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## **АНГЛИЙСКИЙ ЯЗЫК**

### **Развитие навыков чтения текстов по специальности для студентов-биологов и экологов**

*Практикум*

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**Английский язык: Развитие навыков чтения текстов  
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## **Введение**

Данный практикум предназначено для студентов биологического факультета и позволяет преподавателю организовать самостоятельную работу по дисциплине «Английский язык».

Цель практикума – развитие навыков и умений самостоятельного чтения оригинальной литературы по специальности и совершенствование навыков реферирования и аннотирования.

Практикум содержит два раздела – «Биология» и «Экология». Каждый раздел включает тексты и серию упражнений к ним. Тексты информационного и научно-популярного характера заимствованы из аутентичных источников и освещают наиболее интересные аспекты биологии и экологии.

Материалы из раздела «Биология» охватывают темы, изучаемые на занятиях по английскому языку, таким образом обогащаются знания студентов по зоологии, ботанике и медицине.

Материалы из раздела «Экология» знакомят с опытом экологического просвещения и практическими делами по охране окружающей среды в разных странах, что способствует формированию экологического сознания.

В практикум включены упражнения по прогнозированию, проверке общего и полного понимания, работе над активным и потенциальным словарём. Разнообразный характер упражнений формирует навыки, необходимые для понимания текста любой сложности по специальности.

Задания творческого характера стимулируют когнитивную активность и мотивируют самостоятельную работу студентов.

Целенаправленная работа по обучению чтению развивает возможности студента как участника коммуникации и совершенствует речевые умения, необходимые для академического успеха.

## Part One BIOLOGY

In Greek «*bio*» means «life» and «*logos*» – «discourse» or «study». So literally biology is «the science of life», the branch that deals with living organisms. It is concerned with their nature, functions, reproduction and place in their environment. It is a ramifying science, but it aims to be a precise one. It is rooted in physics and chemistry, and many of its interpretations are made in terms of these sciences and of mathematics. It is bound closely with geology and meteorology, and applications of its principles are found in anthropology, psychology, sociology, agriculture, medicine, industry and, indeed, in everyday living. Inasmuch as one of its ultimate aims is thorough understanding of living organisms including man, biology is entitled to be called the most vital of the sciences.

### CLOSE RELATIONS

1. *Restore the text (use the words and expressions from the box):*

indistinguishable, in order to, evolved, parasites, nutrient bits, to match, similar, poisonous, close relationships, coexist, beneficial, a stinger, energy, kangaroos, insects.

Creatures evolving in the same place sometimes develop ... . One might masquerade as another, or provide food for another, such as the cleaner wrasse living on a coral reef whose diet consists of other fish's parasites.

Cattle egrets supplement their diet by picking insects off cattle, whether Brahman bulls in India, water buffalo in China's Sichuan province, or wildebeest in Kenya; they have even been seen with ... in Australia. Acacia trees have ... a close relationship with acacia ants, which are aggressive creatures that swarm herbivores that try to eat their host tree.

A relationship between two organisms may be ... for both parties, or bad or neutral for one but good for the other. Vines use their ability to climb trees to get closer to the sun, their energy source; yet often a

vine covers so much of its host tree that the tree withers. The cholera virus, as a much smaller example, needs its host ... replicate and spread, but the host gets nothing but illness from the transaction.

### INSECT MASCQUERADE

The drone fly looks just like a bee, and the hornet fly resembles a hornet. Neither fly has ..., but both use their beelike coloring to fool predators into thinking they do and leaving them alone.

Other animals avoid predators or ambush prey by looking like a thorn, a green or dead leaf, lichen, bark, or like poisonous insects. The viceroy butterfly looks a lot like a monarch. Since the monarch butterfly is ... to eat, birds mistaking the viceroy for a monarch will not eat him.

A stick insect is nearly ... when it sits on a branch. Other creatures' camouflage is less thorough but still effective. The chameleon and the pepper moth, for instance, change their appearance ... their surroundings. Some insects, such as grasshoppers, also use behavior as camouflage, for instance by swaying like a leaf in the wind.

### PARASITES

Parasites are organisms that get their nutrients from another organism without killing the other organism outright. Ticks that live on deer blood are ...; although not generally harmful for the deer, some of these ticks can spread diseases to humans. Microbes in deer ticks that cause Lyme disease in humans are also parasites. Ticks are the vector for the disease: Vectors are the transportation taken by the bacteria to get to their next host, in this case humans.

### DIGESTIVE HELPERS

The bacteria living in human intestines help break down food into nutrients that human bodies can burn for .... This process helps us use food more efficiently, so that there is less unused material to be emitted as solid waste and methane gas. Digestion of food with help from bacteria is one example of how two organisms can ... peacefully for each other's benefit.

Similarly, the fungus residing in an African termite mound exists in a state of mutual benefit with its termite hosts. Fungus-farming termites in Africa cultivate a single strain of fungus in moist chambers

within their mounds. The termites feed the fungus chewed wood and grass pulp that would otherwise be indigestible, and the fungus breaks the pulp down and converts it into ... that the termites can use.

Other species of termites have evolved gut bacteria that help extract nutrients from chewed raw materials, in a manner ... to humans. Most plants have symbiotic fungi living on their roots, helping them to absorb needed nutrients, such as phosphorous and nitrogen, from the soil.

*(From Science 101: Ecology by Jennifer Freeman)*

**2. Match the words from the text with their definitions:**

- |                               |   |
|-------------------------------|---|
| 1) to replicate               | a) an animal that eats only plants  |
| 2) mound                      | b) a pointed part of an insect, plant or animal that goes through someone's skin and leaves behind poison |
| 3) to emit                    | c) to make exact copies of themselves (about animals)   |
| 4) herbivore                  | d) very harmful and able to cause illness or death  |
| 5) stinger<br>(Am., UK-sting) | e) any substance which plants or animals need in order to live and grow                                   |
| 6) poisonous                  | f) a large pile of earth, stones, like a small hill   |
| 7) nutrient                   | g) a long tube through which food travels from the stomach and out of the body while it is being digested |
| 8) intestine                  | h) an insect or animal which carries a disease from one animal or plant to another                        |
| 9) pulp                       | i) to send out a beam, noise, smell or gas  |
| 10) host                      | j) a soft wet mass  |
| 11) vector                    | k) a plant or animal that another plant or animal lives on as a parasite                                  |

**3. Find in the text and write the English equivalents of the following:**

дополнять; избегать; ошибиться, приняв одного за другого; обманом убедить что-то сделать; сосуществовать; соответствовать окружению (слиться с окружением); вызывать болезнь; подобный, схожий; вянуть; превращать в...; неразличимый;

благотворный, полезный; роиться; переваривание, пищеварение; проживать; не получить ничего, кроме болезни, от этой сделки.

4. *Using the text answer the «who» – questions in written form:*

- 1) Who makes trees wither?
- 2) What big herbivore lives in Kenya?
- 3) Who hides itself on a branch?
- 4) Who helps human bodies get nutrients?
- 5) Who fools predators into thinking it has a stinger?
- 6) Who lets symbiotic fungi live on its roots helping them to absorb needed nutrients?
- 7) Who can sway like a leaf in the wind?
- 8) Who uses its host to replicate and spread?
- 9) Who helps acacia trees survive?

5. *Find in the text how different creatures influence each other in nature and fill in the chart. The first point is done for you.*

Who influences	What they use or where	Activity (what they do)	Whom they influence	Whether this influence is beneficial, bad or neutral
1) cattle egret		picks insects off cattle	cattle	beneficial for both cattle and egret
2) acacia ants				
3) vines				
4) cholera virus				
5) drone fly, hornet fly				
6) viceroy butterfly				
7) stick insect				
8) chameleon, pepper moth				
9) grasshopper				
10) ticks				
11) bacteria				
12) fungus				

## ***SURVIVING THE SEASONS***

1. *Read the text quickly to understand the general sense. Are these statements about the text true or false?*
  - 1) In late fall animals get ready for long winter.
  - 2) They are busy with storing food and preparing their shelters.
  - 3) Several times during cold months the degree of animals' activity can change.
  - 4) Hibernating animals need much energy for surviving because all their bodily functions increase.
  - 5) Cold-blooded animals stay deep underground throughout the whole winter.

Carrying a nut in its mouth, a chipmunk heads for home. In late summer and early fall chipmunks get ready for the cold months ahead. They store extra food in their burrows, and they eat until they are fat. They also spend much time preparing their underground shelters. A chipmunk's burrow system has a main tunnel up to 15 feet (5 m) long. This tunnel usually goes to a nesting chamber lined with dry leaves and grass. From there shorter tunnels lead to chambers used for storing food. In its snug burrow a chipmunk sleeps through much of the winter.

Just as extremely cold weather is a threat to animals in some climates, extremely hot weather threatens animals in other climates. They, too, survive by sleeping. Soon you will peek into some of the secret shelters that help animals live through extremes of cold or heat.

