin of life on Earth?
5. How is this idea supported nowadays?

11. Read the text with a dictionary and answer the questions:

1. What important discovery about fossils was made in the 16th and 17th centuries?
2. What did Georges Cuvier prove?
3. What is the most convincing evidence for the occurrence of the evolution?

Text. Evidence for evolution.

Fossils show that change has occurred. The realization that some rocks contain fossils was a landmark in natural history.

Things in rocks which looked organic actually were the altered remains of living things. This was settled in the 16th and 17th centuries by Conrad Gessner, Nicolaus Steno, Robert Hooke and others.

Many fossils represented species which do not exist today. It was Georges Cuvier, the comparative anatomist, who proved that extinction occurred, and that different strata contained different fossils.

Early fossils were simpler organisms than later fossils.

The most convincing evidence for the occurrence of evolution is the discovery of extinct organisms in older geological strata. The older the strata are the more different the fossil will be from living representatives.

13. Read the text without a dictionary and agree or disagree with the following:

1. The ancestors of modern horses were small animals who lived in the open plain.
2. They ate grass with the teeth which grew all their life.
3. The evolution of the horse family started with the changes of the climate.
4. Modern horses are different from their ancestors.
5. There are a lot of modern horse types nowadays.

Text. Evolution of horses.

The ancestors of our horses lived in forests. The evolution of the horse family (Equidae) is a good example of the way that evolution works. The oldest fossil of a horse is about 52 million years old. It was a small animal with five toes on the front feet and four on the hind feet. At that time, there were more forests in the world than today. This horse lived in woodland, eating leaves, nuts and fruit with its simple teeth. It was only about as big as a fox.

About 30 million years ago the world started to become cooler and drier. Forests shrank; grassland expanded, and horses changed. They ate grass, they grew larger, and they ran faster because they had to escape faster predators. Because grass wears teeth out, horses with longer-lasting teeth had an advantage.

For most of this long period of time, there were a number of horse types (genera). Now, however, only one genus exists: the modern horse, *Equus*. It has teeth which grow all its life, hooves on single toes, great long legs for running, and the animal is big and strong enough to survive in the open plain.

So, scientists can see that changes have happened. They have happened slowly over a long time. How these changes have come about is explained by the theory of evolution.

Notes:

ancestor - предок

toe –палец на ноге

shrink (shrank, shrunk) – сокращать(ся)

escape – бежать, спастись

predator – хищник

14. Mind your Grammar

Future Forms

1. Present Tenses (I am doing/I do) for the future.

1. Choose the present continuous or present simple. All the sentences are future.

1. I see/am seeing Roger at 7 o'clock tonight.
2. Are you doing/Do you do anything on Friday evening?
3. 'I go/am going to the cinema. There's a good film on. Do you want to come with me?'
'What time is the film starting/does the film start?'
4. 'Helen is having/has a party tomorrow. Are you going/Do you go?'
5. The new exhibition opens/is opening on April 3rd and finishes/is finishing on May 31st.
6. My aunt comes/is coming to visit us next Sunday.
7. 'Excuse me, what time does the train leave/is the train leaving?'
'At half past three, madam.'

2. Use the present continuous or present simple. All the sentences are future.

1. I (go) to the cinema this evening.
2. (the film/begin) at 3.30 or 4.30?
3. We (have) a party next Sunday. Would you like to come?
4. I (not/go) out this evening. I (stay) at home.
5. '(you/do) anything tomorrow morning?' 'No, I'm free. Why?'
6. We (go) to a concert tonight. It (start) at 7.30.
7. I (leave) now. I've come to say good-bye.
8. The English course (finish) on 10 May.
9. Helen, I (go) to the supermarket. (you/come) with me?
10. I'm bored with this programme. What time (it/end)?

2. Future Simple (I will do)

1. Complete the sentences with I'll + a suitable verb.

1. I feel hungry. I think ... something to eat.
2. Bill is 24 years old. He ... 25 next year.
3. 'What would you like to drink?' 'I... a lemonade, please.'
4. It's raining. I don't think I ... out.
5. I'm sure he ... an artist one day.
6. I'm too tired to walk home. I think I ... a taxi.
7. 'I don't know how to use a computer.' 'OK, I ... you.'

2. Choose the present continuous or future simple. All the sentences are future.

1. We'll go/We are going to the theatre tonight. We've got the tickets.
2. 'What will you do/are you doing tomorrow evening?' 'Nothing. I'm free.'
3. She can't meet us on Saturday. She'll work/She is working.
4. I'll go/I'm going away tomorrow morning. My train is at 8.30.
5. I'm sure he's lending/he'll lend you some money. He's very rich.
6. 'Why are you putting on your coat?' 'I'll go out/I'm going out.'