Many animals survive extremely cold weather by going into *hibernation* – periods of inactivity that occur frequently throughout the winter. Several times during the cold months hibernating animals may arouse and become active, and then they go back into hibernation. During hibernation an animal's heartbeat slows down, as does its rate of breathing. Its body temperature also drops. Different kinds of animals experience different degrees of hibernation. The body temperature of raccoons, for example, drops very little. They may become sluggish, but they sleep only during extremely cold times. The temperatures of some other mammals, such as marmots and ground squirrels, drop very low, and these animals remain in hibernation for



long periods. Other animals – reptiles and amphibians, for example – remain completely inactive all winter, or until the weather warms up.

Because all of their bodily functions slow down, hibernating animals require very little energy to stay alive. Their low body temperatures and their reduced need for energy help them survive periods of cold and lack of food.

Marmots, like chipmunks, hibernate in underground burrows. Where winters are harsh, they stay underground for as long as seven months. Twenty or more of these furry animals may live together. In the late summer and early fall members of the marmot colony get ready for the long winter.

They play in the sun, they eat, and they prepare large, comfortable burrows with many entrances. The network of tunnels in a marmot colony may cover an area larger than a football field. Within this area their grass-lined burrows lie several feet under the ground. Each sleeping chamber is large enough for more than one marmot. They often huddle together for warmth.

Ground squirrels, like marmots, spend the winter hibernating for days at a time. If you could pick up one of these little animals near the end of winter, while it was still sleeping, you might think it was dead. It breathes only about three times a minute, and its body for nourishment.

Some kinds of bears hibernate, but their temperature drops only slightly. They make their dens in coves, in hollow logs, or beneath fallen trees. Except for females and their cubs, bears hibernate alone. Every other winter a female bear gives birth in her den two or three furry cubs. The cubs do not hibernate that first winter. They snuggle next to their mother and nurse.

When spring arrives, the mother and her cubs leave the den in search of food. All summer they stuff themselves with roots, grass, berries and nuts. Their bodies become plump, and their fur grows thick. As autumn days shorten, the mother bear and her cubs eat less. They concentrate, instead, on preparing a den. This second winter is the last these cubs will spend with their mother. Next year they will be on their own.

Where winters are cold, some kinds of bats, like some bears, hibernate in coves. There they cling to the ceiling with their sharp claws. When they enter hibernation, their heartbeat slows down, they breathe

infrequently, and their body temperature drops. Bats may hibernate for as long as a month at a time.

Unlike the bodies of bats, which are warm-blooded, the bodies of reptiles and amphibians produce very little heat. Cold-blooded creatures survive cold weather by going deep underground. To keep from freezing, they must go below the frost line – the point to which the ground freezes. There, in their hideaways, they remain dormant – completely inactive – until the weather warms up.

In parts of Manitoba, in Canada, the hibernation of large numbers of garter snakes attracts much attention each fall. Thousands of these garter snakes leave their spring and summer homes and travel as far as 10 miles (16 km) to reach the pits where they spend the winter. During their journey these harmless reptiles crawl through yards and houses, along highways and across fields. Their goal is to reach several deep, rock-lined pits, where they can survive Manitoba's bitterly cold winters.

The thousands of snakes that complete the journey crawl into the pits and slide under and between rocks. There they hibernate. Months later – about three weeks after the last snow melts – the garter snakes begin to come out of the pits and return to their warm-weather homes in the marshes.

*(From National Geographic)*

2. *Read the text more carefully and choose the correct alternatives for these words in the text:*

to store food	to keep food to be used later
	to use food that was kept before
	to prepare food

lined with	having lines drawn
	covered inside with
	underlined

a burrow	a small shelter
	a digging hole
	a tool or equipment

to drop	to fall onto the ground to increase to decrease
sluggish	sleeping slow-moving being in a hurry
to survive	to stay alive to become extinct to escape
cubs	freshmen small children young animals
plump	obese fat big
dormant	calm drowsy inactive
a pit	a wide hole a deep chasm a big crater

3. *For each of these words from the text write a definition using **which**, **where** or **when**:*

- 1) underground shelter
- 2) nesting chamber
- 3) hibernating animals
- 4) mammals
- 5) lack of food
- 6) cold-blooded creatures
- 7) the frost line

4. *Complete the following sentences to summarize the text:*

- 1) Many animals survive long winter...
- 2) In late summer and early fall they...
- 3) They store..., and...
- 4) They also spend much time...
- 5) Several times during the cold months...
- 6) Different kinds of animals experience...
- 7) Unlike some mammals, reptiles and amphibians remain...
- 8) Cold-blooded creatures survive cold weather by...
- 9) Hibernating animals need very little energy to stay alive because...
- 10) These vital mechanisms help them...

5. *Find in the text how different animals survive extremely cold weather and give your own examples.*

### ***BIRDS' SECRETS OF PARENTHOOD***

1. *Scan the text and divide it into 7 logical parts according to the following plan. Put the points of the plan into the correct order:*

- 1) successful cooperation;
- 2) a happy bird family;
- 3) birds' way of reproduction;
- 4) brutal behaviour;
- 5) out of reach of predators;
- 6) cruel deception;
- 7) nest building craftsmen.

2. *Read and translate the text carefully.*

All 9000 species of birds have the same approach to motherhood: every one lays eggs. Birds quickly form and lay an egg covered in a protective shell that is then incubated outside the body. Birds developed much great mobility than a mammal, but at the cost of being unable to carry its growing offspring about in its body. The large size

of an egg makes it difficult for the female to retain more than a single one egg at a time – carrying eggs would make flying harder and require more energy. (Bird eggs vary in size from the tiny 0.2 gr. eggs of hummingbirds to the enormous 9 kg eggs of the extinct elephant bird.) Thus all female birds must dispense with the fertile egg as soon as it is formed. And because the egg is such a protein-rich high-nutrition prize to all sorts of predators, birds must find a secure place to hatch their eggs.

Although birds' eggs appear to be fragile, they are in fact extremely robust. The oval shape applies the same rules of engineering as an arched bridge; the convex surface can withstand considerable pressure without breaking. This is essential if the egg is not to crack under the weight of the sitting bird. (It takes 26 lb of pressure to break a swan's egg and 120 lb to smash the egg of an ostrich.) Finding a place to safely place and hatch their eggs, and raise their young to the point of independence, is a challenge birds have solved in many clever ways. They use artistry, intricate design and complex engineering. The diversity of nest architecture has no equal in the animal kingdom.

In many species the male bird's skill at nest building is a sign of his suitability as a mate; he invests huge effort in the task. Males of the European house wren build up to 12 nests to attract females. They will continue to build new nests until a female is happy with the construction.

Birds will use any available material that they can carry away to build their nest – leaves, sticks, mosses, lichens, feathers. The Australian Yellow-faced honeyeater sometimes filches the thick fur from the back of a koala, a large bear-like mammal, to line its nest. The edible-nest swiftlets of South-East Asia make a nest entirely from their own saliva. The hard basket-shaped cups are made of concentric rings of a protein-rich goo, secreted during the breeding season by the male's enlarged salivary glands.

The hammerkopf builds what must be the most extraordinary construction in the bird world. The huge, domed nest up to six feet high and across is made of sticks, reeds and grass and can weigh up to 50 kg. The nest is placed in a tree fork, on a cliff or on the ground. The whole structure may take 6 weeks to build. There is so much room that many other species, such as weaver birds, mynas and pigeons, attach their own nests to this ample frame.

Birds employ the most astonishing strategies to conceal their young from predators. The female hornbill seals herself into the nest and stays inside the tree cavity throughout incubation, leaving only a tiny aperture. But she was careful to spend a few days testing the male's ability to provide her with food before she committed herself to laying. The African palm-swift uses its own saliva to glue its nest to the vertical underside of a palm frond. The two eggs are also glued to the nest and the parents incubate them by turns, clinging to the nest.

Some birds actively cooperate with other species. By nesting close to animals better equipped to deter predators, the birds are protected by their neighbours. The small red-breasted goose breeding on the Siberian tundra is extremely vulnerable to predation by arctic foxes. The geese have established a working relationship with another inhabitant of the arctic tundra. The peregrine falcon nests on the tundra at the same time, and this small but fierce bird of prey is able to deter the hungry arctic fox. The peregrine does not prey on the geese and their young. In return, the loud alarm calls of the geese alert the peregrine, which has its own chicks to protect.

Another way is to employ insects as «guard dogs». The rufous-naped wren builds next to wasps' nests for protection. The rufous woodpecker nests in the middle of an ants' colony. The ants' fury soon subsides and is transferred to any intruder that tries to steal the eggs.

There are birds that dispense with every convention of home making and parenthood, and resort to cunning to raise their families. These are the «brood parasites», birds which never build their own nests and instead lay their eggs in the nest of another species, leaving those parents to care for their young.

The cuckoo is the best known brood parasite, an expert in the art of cruel deception. Its strategy involves stealth, surprise and speed. The mother removes one egg laid by the host mother, lays her own and flies off with the host egg in her bill. The whole process takes barely ten seconds. Cuckoos parasitize the nests of a large variety of bird species and carefully mimic the colour and pattern of their own eggs to match that of their hosts. Each female cuckoo specializes on one particular host species.

Another bird that gets away with great deception is the whydah. It dumps its eggs into the nests of little finches. The whydah chick looks completely different from the host nestlings. But when it opens its

mouth, the resemblance is remarkable – the young whydah has a gape and mouth spots that closely mimic those of its nest mates. The hard-working parents see no difference in the row of open mouths and feed them all equally.

The greater honeyguide in Kenya is another parasite. It lays its eggs in the nests of the red-throated bee-eater. But its chicks, when they hatch, are armed with a murderous hook-tipped bill. The chicks of the red-throated bee-eater die under the vicious attacks of the honeyguide chick within the first few days of hatching. The murder weapon then drops off, its purpose achieved. The foster parents now devote all their energy towards feeding the killer of their own young.

The black eagle, which nests on cliff ledges in Africa, is a species whose second chick is always doomed. It always lays 2 eggs. The chicks hatch about 3 days apart, so that the older chick is significantly larger than the younger one. But no matter how abundant the food supply may be, the parents can only ever manage to raise one chick. The extra egg they lay is simply an insurance in case the first one is lost or fails to hatch. If both hatch successfully, the older sibling launches a relentless, killer attack upon the younger chick the moment it hatches.

Birds only behave brutally or with deceit because it works in terms of their own survival. But there are many examples of what we would recognize as «good» parenting. And rosella parrots are the bird world's perfect parents. The eggs hatch over about five days, so at first there is a noticeable size difference between their chicks. You might expect the older ones to win. But, unlike many other birds, these parrots are scrupulously fair in feeding. They make sure every nestling receives its proper ration. Sometimes the eldest will share its food with the youngest and weakest. The result of this consideration is a truly balanced family. After three weeks strength and weakness will have been ironed out and the nestlings are all the same size.

*(From National Geographic)*

3. *Find in the text the equivalents of the following words and word-combinations:*

kinds of birds	a hunting animal
to place eggs	a hunted animal
to sit on eggs	to be easy to attack
to appear out of eggs	to save from danger
to take care of offsprings	consumer
variety	provider
sexual partner	the act of lying
a period of reproduction	to imitate
to help each other	a nest chick
to scare away	to supply with food

4. *Answer the questions to the text:*

- 1) What is birds' method of giving birth to their young?
- 2) Why do birds have to find a safe place to hatch their eggs?
- 3) Why do males make great efforts in nest building?
- 4) How do birds cooperate with other species in breeding?
- 5) What are «brood parasites»?
- 6) Why do birds behave cruelly or with deceit?
- 7) Are there any examples of good families in the bird world?

5. *Make a written summary of the text. Illustrate your story with examples from the text.*

## ***THE COLLECTORS OF INDOOR PLANTS***

1. *Read the text and formulate its main idea in 2–3 sentences.*

You don't need to read a book to learn about the beauty, variety and popularity of house plants – just look around you. Everywhere you will find them, the impressive indoor gardens in public buildings...tiny pots on windowsills...scores of colourful varieties offered for sale in garden shops.



The first recorded plant collectors were the soldiers in the army of Thothmes III, Pharaoh of Egypt, 3500 years ago. In his Temple at Karnak these soldiers are shown bringing back 300 plants as booty from the campaign in Syria.

#### **Hunters or Collectors?**

The romantic figure of the botanist cutting his way through the dense jungle to discover a new plant really did exist, and continues to do so. These people were the plant hunters. Ordinary plant collectors were perhaps less romantic, but no less important to our story – their contribution has been a rich one. Many house plants were first brought to our shores from nurseries, gardens and botanical collections in their native home rather than from the wilderness.

Over the centuries many travellers have collected unusual plants from overseas and brought or sent them back to their native countries. There were soldiers, such as the Crusaders, and also merchants, missionaries, sailors, naval surgeons, explorers and so on. These part-time collectors picked up their specimens whilst they were involved in some other profession – the day of the full-time collector did not dawn until the start of the 18th century.

These early part-time collectors provided the first house plants for temperate Europe – plants which needed protection from frost during the winter. Italian sea captains brought back exotic flowering plants from Asia in the early years of the 15th century. Pineapples were sent to Europe from the New World during the 16th century, and other Bromeliads soon followed. Unknown collectors had brought Orange, Lemon and Pomegranate to Northern Europe during the same century, and in the 17th century the prototype of the professional plant collector appeared – John Tradescant the Elder. As Gardener to Charles I he travelled overseas to collect plants, but he obtained many of his exotics from agents in Paris, Constantinople etc.

The end of the 17th century saw the arrival of the greenhouse in Europe and a keen interest in growing plants from tropical regions. «There is a vast number of East and West Indian seeds come over this year» wrote Sir Hans Sloane in 1684. An early collector, Herr Fagel, sent hundreds of new plants from the Indian subcontinent to be grown in the Hampton Court Orangery. These public displays of greenhouse plants helped to start the active quest for new varieties in the 1700s.

The 18th century saw the appearance of a new breed – the professional plant collector financed by a botanical garden, rich patron or

learned society – in later years nurseries became important sponsors for such expeditions. An example of the early professional collector was James Harlow, sent by Sir Arthur Rawdon to the West Indies to collect new plants for his Irish garden.

In 1743 one of the immortals of botany was born – Joseph Banks. At 23 Banks was off on his first plant hunting expedition. The destination was Newfoundland – this was followed by his voyage with Cook to Australia and with Dr Solander to Iceland. But Banks' great contribution was not as a collector – it was as a director of the efforts of others.

George III purchased Kew House and so Kew became a royal garden. Banks was Botanical Adviser to the King, and thus he became virtual dictator of the botanical garden. Kew's reputation was growing as the collection house for plants and seeds from overseas, and in 1772 Banks sent out the first of the Kew Collectors – Francis Masson.

Masson's expeditions yielded about 400 new species, and perhaps the most notable find was the *Senecio* species from which the present-day *Cineraria* was evolved. Masson never stopped collecting – he died still searching in North America in 1805.

The Kew Collectors organised by Banks continued to search for plants. Then it was all over. With the death of Banks in 1820 Kew declined and it was more than 20 years after his death before a collector was again sent out from Kew.

All of the collectors mentioned so far faced a common problem. Living plant specimens had to be transported back to Europe by sea, and the chance of survival was slim – perhaps 1 in 1000 from Australia. Plants were placed within slatted boxes on the deck. Here they had to withstand wide variations in temperature, irregular watering and shortage of light. They had also to face salt from the sea spray, jettisoning overboard when fresh water was short and the gnawing teeth of rats. So until a better method of transport came along the only reliable method of transporting plants was in the form of seeds or bulbs.

A better method did come along – the Wardian Case. In 1843 the Horticultural Society of London sent Robert Fortune to China and he took 18 Wardian Cases with him. As a result he was able to send thousands of Tea Plant seedlings from Shanghai to the Himalayas and so found the Indian tea industry. Plants sent by Fortune to Europe include many *Primulas*, *Azaleas* and *Chrysanthemums*.

At the start of the Wardian Case era a new breed of plant hunter appeared in Britain – the Veitch Collectors. The Royal Exotic Nurseries in Chelsea developed under James Veitch (1815–1869) into the greatest indoor plant nursery of the Victorian era. Between 1840 and 1905 they sent out 22 plant hunters to scour the tropical and sub-tropical region of the world – the 19th century hunger for new conservatory plants had to be fed.

With the arrival of the 20th century both the cultivation and search for house plants went into decline for many years, but there are still notable contributions. The Rochford Nursery was the 20th century equivalent in Britain of the Veitch Royal Exotic Nurseries in Victorian times.

It was Thomas Rochford III (1904- ) who led the modern revival of house plants in the U.K. and was responsible for the introduction of many varieties to Britain.

It is obvious that this century will not yield a crop of romantic names like John Tradescant, Francis Masson and Robert Fortune. This is the age of the hybridist rather than the discoverer. Still, there is a plant in some isolated tropical place waiting for the old-style hunter to bring it back to cooler shores and give us an exciting new house plant.

*(From The Gold-Plated House Plant Expert by D. G. Hessayon)*

### **The Wardian Case**

The hobby of London physician Dr Nathaniel Bagshaw Ward was collecting butterflies. In 1829 he placed a chrysalis in damp soil at the bottom of a wide-mouthed glass jar and sealed the top. He observed the emergence of the moth, but was much more interested in the grass and fern seedlings which appeared. Yet the plants continued to grow in the sealed jar for 4 years without the addition of water, and it occurred to the doctor that he had discovered the way to transport plants by sea.