3. Future Simple or Be Going to?

(I will do or I am going to do?)

Fill in with will or the correct form of be going to.

1. 'I need to go to the dentist.'
'Okay. I ... drive you there.'
2. 'Your shirt is dirty.'
'I know. I ... to wash it later.'

3. 'I don't understand this exercise!'
'Don't worry I ... help you.'
4. 'It's hot in here.'
'I ... open the window.'
5. 'What are you doing next weekend?'
'I ... to visit my parents.'
6. 'I can't do this puzzle.'
'I ... show you how to do it.'
7. 'I'm not feeling well.'
'I ... take you to the doctor.'
8. 'Why is she wearing these clothes?'
'She ... have dinner with Paul.'
9. 'What are Tom's plans for the summer?'
'He ... work at a restaurant to earn some money.'
10. 'There's something wrong with the car.'
'I ... call a mechanic.'

4. Study and practice the dialogues.

1. Mrs Jones is visiting Mrs Smith at home.
Mrs Smith: It's nice to see you, Mrs Jones. Will you take a seat while I fetch the tea-tray?
Mrs Jones: Thank you. What a lovely room!
Mrs Smith: First of all, Mrs Jones, will you have a piece of chocolate cake?
Mrs Jones: That's a wonderful idea. I won't refuse today but I will go on a diet next week.
2. Paul: What are you doing this afternoon, Joanne? Are you going to a conference?
Joanne: No, I'm not. But Vince is going. I'm going shopping. What about you?
Paul: I don't know, Diana's in Cambridge. She's seeing some people about a film.
Joanne: Oh. How long is she staying there?
Paul: Just for the day. She is coming back this afternoon.
3. Andy: Hi, Sue. Where are you going?
Sue: To Gatwick airport. We are meeting a girl from Grenada.
Andy: Grenada? Where's that?
Sue: It's an island in the Caribbean.
Andy: Who's the girl?

Sue: Her name is Natalie. She is going to live with us and go to our school.

Andy: How long is she staying?

Sue: For three months.

Mrs Willson: Come and get your jacket, Sue. We're leaving in five minutes.

Andy: Poor kid! Three months at Castle Hill School. I hope she's tough!

4.

Tom: What are you going to do this weekend, Paul?

Paul: I'm going to see that new play at the Majestic Theater tomorrow evening.

Tom: With Jackie?

Paul: Oh, no! Anna's going to come with me.

Tom: Anna? Who's Anna?

Paul: A television reporter from Puerto Rico. On Saturday we're going to have lunch together.

Tom: But Paul! What about your girlfriend Jackie?

Paul: Jackie isn't my girlfriend anymore. Anna is.

Unit 4. Ecology. Ecosystems.

1. Active vocabulary.

ecology-	экология
distribution-	распространение
abundance-	численность
interaction-	взаимодействие
environment-	среда, окружающая среда
habitat-	ареал, среда обитания
abiotic-	абиотический, небиологический
species-	вид
behavior-	поведение
ecosystem-	экосистема
niche-	ниша
rodent-	грызун
compete-	конкурировать, соревноваться
resources-	ресурсы
impact-	воздействие
pollution-	загрязнение
balance-	равновесие, баланс
crowd out-	вытеснять

2. Text . Ecology. Ecosystems.

Ecology studies the distribution and abundance of living organisms and the interactions between organisms and their environment. The environment of an organism includes both the local abiotic factors such as solar insolation, climate and geology, as well as the other organisms that share the habitat. In an ecosystem the plants, animals and other organisms depend on each other. For any given species, behavior can be cooperative, aggressive, parasitic or symbiotic. Matters become more complex when two or more different species interact in an ecosystem.

Each species in an ecosystem has its own role to play. This role is called a niche. The niche for one species might be to climb trees and eat their fruit, while the niche for another species might be to hunt for small rodents. If the niche of two species is very similar, they might compete for food or other resources.

Sometimes ecosystems get out of balance. If, for example, it rains a lot and some species that thrive with extra water increase in numbers, other species in the ecosystem might be crowded out. Sometimes an ecosystem naturally gets back into balance, sometimes not. Today, human actions are having an impact on ecosystems all over the world. Making building and roads, fishing and farming all have an impact on ecosystems. Pollution on land, air and water pollution is sending many ecosystems out of balance.

3. Match the following English and Russian word combinations:

living organisms	деятельность человека
solar insolation	местный фактор
symbiotic relationships	агрессивное поведение
aggressive behaviour	живые организмы
human actions	солнечное излучение
local factor	схожие виды
similar species	загрязнение воды
water pollution	взаимовыгодные отношения

4. Insert the missing prepositions:

1. Ecology studies the distribution and abundance the living organisms.
2. Human actions are having an impact ecosystems all over the world.
3. Similar species living in the same place might compete ... food and other resources.
4. Sometimes ecosystems get balance.
5. Some species hunt ... rodents.
6. In an ecosystem plants and animals depend ... each other.
7. Some species might take space or other resources ... other species.