In 1833 he placed ferns in the damp soil at the bottom of 2 miniature sealed greenhouses (Wardian Cases) and shipped them to Sydney. They travelled safely, and the cases were then filled with native Australian plants for the return journey. These plants arrived back "in the most healthy and vigorous condition". The round trip had taken 8 months, and no water had been added to the soil. Ward published his findings in 1842 and plant collectors around the world quickly put them to use.

2. *Choose the English equivalents of the following words:*

разновидность	various vary variety
путешественник	travelling traveller travel
обеспечивать	provide provision provider
цветущий	flower flowery flowering
выращивание	growth growing grow
собирать	collector collection collect
вклад	contribution contributory contribute
значительный	notably notability notable
живой	live living lively
перевозка	transporting transported transport
первооткрыватель	discoverer discover discovery

**3. Match the words with their definitions:**

- |                  |  |
|------------------|--|
| 1) greenhouse    | a) someone who picks up plant specimens in different botanic gardens                   |
| 2) keen          | b) a place that is still in its natural state and has not been changed by human beings |
| 3) nursery       | c) a specialist who is engaged in cross-breeding to get new species                    |
| 4) to yield      | d) someone who looks thoroughly for plant specimens in their natural habitat           |
| 5) species       | e) a structure which protects frost-sensitive exotics especially in temperate climate  |
| 6) to search for | f) to get a profit from smth.  |
| 7) survival      | g) having a strong active feeling of interest and enjoyment                            |
| 8) to face       | h) to deal with a difficult problem or situation                                       |
| 9) cultivation   | i) a particular class of larger group of animals or plants                             |
| 10) hybridist    | j) a place where plants from seeds/bulbs and seedlings are grown                       |
| 11) wilderness   | k) growing plants, vegetables etc especially in order to sell them                     |
| 12) collector    | l) to spend time looking carefully and thoroughly for smth.                            |
| 13) hunter       | m) staying alive in spite of serious difficulties                                      |

**4. Put the following sentences into the correct order:**

- 1) In 1842 a reliable way of transporting plants came into use – the Wardian Case.
- 2) Thomas Rochford was a modern reviver of house plants in the 20<sup>th</sup> century and introduced many varieties to Britain.
- 3) Professional plant collectors financed by Kew royal garden yielded many new species from overseas since 1772.
- 4) The first recorded plant collectors appeared 3500 years ago.
- 5) The arrival of the greenhouse in Europe started an active search for new varieties from tropical regions in the 1700s.
- 6) Over the centuries many part-time collectors brought back exotic plants from overseas to their native countries.

7) The 19<sup>th</sup> century interest in new conservatory plants made the Veitch Collectors scour the tropical regions of the world.

5. *The following are the answers to the questions. Write suitable questions:*

- 1) They were the soldiers in the army of Thothmes III, Pharaoh of Egypt.
- 2) Pineapples and other Bromeliads, Orange, Lemon and Pomegranate.
- 3) It caused the appearance of professional plant collectors sponsored by nurseries.
- 4) His great contribution was as an organizer of plant hunting expeditions for Kew.
- 5) In seeds and bulbs because of variations in temperature, irregular watering and lack of light during the voyage.
- 6) It was developed by James Veitch as the greatest indoor plant nursery of the Victorian era.
- 7) At the beginning of the 20<sup>th</sup> century.

6. *Make the plan of the text and write out all phrases characterizing each point of the plan. Summarize the text using the plan and your list of word-combinations.*

7. *Find additional information and write an essay on the following topics:*

- 1) people who made a great contribution to collecting indoor plants;
- 2) my favourite house plant: its history and description;
- 3) world-famous nurseries, botanic gardens and parks.

## **TOO MUCH CAN KILL A LITTLE CAN CURE**

1. *Read the text and say:*

- 1) what the main idea of the text is;

- 2) in what paragraph this idea is expressed more precisely;
- 3) how you understand the title.

2. *Read the text again and find the facts to prove the statement «Too much can kill, a little can cure».*

Bad things come in small packages. On August 14, 1996, Karen Wetterhahn, a toxicologist and professor of chemistry at Dartmouth College, spilled a drop, a tiny speck, of dimethylmercury on her left hand. Wetterhahn was an expert on how toxic metals cause cancer once they penetrate cell membranes. When she spilled the poisonous droplet in her lab, she thought nothing of it; she was wearing latex gloves. What she didn't know killed her.

The dimethylmercury was volatile enough to penetrate the glove. Five months later Wetterhahn began stumbling into doors and slurring words. After three weeks in a hospital she slipped to a coma.

Karen Wetterhahn died five months later. She was 48 years old, a wife and mother of two. The mercury had devoured her brain cells «like termites eating away for months,» one of her doctors said. How could such a brilliant, meticulous, world-class toxicologist come to such an end?

You might say that a toxicologist studies substances that lead to death. But toxicology is also about life. «What can kill, can cure,» said Paracelsus, a 16th-century German-Swiss physician and alchemist. «All substances are poisons; there is none which is not a poison. The right dose differentiates a poison and a remedy." Poison is in the dose. Toxicology and pharmacology are intertwined, inseparable. A serpent coiled around a staff symbolizes Asclepius, the Greek god of medicine.

Consider arsenic, the poison of kings and king of poisons. Arsenic exploits certain pathways in our cells, binds to proteins, and creates molecular havoc. Small amounts taken over a long stretch produce weakness, confusion, paralysis. Take less than a tenth of an ounce at once, and the classic signs of acute arsenic poisoning ensue: nausea, vomiting, diarrhea, low blood pressure, then death.

Because it is colourless, tasteless and odourless, arsenic was the poison of choice for the Borgias, the Italian Renaissance family skilled at artful murder, as well as for Hieronyma Spara, a 17th-century Roman entrepreneur who ran a school that taught wealthy

young wives how to dispatch their husbands and become wealthy young widows. Arsenic, the powder of succession, helped ambitious princes secure thrones. Fed in small amounts to a wet nurse, the poison could be expressed in breast milk and kill infant rivals.

From death to life: in the 5th century B.C., Hippocrates used arsenic to treat ulcers. It became an ingredient in Fowler's solution, created in 1786 and used for more than 150 years to treat everything from asthma to cancer. In 1910 an arsenic compound became the first effective remedy for syphilis (later to be replaced by penicillin). Arsenic derivatives are still used to treat African sleeping sickness. In 1890 William Osler, founder of modern medical education, pronounced arsenic the best drug for leukemia, and today it remains an effective chemotherapy agent for acute forms of the disease.

So is arsenic a poison or a drug? It's both. It depends: are you talking to a Borgia, or are you talking to a physician?

Poisons surround us. It's not just too much of a bad thing like arsenic that can cause trouble, it's too much of nearly anything. Too much vitamin A, hypervitaminosis A, can cause liver damage. Too much vitamin D can damage the kidneys. Too much water can result in hyponatremia, a dilution of the blood's salt content, which disrupts brain, heart and muscle function.

Even oxygen has a sinister side. Oxygen is the ultimate toxin. It combines with food to produce energy, but our bodies also produce oxygen radicals – atoms with an extra electron that damage biomolecules, DNA, proteins and lipids. We are oxidizing all the time. The biochemical price of breathing is ageing. Which is to say, we rust.

As if everyday poisons aren't enough to angst over, there are nature's more exotic hazards. It's a jungle out there. There are 1200 kinds of poisonous marine organisms, 700 poisonous fish, 400 venomous snakes, 60 ticks, 75 scorpions, 200 spiders, 750 poisons in more than 1000 plant species, and several birds whose feathers are toxic when touched or ingested.

Given the treachery of the world, why don't more of us die of poisoning? Because our bodies are designed to protect us from both natural and man-made toxins. The first line of defence, skin, is made of keratin – so waterproof, tough and tightly woven that only the smallest and most fat-soluble molecules can get through. Our senses warn us of noxious substances; if they fail there is vomiting as backup. Finally, there is the



liver, which turns fat-soluble poisons into water-soluble wastes that can be flushed out through our kidneys. The balance tilts over to toxicity only when we step over the threshold of dosage.

Mike Gallo, a toxicologist, knows the principle of threshold from the inside out. Gallo is an associate director at the Cancer Institute of New Jersey in New Brunswick. In February 2004, at 64, he was diagnosed with non-Hodgkin's lymphoma.

Two weeks later he became both toxicologist and patient at the cancer institute. His oncologist put him on a four-month intravenous diet of toxins, also known as chemotherapy, and he began treatment in a clinic four floors down from his office.

The ingredients of his cocktail included cytoxan, adriamycin, vincristine, prednisone and Retuxan – toxic enough to cause side effects ranging from vomiting, diarrhea and weight loss, to liver, heart and bladder damage, to death from overwhelming infection due to a depressed immune system. In addition, as Gallo will cheerfully tell you, «Almost all cancer drugs are carcinogenic in their own right».