5. Fill in the blanks with a suitable word from the list and translate the sentences:

symbiotic, habitat, impact, interaction, environment, distribution, pollution, resources

1. The disposal of harmful substances pollute the
2. There is close ... between vegetable and animal worlds.
3. Human activities can have a large and often destroying ... on water
4. The ... of the spotted turtle has greatly diminished.
5. The greenhouse effect is the result of the ... of the environment.
6. A ... relationship is one in which organisms or people exist together in a way that benefits them all.
7. Changes in this area have affected the of its wildlife.

6. What do you call:

1. the natural home or environment of an animal, plant or other organism?
2. the smallest unit used in the classification of living organisms?
3. damage of the environment by the emission of dirty, toxic, radioactive or pathogenic substances?
4. the way in which one acts, especially towards others?
5. a mutual action or influence?

6. the quantity of something present in a particular area?
7. a role taken by a type of organism within its community?

7. Answer the questions:

1. What does ecology study?
 2. What is the environment of an organism?
 3. What abiotic factors does the environment of an organism include?
 4. What are the relationships among the organisms in an ecosystem?
 5. What is a niche?
 6. What happens if the niche of several species is very similar?
 7. In which case might one of the species be crowded out of an ecosystem?
 8. Can an ecosystem naturally get back into balance?
 9. What is the impact of human actions on ecosystems?
7. Read the text with the dictionary and answer the questions:

7. Text. History of Ecology.

Ecological thinking has developed gradually. One of the first ecologists whose writings survive may have been Aristotle or his student Theophrastus, both of whom had interest in many species of animals and plants. Theophrastus described relationships between animals and their environment in the 4th century BC.

Ecology developed substantially in the 18th and 19th centuries. It began with Carl Linnaeus and his work with the economy of nature. Soon after came Alexander von Humboldt and his work with botanical geography. The term “ecology”, which has its root in the Greek word oikos (living place), also came into use in the 19th century in the works of zoologists and botanists. Charles Darwin's work led to the founding of ecology as a discipline.

Ecological thought expanded even more in the 20th century. Major contributions included Eduard Suess' and Vladimir Vernadsky's work with the biosphere, Arthur Tansley's ecosystem and Charles Elton's Animal Ecology. Human ecology also began in the 20th century and it recognized humans as an ecological factor.

1. Who may have been the first ecologists?
2. When did the term “ecology” come into use?
3. Whose works contributed to the development of the science of ecology?
4. When did human ecology begin?

8. Mind your Grammar.
Present Perfect and Past Simple
(I have done / I did)

1. Open the brackets, using either Present Perfect or Past Simple:

1. Jennifer (be) in New York last week.
2. Jennifer already (be) to New York.
3. Maria (start) to study English six months ago.
4. The mail (not come) yesterday.
5. (You/ever be) to Spain?
6. What time (you/go) to bed yesterday?
7. When I was a child, I (not like) sport.
8. John works in a bookshop. He (work) there for three years.
9. Last year we (go) to Finland for a holiday. We (stay) there for three weeks.
10. I (play) tennis yesterday afternoon.
11. My hands are clean. I (wash) them.

2. Choose the correct sentence:

1. What did you do last night?
What have you done last night?
2. He went to Greece two years ago.
He has gone to Greece two years ago.
3. I study English for two years.
I have studied English for two years.
4. We have known Helen since two years.
We have known Helen for two years.
5. I bought a new dress yesterday.
I have bought a new dress yesterday.
6. They not have lived here for a long time.
They have not lived here for a long time.
7. I didn't do my homework yet.
I haven't done my homework yet.

3. Read the text, choose the correct verb forms and give short answers to the questions:

Monica Smith

Monica Smith is a tennis player. She already won/ has won many tournaments . She started/ has started playing tennis with her father when she was three years old. Two years ago she went/ has gone to America to a famous tennis school in California. Monica and her father travelled/ have travelled to many

countries. Last month they went/ have gone to a tournament in Australia. Monica played/ has played well, but she didn't win/ hasn't won. She didn't play/ hasn't played at Wimbledon yet, but she hopes to do so next year.

1. Did Monica start playing tennis when she was three?
2. Did she go to America when she was three?
3. Have Monica and her father travelled a lot?
4. Have they ever been to Australia?
5. Did they go to Australia last month?
6. Did she win the competition?
7. Has she won Wimbledon yet?

Unit 5. Cell.

1. Active vocabulary:

cell -	клетка	membrane -	мембрана
unit -	элемент, единица	surround -	окружать
prokaryote -	прокариот, доядерный организм	protest -	протист, одноклеточный организм
eukaryote -	эукариот, эукариотный организм	fungi -	грибы,
nucleus -	ядро	плесень	
bacteria -	бактерия	domain -	домен
disease-	болезнь	oxygen -	кислород
reproduce -	воспроизводить, репродуцировать	digest -	переваривать
unicellular -	одноклеточный	(пищу)	
multicellular -	многоклеточный	bone -	кость
divide -	делить(ся)	split -	делить(ся) на части
division -	деление	duplicate -	удваивать
organelle -	органелла	chromosome -	хромосома
		store -	накапливать,
		хранить	

2. Text . Cell

The Cell Theory states that all living things are made of cells, which are the basic units of life, and that all cells come from other cells through cell division.

There are two basic kinds of cells: prokaryotic cells and eukaryotic cells. Prokaryotes are simple cells that have no cell nucleus. The only kinds of prokaryotic organisms alive at present are bacteria and archaea.

Eukaryotes are complex cells. They have a nucleus and organelles, that are surrounded by membranes. Each organelle does a specific function. Eukaryotic cells are larger than prokaryotes: they can be as much as 1000 times larger in volume. Eukaryotes store their genetic information (DNA) on chromosomes in the cell nucleus. All species in the Eukaryota domain (protists, fungi, plants and animals) have eukaryotic cells. Unicellular organisms have only one cell. Multicellular organisms are made of many cells. All plants and animals are multicellular organisms. The cells of a multicellular organism are not all the same. They have different shapes and sizes and do different work in the organism. Complex organisms like humans have special cells for carrying oxygen around the body, digesting food or making bones.

An animal, plant or other multicellular organism needs to make more cells in order to grow larger. One cell divides into two during growth. Unicellular organisms, like protists, often reproduce by splitting their one cell into two or more.

When two cells are made out of one during cell division, the genetic material must be duplicated so that there is the same number of chromosomes in the two cells split from one.

3. Translate the following word combinations into Russian:

Eukaryotic cell, complex cell, specific function, genetic material, unicellular organism, cell division, cell theory, different shapes and sizes, the same number.

4. Arrange the following words in the pairs of synonyms:

volume	illness
shape	split
basic	particular
function	big
kind	keep
divide	double
store	work
duplicate	type
large	fundamental
specific	unicellular
single-celled	form
disease	size

6. Arrange the following words in the pairs of antonyms:

simple	different
unicellular	unite
alive	few
large	dead
the same	multicellular
divide	small
many	complex

7. Insert the missing prepositions:

1. There are two basic kinds ... cells.
2. They have a nucleus and organelles, that are surrounded ... membranes.
3. All living things are made ... cells.
4. Complex organisms have special cells ... carrying oxygen around the body.
5. One cell divides ... two during growth.
6. Eukaryotic cells are large ... volume.

8. What do you call:

1. a microscopic single-celled organism, that has no nucleus?
2. a structure within a cell that is specialized for a particular function?
3. the smallest structural unit of an organism?
4. a rounded structure in the center of eukaryotic cells?
5. an organism consisting of many cells?
6. a structure in a cell nucleus carrying genetic information in the form of genes?

9. Agree or disagree:

1. All living things are made of cells.
2. Prokaryotes are complex cells, which have a nucleus and organelles.
3. Each organelle does a specific function.
4. Eukaryotic cells are larger than prokaryotes.
5. One cell divides into two during growth.
6. Multicellular organisms are made of many cells.
7. The cells of a multicellular organism are of the same shape and size.
8. Bacteria and archaea are mulyicellular organisms.

10. Answer the questions:

1. What are all living things made of?
 2. What do all cells come from?
 3. What are the basic kinds of cells?
 4. What cells do we call prokaryotes?
 5. What living things belong to this kind of organisms?
 6. What is the structure of eukaryotic cells?
 7. Where do eukariotes store their genetic information?
 8. What cells are plants and animals made of?
 9. What is the difference between unicellular and multicellular organisms?
 10. What happens to the genetic material during cell division?
10. Read the text without a dictionary and answer the questions:
1. Who were cells discovered by?
 2. How were they discovered?
 3. Why were they named after Latin word cella?
 4. Whose works contributed to the development of the cell theory?
 5. What are its main ideas?

11. Text. Cell history.

Cells were discovered by Robert Hooke (1635-1703). He used a compound microscope with two lenses to look at the structure of cork, and to look at leaves and

some insects. He did this from about 1660, and reported it in his book *Micrographica* in 1665. He named cells after Latin word *cella*, meaning room. He did this because he thought cells looked like small rooms.