Gallo was lucky. His luxuriant mop of red hair fell out, and he took on the alien look of chemotherapy. But fatigue and the typical drop in blood-cell count aside, he continued working through the treatment.

«I did just fine», he says, «but in the room right next to me is the same person, the same age, the same physique, and he's getting the stuffing kicked out of him. Why? My drug-metabolizing enzymes must be slightly different from his».

It's these pieces of toxicology – the matter of difference, the question of how much or how little, the wavering line between killing and curing – that Gallo loves so much as a scientist. They are the heart of toxicology and thus of poison. «Toxicology gives you the chance to understand biology», – he says.

Toxicology also saved his life. Six months and thousands of milligrams of toxic drugs later, Gallo's doctor gave him the all-clear. The lymphoma is in remission.

The tale of two toxicologists ends tragically for one, happily for the other. Karen Wetterhahn lost her life to poison. Michael Gallo owes his life to it. «I could have been a dead man. Thank God for toxicity», – Gallo says.

*(From National Geographic)*

3. Find in the text the English equivalents of the following words and word-combinations:

- |                                       |   |
|---------------------------------------|---|
| ▪ летучий                             | ▪ окислять(ся)                                  |
| ▪ проходить сквозь клеточную оболочку | ▪ старение                                      |
| ▪ впадать в кому                      | ▪ ядовитая змея                                 |
| ▪ уничтожать клетки                   | ▪ защищать от                                   |
| ▪ лекарство (2) от                    | ▪ естественные и искусственно созданные токсины |
| ▪ молекулярное разрушение             | ▪ ядовитое (2) вещество                         |
| ▪ отравление мышьяком                 | ▪ жирорастворимый/водорастворимый               |
| ▪ тошнота                             | ▪ порог дозировки                               |
| ▪ рвота                               | ▪ внутривенный                                  |
| ▪ лечить (2) язву                     | ▪ вызывать побочные эффекты                     |
| ▪ раствор                             | ▪ обширное заражение                            |
| ▪ соединение                          | ▪ вызывающий рак                                |
| ▪ острая форма болезни                | ▪ утомляемость                                  |
| ▪ приводить к разжижению крови        | ▪ проходить лечение                             |
| ▪ повреждать ДНК                      | ▪ спасти жизнь                                  |

4. Complete the questions with:

<i>what (5), why (2), when (2), how many (1)</i>
--

*Answer the questions in written form.*

- 1) ... killed K. Wetterhahn?
- 2) ... are toxicology and pharmacology inseparable?
- 3) ... is arsenic called the poison of kings?
- 4) ... is arsenic used as a drug?
- 5) ... other substances have a sinister side if taken too much?
- 6) ... natural hazards are there in the world?
- 7) ... protects us from poisoning?
- 8) ... does toxicity occur?
- 9) ... saved Gallo's life?
- 10) ... is the essence of toxicology and thus of poison?

5. Summarize the new information you have got from the text in written form.

## **Part Two**

### **ECOLOGY**

In the original Greek «*oikos*» means «house». So ecology is «the study of the house», the place where you live or the environment which technically includes all those factors, both nonliving and living, that affect an organism. Ecology then is the study of the interactions of organisms in their environment including both the living (biotic) and physical (abiotic) factors of the environment. It's also the science, which formulates and tests hypotheses about environment. Ecology is the relationships, identification and analysis of problems common to all areas. Ecology studies the population and the community, evaluates causes and effects of the responses of populations and communities to environmental change.

### **BIOMES**

1. *Before you read the text write what a biome is.*
2. *Scan the text and write the main ideas of it in 4–5 sentences.*
3. *Read and translate the text.*

Large ecological regions on land that share similar climate and vegetation are called biomes. Major types of biomes include deserts, grassland, forests, mountains, chaparral, and tundra. These categories can be further broken down into more specific biomes, such as coniferous, deciduous, and temperate or tropical rain forests.

Characteristics often shared by biomes in different parts of the world include temperature and rainfall. These are two of the most important aspects of climate. Life that develops under similar conditions in two different places on the globe may be similar even though it does not actually share a genetic ancestry.

A map of the world's biomes shows borders that cross national boundaries. The northern, or boreal, forest, for example, extends in a belt all around the globe, spanning Canada, northern Europe, and Russia. Following are some simple explanations of a few of the world's biomes.

## TUNDRA

North of the boreal forest, the Arctic tundra is a distinctive biome in which plants are small and tough, and lichen – which is a community of bacteria and fungi living symbiotically – is a primary food source. Plants cannot afford to have leaves with large surface area, as these would freeze. Since very little sunlight is available for photosynthesis during winter months, tundra plants must have the ability to become dormant for long periods. Both plant and animal life must be adapted to endure long, cold winters with little food.

## DESERT

Deserts are defined as places where rainfall is less than two inches (50 mm) per year, or where evaporation is greater than precipitation. Some deserts are hot and dry, such as the Sahara, with very little life except around groundwater-fed oases. Others are arid lands but with a fairly large amount of life, such as the Sonora Desert of Arizona and northern Mexico with its famous saguaro cactuses.

Plants and animals in deserts cannot depend on regular supplies of water and so must store or conserve water. Succulent plants, of which cactuses are one family, are adapted to store water in their fleshy trunks. Net primary productivity, the amount of biomass or energy stored by plants to provide fuel for all life in the ecosystem, is fairly low in desert biomes.

## TROPICAL RAIN FOREST

In their warm and rainy biome, tropical rain forest plants grow very large leaves to help disperse heat and water. Nutrients are virtually all stored in the plant mass; decomposition and nutrient recycling happen rapidly, and the soil is very poor. Microclimates at various heights, from understory to canopy, allow separate ecosystems to live on each level. Rain forests rank high among the world's most productive ecosystems, and is also a biome containing some of the world's greatest concentrations of biological diversity.

## DECIDUOUS FOREST

In places with warm summers and cold winters, many trees drop their leaves in winter and become relatively dormant, growing new leaves again when days grow longer and weather warms up in the spring.

Animal life is adapted to four seasons, hibernating, migrating, or storing food supplies for winter and figuring out how to stay sufficiently warm in the cold months. Because the soil in deciduous forests contains a lot of stored nutrients, these forests have often been converted to agricultural land by humans.

### GLOBAL VIEW

Because biomes help scientists to make connections between one place and another, they encourage a global perspective of climate and life. Viewing ecology through a biome perspective can give scientists another prism through which they can understand how global changes, such as climate change, are affecting life all over the planet.

Evidence of climate change, in fact, rests partly on observations of the distribution of species in various biomes. Evidence of climate change is strengthened when ranges are observed to be shifting in ways that support the effects predicted by climate change scenarios.

*(From Science 101: Ecology by Jennifer Freeman)*

#### 4. Match the words from the text with their definitions:

- |                  |   |
|------------------|---|
| 1) grassland     | a) a plant-like organism of grey, yellow or green colour that grows on rocks, walls and trees |
| 2) deciduous     | b) the thick main stem of a tree, from which its branches grow                                |
| 3) coniferous    | c) neither active nor growing for some period of time   |
| 4) boreal        | d) evergreen trees, producing fruit in the form of cones                                      |
| 5) trunk         | e) a large geographic region characterized by a particular climate and dominant organisms     |
| 6) dormant       | f) a plant in which the leaves and stem are thick and can store a lot of water                |
| 7) precipitation | g) a large area of land covered with grass  |
| 8) biome         | h) losing its leaves in autumn and growing new ones in the spring                             |
| 9) arid          | i) quantity of organic matter; total dry weight of all plants and animals in an ecosystem     |
| 10) succulent    | j) northern   |
| 11) biomass      | k) very dry and without enough rain for plants  |
| 12) lichen       | l) rain or snow   |

5. *Fill in the gaps to complete the phrases which show some characteristic features of different biomes. Write what particular biome every point of the task corresponds to. Translate the phrases into Russian.*

- 1) Succulent ...; groundwater-fed ...; saguaro ...; fleshy ...; not to depend on ...; ... greater than ...; arid ...
- 2) To drop ... in autumn; to contain a lot of ...; to grow new ... in the spring; to adapt to four seasons by ..., ..., ...; to become relatively ...
- 3) Leaves with small ...; to endure ...; north of the ... forest; a community of ... and ...; very little ... is available.
- 4) To help disperse ... and ...; to rank high among the world's ...; to contain the greatest concentrations of ...; to allow separate ecosystems ...

6. *Answer the questions to the text:*

- 1) What do major types of biomes include?
- 2) What are the two main characteristics of biomes?
- 3) What are the world's most productive ecosystems?
- 4) Why do tropical rain forest plants grow very large leaves?
- 5) What is a primary food source in tundra?
- 6) Why cannot boreal plants have leaves with large surface area?
- 7) Where is evaporation greater than precipitation on the Earth?
- 8) What do desert plants have to store?
- 9) What do we call a forest where trees drop their leaves by winter and grow them again by summer?