Many other naturalists and philosophers tried out the new instrument. The structure of plants was investigated by Nehemiah Grew (1641-1712). His major work was *The anatomy of plants* (1682).

Lorenz Oken (1779-1851) in 1805 wrote that microscopic forms were the basis of all life. The idea that cells were the basis of the larger forms of life came in the 18th century, Theodor Schwann (1810-1882) and Matthias Schleiden (1804-1881) got the credit for the cell theory.

The cell theory includes these important ideas:

1. All living things are made of cells.
2. The cell is the basis unit of structure and function in all organisms.
3. Every cell comes from another cell that lived before it.
4. The nucleus is the core of the cell.

The discoveries about microorganisms are still going on today.

Notes:

compound- сложный, составной
cork- кора пробкового дерева
insect- насекомое
core- центр, ядро
investigate- исследовать

12.Mind your Grammar.

Past Perfect and Past Simple

(I had done/ I did)

1. Combine the sentences, using the conjunction in brackets. Change one verb form into Past Perfect.

Example:

I had a bath. I went to bed. (after)

After I had had a bath, I went to bed.

1. I read the letter. I put it on the table. (after)
2. He passed his driving test. He bought a car. (as soon as)
3. I took the book back to the library. I finished reading it. (when)
4. Her children went for a walk. She started writing. (after)
5. I spent all my money. I went home (when)
6. I read the book. I saw the film. (before)
7. I came home. Mother cooked my dinner.(before)
8. We came to the stadium. The football match started. (when)
9. She studied English well. She went to London.(after)
10. He paid the bill. He left the hotel. (as soon as).

2. Make sentences from the chart:

I was hungry I was tired I was sad My mother was worried My leg hurt My father was angry I was nervous I was pleased I was late for the train	because I	had hadn't	fallen over playing tennis. slept badly. crashed his car. passed my driving test. phoned her for a long time. forgotten to call the taxi found a new job eaten all day. flown in a plane before.
---	-----------	---------------------------------------	--

3. Open the brackets using either Past Simple or Past Perfect:

1. When I (arrive) at Jane's house, she already (make) a cake.
2. I (thank) her for everything she(do) for me.
3. When they (finish) their work, they (go) home.
4. I (call) you at 8 o'clock, but you just (go) out.
5. After I (listen) to the news, I (go) to bed.
6. He (die) after he (be) ill for a long time.
7. When we got to the theatre, the play already (start).
8. I (get) out of bed an hour later I (wake) up.
9. That morning she (go) out after she (phone) somebody.
10. I (not be) hungry, because I just (have) breakfast.

Unit 6.

Chromosomes. Genes.

1. Active vocabulary.

trait-	характерный признак, черта, особенность
determine-	определять
chromosome-	хромосома
identical-	идентичный, точно такой же
condition-	состояние
human-	человек, человеческий
DNA-	ДНК
gene-	ген
heredity-	наследственность
vary-	менять(ся)
inherit-	наследовать
generation-	поколение
dominant-	доминантный
allele-	аллель, аллеломорф
monosomy-	моносомия

2. Text. Chromosomes. Genes.

Some characteristics, or traits, of living organisms result from interactions with the environment, others are determined from the genetic material in the chromosomes.

Since their discovery in 1882 by the German embryologist Walter Fleming, chromosomes have been found in the cells of all eukaryotes examined. Chromosomes are located within each cell nucleus. Their number may vary from one species to another. A few kinds of organisms- such as the Australian ant *Myrmecia*- have only 1 pair of chromosomes, while some ferns have more than 500 pairs. Most eukaryotes have between 10 and 50 chromosomes in their body cells. Human cells have 46 chromosomes, consisting of 23 nearly identical pairs. Possession of all the chromosomes is vital to survival. Humans missing even one chromosome, a condition called monosomy, do not survive embryonic development in most cases.

Each chromosome contains a very complex molecule called DNA. The DNA molecule contains genes, which are the primary units of heredity. Heredity is the passage of DNA from the chromosomes of one generation to the chromosomes of the next. Chromosomes in the organism are in pairs, so one chromosome of each pair came from the mother and one from the father. There are many genes within each chromosome. Different genes determine different traits. For each gene there can be varieties. For example, one variety might tell the body that the eyes should be blue, while another variety tells that the eyes should be brown. The dominant gene determines the actual colour of the person's eyes. Each variety is called an allele.

Each animal or plant has two alleles of each gene: one allele is inherited from its mother and the other is inherited from its father.

3. Match the following English and Russian word combinations:

embryonic development	клетка человека
human cell	доминантный ген
cell nucleus	эмбриональное развитие
body cell	идентичная пара
identical pair	соматическая клетка
dominant gene	базовый элемент
primary unit	сложная молекула
complex molecule	ядро клетки

4. Arrange the following words in the pairs of synonyms:

contain	receive
vital	trait
characteristic	fundamental
identical	include
inherit	similar
primary	important

5. Insert the prepositions:

1. Some traits of living organisms result ... interactionthe environment.
2. The number of chromosomes may vary ... one species ... another.
3. Human cells consist ... 23 identical pairs ... chromosomes.
4. There are many genes ... each chromosome.
5. Each animal or plant has two alleles ... each gene.
6. One allele is inherited ... the mother and the other is inherited ... the father.
6. Fill in the blanks with a suitable word from the list and translate the

sentences:

genetic, condition, inherited, cell, humans, determine

1. Chromosomes ... the sex of the embryo.
2. The nucleus of each human somatic ... contains 46 chromosomes.
3. Mutation is a change in the ... material.
4. She this disease genetically from one of her parents.
5. Anatomy is the study of the body structure of ... , animals and other living organisms.
6. The baby was in good ... at birth.

7. Answer the questions:

1. What do the traits of living organisms result from?
2. When were chromosomes discovered?
3. Who were they discovered by?
4. Where are chromosomes located?
5. Do all the species have the same number of chromosomes?
6. How many chromosomes do human cells have?
7. What can happen if a living organism doesn't have all the chromosomes?
8. What complex molecule does each chromosome contain?
9. What is a gene?
10. What is heredity?
11. How is each variety of a gene called?
12. How are alleles inherited by a living organism from the parents?

7. Read the text with the dictionary and answer the questions:

The Gene Pool.

There can be many different forms of a gene. All of the versions of the genes in a population of a species are called the gene pool.

The gene pool doesn't always stay the same. Over generations, small changes in each type of gene can happen for a number of reasons.

Gene mutation: An error during cell division can create a new type of gene. That new gene is a small part of the gene pool. It can be passed on to the next generation. If the new gene is useful, it might become a part of the gene pool.

Gene flow: If new individuals of the species move into or out of the region, it can affect the gene pool. For example, the only people in North America were once Native Americans. Immigration from other parts of the world over the last several hundred years has changed the pool a lot.

Genetic drift: The amount of each gene in a gene pool can change over time because of chance events. For example, plants that get to islands as seeds stuck to the feet of birds or in their stomachs may not be typical of their species, but become the gene pool on the island.

Natural selection: Some genetic differences may improve the chance of survival of individuals that have them. For example, hawks with large sharp talons may be more likely to survive than hawks with small talons. Since the surviving ones make the next generations, the genes for large talons are more likely to be passed on.

1. What is the gene pool?
2. What are the reasons for changes in the gene pool?

9. Mind your Grammar.

Passive Voice

(be +done; be+being done; have been done)

1. Open the brackets using either Present or Past Simple Passive:

Example.

(speak) Spanish is spoken in Peru.

(make) My television was made in Japan.

1. (make) Cars ... in Detroit, Michigan.
2. (grow) Oranges ... in Florida and California.
3. (hit) The woman ... by a car when she was crossing the street.
4. (close) The bank ... when we got there.
5. (produce) Wine ... in Italy.
6. (discover) America ... by Columbus in 1492.
7. (sell) Coca Cola ... all over the world.
8. (make) The best cameras ... in Japan.
- 9.(build) My house ... in 1910.
10. (sell) Bread ... in the supermarket.
- 11.(steal) Two pictures ... from the museum last night.
12. (write) Hamlet ... by Shakespeare.
13. (make) Butter... from milk.
14. (invent) The telephone ... by Alexander Graham Bell.

2. Ask questions about the information in italics:

1. Stradivari's best instruments were made in 1720.
2. Twenty people were hurt in the train crash.
3. Champagne is produced in France.
4. In America school teachers are paid \$ 15,000 a year.
5. The things are being packed in the room.
6. The jumper has been washed twice.
7. President Kennedy was killed in Dallas.
8. Rolls-Royce cars are made in Britain.
9. English is spoken all over the world.
10. The bridge is being built.

3. Transform the sentences from Active into Passive:

1. They are painting our kitchen..
2. Thousands of people visit this gallery every year.
3. They parked the car here.
4. The workers did everything in time.

5. The factory will produce 10,000 cars next year.
6. They cleaned the room yesterday.
7. They are cleaning the room now.
8. They have already cleaned the room.
8. Mr Green will translate the article.
9. They haven't typed the documents yet.
10. They grow rice in China.

4. Read the text and choose the correct verb forms:

Nylon

Nylon is invented/was invented in the early 1930s by an American chemist, Julian Hill, and on 27 October 1938 it was being introduced /was introduced to the world. It was cheap and strong. During the Second World War, the best present for many women was a pair of nylon stockings, but more importantly it was used/has been used to make parachutes.