7. *The following are the answers to the questions. Write suitable questions:*

- 1) Deserts, grassland, forests, mountains, tundra.
- 2) Temperature and rainfall.
- 3) The Arctic tundra.
- 4) To become dormant for long periods.
- 5) Places where evaporation is greater than precipitation.
- 6) They must store and conserve water.

- 7) In their fleshy trunks.
  - 8) To help disperse heat and water.
  - 9) To live on each level.
  - 10) In places with warm summers and cold winters.
  - 11) Hibernating, migrating, storing food supplies for winter, trying to stay warm in the cold months.
  - 12) Because the soil in deciduous forest contains a lot of stored nutrients.
8. *Find in the internet some additional information about tundra, desert or tropical rain forest and write an essay on the topic chosen.*

## **KEYSTONE SPECIES AND ECOSYSTEM ENGINEERS**

1. *Can you guess what the term «keystone species» means?  
Skim the text (read for gist) and give the answer to this question.*

Some species seem to have a stronger influence than others on their ecosystem. Take away the ocher sea star along the Northwest coast of the United States, for instance, and the ecosystem changes dramatically; in the absence of these sea stars, their favourite prey, mussels, takes over and makes it hard for other species that used to live there. Sea stars are known as keystone species, because as top predators they determine ecosystem structure by their eating habits.

If you chop down an aspen tree by a beaver pond, not much will happen; but if you take away a beaver, a wetland might dry out, changing the kind of plants that live there and the animals that rely on them. Because beavers exert their influence by physically altering the landscape, they are known as ecosystem engineers. Even minute organisms can be ecosystem engineers. The massive calcium carbonate structures built by tiny corals radically alter the ecosystem around them, protecting the shoreline and creating a complex habitat in which numerous fish and invertebrate species can live.

## SEA OTTERS

Kelp forests off California are so rich in diverse life that they have been called rain forests of the sea. Hundreds of species, from bonito to jellyfish to grebes, depend on these fast-growing sea plants – giant kelp are the world’s largest algae and grow up to 200 feet tall – for food, shelter, or both.

One of those species is the sea otter. The whiskered otter basks on her back like a sunbather at the beach, often secured to a piece of kelp so she will not drift away, as she cracks open snacks of abalone or sea urchin on her stomach. Sea otters are a keystone species of Pacific coastal waters. An otter eats as many as 50 large sea urchins each day. Its feeding limits the population of urchins, which eat giant kelp. Without the balancing presence of sea otters to keep urchin populations down, kelp forests disappear, and with them goes a habitat for fish, worms, abalone, and dozens of other marine species.

After sea otters were hunted to near extinction in the nineteenth century, kelp forests off the Canadian and U.S. Pacific coast suffered major declines. Kelp forests off California decreased by more than 80 percent. With the help of conservation efforts, sea otter populations have recovered to several thousand individuals; nonetheless, wildlife managers are still having a difficult time restoring the kelp forests.

## BEAVER ENGINEERS

Beavers are another highly influential species, shaping ecosystems and enabling other species to thrive by engineering water systems. Beaver dams turn streams into wetlands, ponds into lakes. The productivity and biodiversity of the beavers’ environment rises because of the increased moisture.

Wetlands created by beaver dams are often bordered by denser vegetation than surrounding areas. In dry regions, these streamside, or riparian, landscapes support trees and shrubs that shelter migrating birds and resident animals. The roots of plants at water’s edge are dense and deep, controlling erosion and holding moisture in the soil.

Like sea otters, beavers were once intensively hunted for their silky fur. Collecting beaver pelts for the top hat trade was one of the main economic reasons for the opening of the western frontiers of North America, beginning in Canada as early as the late sixteenth century.



At the same time that the beaver population was steadily shrinking, the interior of the North American continent was being carved into farms, and humans, with their man-made irrigation systems, became the ecosystem engineers.

### KEYSTONE CONSERVATION

Because of their critical role in shaping ecosystems, keystone species and ecosystem engineers have become a major factor in conservation planning. In smaller African reserves, for example, elephant herds are culled to keep them from having too big an influence on their now-limited ecosystem. Black-tailed prairie dogs in the American interior are hated by farmers but beloved by prairie restorationists because without them many plants and animals will not be able to survive. Nine species, including black-footed ferrets and burrowing owls, depend on the prairie dog for both food and housing. Dozens of other animals, birds, and plants eat prairie dogs, live in their burrows, or benefit from the soil aeration, grass-cropping, and other things prairie dogs do to their environment. Nonnative ecosystem engineers, such as cordgrass on the West Coast of North America, are seen as particular threats.

*(From Science 101: Ecology by Jennifer Freeman)*

2. *Find in the text and write out all international words.*

3. *Write which of them can be defined as:*

- 1) very sudden or noticeable,
- 2) of the greatest importance,
- 3) extremely small?

4. *Find these words in the following sentences and translate the sentences into Russian in written form:*

- 1) Soil has tremendous biodiversity within, breaking up waste into its component parts and fixing atmospheric nitrogen into usable forms; these activities are critical to the lives of species growing in and above the ground. *(Jeffrey K. McKee)*

- 2) Bacteria are now known to inhabit minute gaps in rock miles deep and live in geysers and boiling sulfur pools. (*Jennifer Freeman*)
- 3) The most dramatic source of rising temperatures is industrial, but it is augmented by the tree loss that comes with urbanization and roads. (*Jeffrey K. McKee*)
- 4) The wildlife loses out even more than we do from desertification, for where there is *not* water there is *not* life. At best the diversity of life persists in diminished form, extracting the minute amount of water available. (*Jeffrey K. McKee*)
- 5) Keystone species come in many shapes and sizes, and can play a variety of critical roles in ecosystem functioning. (*Jeffrey K. McKee*)
- 6) Without the sea star, the numbers of other species in the marine intertidal ecosystem actually drop dramatically. (*Jeffrey K. McKee*)

**5. Match the words from the text with their definitions:**

- |                     |   |
|---------------------|---|
| 1) invertebrate     | a) an animal that is hunted and killed for food by another animal   |
| 2) to shrink        | b) a large brown plant that grows in the sea  |
| 3) keystone species | c) a wall built across a river which stops the river's flow and collects the water  |
| 4) prey             | d) to become smaller, or to make something smaller  |
| 5) interior         | e) the inside part of something   |
| 6) ferret           | f) species that have a large effect on their ecosystem relative to the number of individuals present, such as prairie dogs and starfish |
| 7) kelp             | g) a small yellowish-white animal with a long body, hunting rabbits and other small animals   |
| 8) dam              | h) a set of animals or plants in which the members have similar characteristics to each other and can breed with each other             |
| 9) herd             | i) to lie or sit enjoying the warmth especially of the sun  |
| 10) species         | j) an animal that hunts, kills and eats other animals   |
| 11) predator        | k) an animal with no spine  |
| 12) to bask         | l) a large group of animals of the same type that live and feed together  |

6. *Find in the text and write synonyms to the following words:*

to prosper; to change; skin, fur, coat; huge; hole, den; pool; dampness, wetness; to cover, to protect, to hide; border, side; scene, panorama; danger, warning; to diminish, to reduce; algae.

7. *Complete the questions with:*

<i>what (5), why (6), how many (1), how (2)</i>
---

*Answer the questions in written form.*

- 1) ... is favourite prey of ocher sea stars?
- 2) ... will happen if you take away the ocher sea star from the ecosystem?
- 3) ... will happen if you take away the beaver from a pond?
- 4) ... can we call beavers ecosystem engineers?
- 5) ... are massive calcium carbonate structures built by tiny corals important for their ecosystem?
- 6) ... are kelp forests off California called rain forests of the sea?
- 7) ... urchins does an otter eat each day?
- 8) ... marine species may go if kelp forests disappear?
- 9) ... did kelp forests off U.S. Pacific coast suffer major declines in the nineteenth century?
- 10) ... do beavers enable other species to thrive?
- 11) ... does the productivity and biodiversity of the environment where beavers live rise?
- 12) ... supports trees and shrubs in dry regions?
- 13) ... have keystone species become a major factor in conservation planning?
- 14) ... do prairie dogs in the American interior help many plants and animals to survive?