Today, nylon can is found/be found in many things: carpets, clothes, computers, furniture. It has been used/was used by generations for over 50 years! Next year about 36 million tons of it are produced/will be produced.

Vocabulary

A

accumulate – накапливать
acid - кислота
activity-деятельность
adapt (to) - приспособливаться
admit - признавать
affect-влиять, воздействовать
aggressive-агрессивный
aim - цель
alive-живой
allied – родственный, близкий
allow – разрешать, позволять
altered - измененный
amount-количество, величина
ancient - древний
animal - животное
animate - живой
ant-муравей
approximately - приблизительно
archean - archaea (pl.) – архея
area-пространство, область, площадь
arrive – приходить, прибывать
assume - предполагать
atmosphere - атмосфера
average – средний

B

bacterium - bacteria (pl.) - бактерии
basic - основной
behave – вести (себя)
behaviour - поведение
belong (to)– принадлежать
benefit-приносить , извлекать пользу
biologist – биолог
biology - биология
birth – рождение
body – тело
botany - ботаника
boundary - граница
branch – ветвь, отрасль
building-block – структурный элемент

C

capacity - способность
carbon - углерод

cell - клетка
cellular - клеточный
certain - определенный
chain – цепь, цепочка
chamber - камера
chance event-случайное событие
change – изменение, менять
characteristic - характеристика
chemistry - химия
classify - классифицировать
climate-климат
climb- взбираться, подниматься
code - код
comet - комета
common - общий
communicate - общаться
community-экосистема; сообщество
comparison - сравнение
compel - принуждать
complex-сложный, составной
compound - соединение
concept – концепция, понятие
condition - состояние
condition – состояние, условие
conduct – проводить, вести
consist (of)-состоять (из)
consume – потреблять
contain-содержать в себе
contribute-вносить вклад, способствовать
contribution-вклад, ценное достижение
convincing - убедительный
cooperative-взаимодействующий,
cork-кора пробкового дерева
crack - раскалывать
crash - крушение
create – создавать, творить
creation – создание

D

damage-вред, ущерб
dead - мертвый
death - смерть
definition – определение
deliver-доставлять
depend (on) – зависеть (от)

descendant - потомок
descent - происхождение
describe-описывать
destroy-разрушать
detail – деталь, подробность
development - развитие
develop-развивать, выявлять, совершенствовать,
die - умирать
different – другой, различный, отличный (от)
diminish-уменьшаться, сокращаться
dirty-грязный
discipline - дисциплина
discover-открывать, обнаруживать
disposal-сброс (отходов)
disprove - опровергать
diversity – разнообразие
division-деление
DNA – ДНК
domain-домен, область
E
ecology – экология
effort - усилие
embryology - эмбриология
embryo-зародыш, эмбрион
emerge – возникать, появляться
emission-выброс
endless - бесконечный
environment – окружающая среда
error-ошибка
essential – важный, существенный
eventually – в конечном счете, в конце концов
evidence – свидетельство доказательство
evolution - эволюция
evolve – развиваться(ся), эволюционировать
examine – исследовать, изучать
exchange – обменивать(ся)
exist - существовать
exoskeleton - экзоскелет
expand-расширять(ся), увеличивать(ся)
experiment - эксперимент
explanation - объяснение
extinct - вымерший
extinction - вымирание
eye – глаз

F

feet - ноги

fern-папоротник

field - область

force - сила

form - образовывать

formal – формальный, официальный

fossil – окаменелость, ископаемое, ископаемые остатки

found- основывать

foundation - основа

front - передний

fruit - фрукты

functional - функциональный

function-функция, деятельность

fungus – fungi (pl.) - гриб

further – дальше

G

gene - ген

gene drift-генетический дрейф

gene flow-перенос, миграция генов

gene pool-генофонд

generation - поколение

genetic - генетический

genome - геном

genus – род, вид

geology - геология

get the credit- заслужить доверие

globalized – применяемый в глобальном масштабе

gluten – глютен, клейковина

govern - управлять

gradual - постепенный

gradually-постепенно

greenhouse effect-парниковый эффект

groundwork – основополагающая работа

group – группа, группировать

grow – расти

growth – рост

H

happen – случаться

hard - жесткий

harmful-вредный, опасный

hawk-ястреб, сокол

heredity - наследственность

hind - задний

homeostasis - гомеостаз
human – человек; человеческий
hunt-охотиться
hydrogen - водород
hypothesis (hypotheses pl.) – гипотеза, предположение