8. *Find in the text and write how sea otters, beavers and black-tailed prairie dogs work as keystone species or ecosystem engineers.*

## **PREDICTIONS**

1. *Before you read the text answer the question in writing (5–6 sentences): «What do you know about global warming?»*
  2. *Scan the text and match the points of the plan with the paragraphs:*
    - a) Possible results of the global warming
    - b) Adverse effects of rising sea levels
    - c) Consequences of changes in circulation patterns
    - d) New temperature records
    - e) The threat of extinction of species
    - f) Human hostile activities on the Earth
    - g) Conclusion
- 1) For the last 10,000 years, the Earth's climate has been extraordinarily beneficial to mankind. Humans have prospered exceedingly well under a benign atmosphere. Today, however, major changes are taking place. Human beings are conducting an inadvertent global experiment by changing the face of the entire planet. We are destroying the rain forests and pumping our pollutants into the air and water. Some of these pollutants are extremely toxic and carcinogenic. Others are destroying the ozone layer, which allows life to exist on the Earth's surface. All these activities are unfavorably altering the composition of the biosphere and the Earth's heat balance.
  - 2) If we do not curb our insatiable appetite for fossil fuels and stop destroying the forests, the world could become hotter than it has been in the past million years. Average global temperatures have risen 1 degree Fahrenheit over the last century. If carbon dioxide and other greenhouse gasses continue to spill into the atmosphere, global temperatures could rise 5 to 10 degrees by the middle of the next century. The warming will be greatest at the higher latitudes of the Northern Hemisphere, with the largest temperature increases occurring in winter. Most areas will experience sum-

merit time highs well above 100 degrees Fahrenheit. New temperature records will be set each year.

- 3) Atmospheric disturbances brought on by the additional warming will produce more violent storms and larger death tolls. Some areas, particularly in the Northern Hemisphere, will dry out and a greater occurrence of lightning strikes will set massive forest fires. The charring of the Earth by natural and man-made forest fires will dump additional quantities of carbon dioxide into the atmosphere. Changes in temperature and rainfall brought on by global warming will in turn change the composition of the forests. At the present rate of destruction, most of the rain forests will be gone by the middle of the next century. This will allow man-made deserts to encroach on once lush areas.
- 4) Evaporation rates will also increase and circulation patterns will change. Decreased rainfall in some areas will result in increased rainfall in others. In some regions, river flow will be reduced or stopped completely. Other areas will experience sudden downpours that create massive floods. The central portions of the continents, which normally experience occasional droughts, might become permanently dry wastelands. Vast areas of once productive cropland could lose topsoil and become man-made deserts.
- 5) Coastal regions, where half the human population lives, will feel the adverse effects of rising sea levels as the ice caps melt under rising ocean temperatures. If the present melting continues, the sea could rise as much as 6 feet by the middle of the next century. Large tracks of coastal land would disappear, as would shallow barrier islands and coral reefs. Low-lying fertile deltas that support millions of people would vanish. Delicate wetlands, where many species of marine life hatch their young, would be reclaimed by the sea. Vulnerable coastal cities would have to move farther inland or build protective walls against an angry sea, where a larger number of extremely dangerous hurricanes would prowl the ocean stretches.

- 6) Forests and other wildlife habitats might not have enough time to adjust to the rapidly changing climate. The warming will rearrange entire biological communities and cause many species to become extinct. Weeds and pests could overrun much of the landscape.
- 7) Since life controls the climate to some extent, it is uncertain what long-term effects a diminished biosphere will have on the world as a whole. It is becoming more apparent, however, that as man continues to squander the Earth's resources, the climate could change in such a way that it is no longer benevolent to mankind.  
(From *Greenhouse Earth: tomorrow's disaster today* by Jon Erickson)

3. *Read the text carefully and write out all unknown words and expressions.*

4. *Find in the text and write synonyms to the following words:*

to push out, to devastate, luxuriant, to invade, to cause, careless, greedy, unfavourable, space, to spend, shower, hostile, favourable, losses.

5. *Find pairs of synonyms and organize them in two columns:*

to turn up, to happen, to experience, to suppress, to alter, great, serious, structure, to curb, roughness, to cause, beneficial, to throw out, apparent, to spend, to feel, to change, to spill into, massive, to occur, to diminish, disturbance, composition, benign, likely, to squander, to adjust, to destroy, to result in, vast, to adapt, to disappear, to reduce, to ruin, to vanish, to appear.

6. *Find pairs of antonyms and organize them in two columns:*

deep, to diminish, likely, vast, to vanish, extinct, to build, to leave as it is, more, to increase, to fall, to alter, small, less, to destroy, unlikely, to appear, alive, shallow, to rise.

7. *Find in the text the derivatives to the following words and write them down:*

to occur, light, to pour, to evaporate, to disturb, warm, mass, to pollute, exceed, to add, favour, to appear.

8. *Match parts of the compounds and write them down:*

- |          |           |
|----------|-----------|
| 1) green | a) sphere |
| 2) bio   | b) life   |
| 3) waste | c) kind   |
| 4) down  | d) lying  |
| 5) wild  | e) house  |
| 6) over  | f) pour   |
| 7) man   | g) fall   |
| 8) low   | h) lands  |
| 9) man   | i) run    |
| 10) rain | j) made   |
| 11) top  | k) soil   |
| 12) long | l) land   |
| 13) in   | m) term   |

9. *Find in the text and give English equivalents of the following:*

изменить лицо всей планеты; происходить, случаться; выбрасывать загрязняющие вещества в воздух; разрушать озоновый слой; изменять состав биосферы; обуздать ненасытный аппетит; происходить зимой; испытывать летние максимальные температуры; атмосферные волнения; всё более частые случаи ударов молний; дополнительные количества; в свою очередь; состав (структура) лесов; при нынешней (настоящей) скорости разрушения; вторгаться на когда-то изобилующие растительностью территории; типы циркуляции; речной поток будет сокращён; серьёзнейшие наводнения; периодические засухи; сухие пустоши; когда-то продуктивная сельскохозяйственная земля; терять верхний слой почвы; полосы прибрежной земли; барьерные острова; низколежащие плодородные дельты; виды морской жизни; уязвимые прибрежные города; рыскать по океанским просторам; приспосабливаться к быстро меняющемуся климату; целые биологические сообщества; сорняки и вредители; ослабленная (уменьшенная) биосфера; растрачивать земные ресурсы; быть благосклонным к человечеству.

**10. Answer the questions in written form:**

- 1) What can you say about the climate for the last 10.000 years?
- 2) What's happening in our world today?
- 3) What kind of experiment are human beings conducting?
- 4) How harmful can pollutants be?
- 5) Why are they dangerous for the Earth?
- 6) In what way may the world change?
- 7) To what degree may global temperatures rise?
- 8) What may the additional warming result in?
- 9) What do fires normally dump into the atmosphere?
- 10) Will the composition of the forests change?
- 11) Is there any danger that many more deserts will appear on our planet?
- 12) How may circulation patterns change?
- 13) What will coastal regions feel? Why?
- 14) How high could the sea rise?
- 15) What would disappear then?
- 16) Will wildlife have enough time to adjust to the rapidly changing climate?
- 17) What could be the result of this?
- 18) Can we be certain about the long-term effects a diminished biosphere will have on the world as a whole?
- 19) What is becoming more apparent however?

**11. Complete the chart to show how different natural phenomena and man-made activities influence the climate on our planet.**

<b>Natural or man-made phenomena:</b>	<b>The effects from natural phenomena and man-made activities:</b>
<ol style="list-style-type: none"><li>1) The experiment people are conducting on the Earth</li><li>2) Harmful and dangerous pollutants</li><li>3) Additional warming</li><li>4) Forest fires</li><li>5) Circulation patterns' changes</li><li>6) Rising ocean temperatures</li><li>7) Rising sea levels</li></ol>	



## **TOWARDS LANDSCAPE POLICIES**

1. *Can you give your comments on the three threats to Europe's landscapes which are development, abandonment and pollution?*
2. *Read the text and develop your ideas.*

### **THREATENED LANDSCAPES**

The quality and the diversity of Europe's landscapes are at risk. The threats to them may be summarised under three words- development, abandonment and pollution.

#### **DEVELOPMENT**

Europe is intensely populated, settled and used by mankind. The demands of its population for food, timber, minerals, water supplies, transport systems and other activities must be met on the land, and thus within the landscape. Such demands among previous generations have done much to create the landscapes that we treasure today.

Development, to meet modern needs, can produce landscapes of the same quality. But much modern development is so large in scale, so brutal in design, so dominating in its impact, that it diminishes the quality of the landscape. In some cities and industrial estates, the use of standardized building materials and architectural styles has destroyed the distinctive character of local landscapes. Many coasts and mountain areas have been degraded by massive tourism development.

#### **ABANDONMENT**

In other regions, landscapes are suffering through abandonment and neglect. In some peripheral or mountainous regions, the cultivated land has reverted to scrub. Similar decay is caused by neglect on the edge of some growing cities.

#### **POLLUTION**

The third threat comes from pollution of land, air and water. Such pollution is sometimes localized, but the sheer quantity of effluents and other toxins entering our natural systems is now so vast that it cannot be contained within localities. Moreover, the flow of air and water can carry pollution across national boundaries. Forests through-

out Europe are affected by acid rain; wide landscapes in central Europe are devastated by brown-coal mining; many rivers are heavily polluted.

### THE POLICY TO BE ADOPTED

This vital heritage of landscapes, and the threats to them, pose a challenge to scientists, policy-makers and practitioners. The aim should be to manage future change in a way that recognizes the great diversity and the quality of the landscapes and that sustains and even enriches that diversity and quality, rather than allowing it to diminish.