I

illness- заболевание, недомогание
improve-улучшать(ся), совершенствовать(ся)
include - включать
include-включать в себе
incorporate - включать
increase-расти, увеличивать(ся)
individual-отдельная особь
influence-влияние
insect - насекомое
interact – взаимодействовать, влиять
interaction – взаимодействие, влияние
internal – внутренний
investigate – исследовать, изучать
involve – включать
island- остров

K

keep – хранить, сохранять
knowledge – знание

L

launch - запускать
lay (laid, laid) - класть
layer - слой
lead (to)-приводить (к)
leaf - лист
leg - нога
length – длина, продолжительность
lense-линза
life - жизнь
lifespan - продолжительность жизни
living being – живое существо
living organism-живой организм
living thing – живое существо, живой организм
locate- размещать, располагать
long-chain – длинно-цепной
long-lasting – прочный

M

maintain – поддерживать, сохранять -
makes sense – иметь смысл

map – картографировать, наносить на карту
master regulatory genes – главные регуляторные гены
matter – материя, дело
mean-означать
means - средство
membrane - мембрана
mental – умственный, психический
metabolism – метаболизм, обмен веществ
meteor - метеор
microorganism - микроорганизм
missing-недостающий, отсутствующий
miss-недоставать
mode – образ действий
modification - модификация, изменение, видоизменение
molecular - молекулярный
molecule - молекула
mutation-мутация
mutual-взаимный

N

natural - естественный
natural selection-естественный отбор
nucleic - нуклеиновый
number-число, количество
nut – орех

O

occur – случаться, происходить
occurrence – случай, происшествие
ongoing – идущий, непрерывный
own-собственный
oxygen – кислород

P

parasitic-паразитический
parentage - происхождение
particular – особый, частный, специфический
pass – передавать, переходить
passage-переход, передача
pathogenic-патогенный, болезнетворный
perspective - перспектива
phylogenetic - филогенетический
physical - физический
physics - физика
physiology – физиология
plain - равнина
plant - растение

pollute-загрязнять
pollution-загрязнение
population-популяция
possess – иметь, обладать
power – энергия; давать энергию
preserve – сохранять
primary-главный, основной
process - процесс
propel - стимулировать
protein – белок
proof - доказательство
prove – доказывать

Q

quantitative - количественный
quantity-количество

R

rainforest - тропический лес
rapid - быстрый
react – реагировать, влиять
realization – осознание, понимание
reason- причина
recognize - признавать
record – запись, данные
recreate - воссоздавать
refer (to) – относиться к чему-л.
regarding – касательно, относительно
relate – связывать иметь отношение
relationship-отношение, взаимоотношение
remains – остатки, останки
represent – представлять, отражать
representative - представитель
reproduce - воспроизводить, размножаться
research – исследовать; исследование. изучение
respond (to) – реагировать отвечать
result (from)-являться результатом, вытекать из
reveal - обнаруживать
rock - скала, горная порода
root - корень
rudimentary – рудиментарный, зачаточный

S

salt - соль
scholar - ученый
science - наука
scientific - научный

seed-семя, семечко
selection – выбор, отбор
separate - отдельный
sequence - последовательность, ряд
settle - устанавливать
sex-пол
shape- форма
share – делить, разделять
sharp-острый
similar – схожий, похожий
simple - простой
single – один, единственный
single-celled- одноклеточный
size-размер
sodium - сода
solar - солнечный
solar insolation-солнечное излучение
somatic-соматический, телесный
species – вид, разновидность, род
specific-особый, специфический
spiritual - духовный
split - делить
spontaneously – спонтанный, стихийный
spotted-крапчатый, пятнистый
stable - стабильный
state - состояние
stimulus – stimuli (pl.) - раздражитель
stomach-желудок
strata - слой
structure-строение, структура, устройство
study – исследование, изучение; изучать, исследовать
substance - вещество
substantially-существенно
successive - последующий
suggest – предполагать
support – поддерживать, подтверждать; поддержка, подтверждение
supreme being – высшее существо
survival-выживание
survive-выжить, пережить
symbiotic-симбиотический
synthesis - синтез
synthesize – синтезировать

T
take care (of) – заботиться (о)

talon - коготь (птицы, зверя)
teeth (pl. от tooth) - зубы
temperature - температура
thrive- процветать
tissue - ткань
toxic-токсичный
trace - прослеживать
transform - преобразовывать
turtle-черепаха

U

undergo - подвергаться
unit – единица, часть
unity – единство
Universe - Вселенная
useful- полезный

V

variety-многообразие, вид, разновидность, вариант
various - различный
vegetable-растительный
version-вариант, версия
vital – жизненно важный
volume-объём, масса

W

wear out - изнашиваться
wildlife-живая (дикая) природа
wonder - интересоваться, удивляться
woodland –лесистая местность
worm - червь
wrap - заворачивать

Z

zoology - зоология

БИОЛОГИЯ

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