In some countries, such as Sweden, England and the Netherlands, nationwide work has been done to survey and record landscapes. Many governments have adopted planning policies which protect large areas of countryside from urban development and have helped to bring areas with a high quality of landscape under the protective ownership of public or non-profit-making bodies, such as the National Trust in the United Kingdom.

### A CHALLENGE TO PEOPLE AND GOVERNMENTS

Every citizen has a stake in the landscape, because it is the setting for all our lives. Everyone can contribute to the protection, management and planning of the landscape- the householder painting his house, the farmer repairing his hedge, the schoolchild planting a tree. But the framework of care for the landscape must be set by government, at national, regional and local level.

*(From Naturopo)*

### 3. Match the words with a similar meaning:

demand	significant
treasure	stewardship
awareness	liquid waste
protection	value
wide	consciousness
aim	conservation
important	purpose
destroy	broad
management	need
sustain	maintain
effluent	ruin

**4. Match the words from the text with their definitions:**

- |               |  |
|---------------|--|
| 1) diversity  | a) serious and detailed study of a subject         |
| 2) deliberate | b) examine or consider someone or something        |
| 3) survey     | c) leave completely and for ever                   |
| 4) hardship   | d) consider carefully                              |
| 5) research   | e) choose or name for a particular job or purpose  |
| 6) neglect    | f) possess something by lawful right               |
| 7) abandon    | g) difficult conditions of life                    |
| 8) designate  | h) condition of being different                    |
| 9) measure    | i) give too little attention or care to            |
| 10) own       | j) an action taken to bring about a certain result |

**5. Find the English equivalents in the text:**

- 1) предыдущие поколения
- 2) удовлетворить современные потребности
- 3) ухудшить состояние (качество) пейзажа
- 4) далее на восток
- 5) снова покрыться кустарником
- 6) через границы других государств
- 7) в широком смысле слова
- 8) не только на местном уровне
- 9) приобрести известность (стать известным)
- 10) представлять интерес
- 11) вопрос не в том, чтобы
- 12) большая заинтересованность
- 13) сложная связь между городским и сельским пейзажами
- 14) произвести изменения в будущем так, чтобы

**6. Fill in the table of derivatives:**

noun	verb	adjective
threat		
development		
		conscious
	protect	
	recognize	
	evaluate	
		valuable
identification		
growth		

7. *Arrange the following statements to make up a summary of the text:*

- 1) The threats to them are development, abandonment and pollution.
- 2) The third threat comes from pollution of land, air, and water.
- 3) Every landscape has importance for the people who live in it.
- 4) The heritage of landscapes and the threats to them pose a challenge to scientists, policy-makers and practitioners.
- 5) We need to define policies and objectives suited to each landscape.
- 6) The quality and the diversity of Europe's landscapes are at risk.
- 7) Modern development is so large in scale, so brutal in design, that it diminishes the quality of the landscape.
- 8) Protection is the attempt to sustain the particular character and quality of a landscape.
- 9) Many coasts have been degraded by massive tourism development.
- 10) Everyone can contribute to the protection, management and planning of the landscape.
- 11) In some regions landscapes are suffering through abandonment and neglect.

## ***THE COMMUNITY FOREST PROGRAMME IN ENGLAND***

1. *What comes to your mind when you see or hear the phrase «forest programme»? Make a diagram.*

To many people the word «forest» conjures up an image of dense, closely grown trees stretching as far as the eye can see. 800 years ago, in medieval times, it meant something quite different. The great forests of England were not only trees, but a mix of woods, heaths, farmland, wetlands and settlements where people lived and worked. Today community forests are breathing new life into this ancient meaning of the word.

The community forest programme is an ambitious effort to create new landscapes around England's major towns and cities. Initiated by

the Countryside Commission, the programme has developed into a wide partnership. This includes local authorities, groups from the private and voluntary sectors, and solid community support.

The community forest programme strives to fulfill a national need to diversify the use of England's rural land.

This will:

- add to the national supply of timber;
- offer an alternative to agricultural use of land;
- contribute to rural employment;
- create attractive sites for public enjoyment;
- enhance the natural beauty of the countryside;
- create wildlife habitats.

Existing tree cover within the 12 forests averages 6,9%, and it is proposed to increase this to about 30% over about 30 years.

In each of the 12 community forests the Countryside Commission and the Forestry Commissions, in partnership with the local authorities, have appointed project teams to prepare and implement strategic forest plans.

Finance comes from a number of sources. Grants from government bodies help with planting, management, restoration of derelict land and with the provision of facilities for sport and recreation. Further money comes from local government, the voluntary sector and industry.

Most important is the element of community involvement. Each forest encourages local people to take part in activities such as tree planting, in the recognition that they are creating substantial new landscapes for people to live in and enjoy.

*(From Naturopo)*

## 2. Find one word for each group from the list given on the right:

wetlands  
heaths  
wood

entertainment

government  
project team  
commission

environment

leisure enjoyment recreation	policy
habitat wildlife landscape	authorities
investment activities partnership	surface

**3.** *Fill in the table of derivatives:*

<b>noun</b>	<b>verb</b>	<b>adjective</b>
employment		
		agricultural
	depend	
approval		
		attractive
	restore	
		southern
	broaden	

**4.** *Complete the sentences using the text:*

- 1) Today community forests are breathing new life . . .
- 2) The community forest programme is an . . .
- 3) The programme includes 58 . . .
- 4) The encouragement of multi-purpose forestry will lead to . . .
- 5) Existing tree cover within the 12 forests . . .
- 6) The Forestry Commissions have appointed . . .
- 7) Creating the forests is not dependent on . . .
- 8) The aim of the programme is to encourage . . .
- 9) Grants from government bodies help with . . .
- 10) Each forest encourages local people to take part in . . .

**5.** *Can you work out the forest programme for our country? It is advisable to write the items of the plan before working at the programme.*

## **ACE'S HELP SO VITAL TO MAN AND BEAST ALIKE**

1. *Can you predict the content of the text by its title?*
2. *Scan the text and say what ACE stands for.  
Read the text again and formulate the main ideas.*

Gorillas were Angela Peake's main concern when she travelled to Uganda six years ago from her home in Newmill to support conservation work there.

But her first experience of the horrific poverty in villages near the mountain gorilla national parks affected her so deeply that she came home determined to help not only gorillas, but people.

She now runs ACE (Aiding Conservation Through Education) – a small but dynamic charity which raises money for nine schools and several thousand pupils who are struggling with drought, disease and the kind of crippling conditions that reduces life expectancy to 48.

Although the area has two rainy seasons a year, water drains away because people cannot afford to build containers or reservoirs.

«When you see someone scooping water out of a filthy puddle to drink it, you begin to understand poverty», – says Angela, who often finds she has to curb her tongue when confronted with the excesses and surfeit of the developed world.

«Someone recommended anti wrinkle cream to me the other day which costs £ 45. I couldn't help pointing out to her that our Ugandan teachers survive on less than that each month».

Because of their extreme poverty, local communities hunt gorillas for bush meat and Angela believes that conservation cannot be tackled in isolation. It must go hand in hand with helping people.

ACE therefore helps pay for school building projects, basic materials like pencils and exercise books, latrines and water tanks.

Every penny collected in the UK goes directly to people in this impoverished and remote area.

Angela, a former schoolteacher, works relentlessly to raise awareness in Cornwall of poverty in Uganda and is a superhuman fundraiser for ACE helped by husband, friends and supporters.

She accompanied students and teachers from Mount's Bay School to Uganda when they visited and worked with ACE's schools there.

Angela and her husband have not had a holiday for four years because they pay for all their own trips to Uganda.

*(From The Cornishman)*

**3.** *Give Russian equivalents of the following:*

main concern, horrific poverty, support conservation work, run ACE, a dynamic charity, raise money, life expectancy, primary education, a filthy puddle, impoverished and remote area, excesses and surfeit.

**4.** *Choose the right variant for the words and phrases:*

to raise awareness	to understand the difficulties to learn about the problems to draw attention to the problem
cannot be tackled with	cannot be coped with cannot be seen cannot be observed
a former teacher	a teacher at present a teacher in the past a part-time teacher
crippling conditions	poor conditions all modern conveniences all conditions available
to work relentlessly	unwillingly periodically persistently
to curb one's tongue	to control one's emotions to express one's feelings freely to feel pleased
to confront with	to deal with to face smth to cope with



**5. Match the words from the text with their definitions:**

- |                 |  |
|-----------------|--|
| 1) conservation | a) a matter that is of interest or importance to someone       |
|                 | b) the desire to know or learn                                 |
| 2) drought      | c) to form a firm intention or decision                        |
| 3) ensure       | d) the act of keeping something from being wasted or lost      |
| 4) curiosity    | e) to make something certain to happen                         |
| 5) linger       | f) to make someone willing to do something by reasoning        |
| 6) persuade     | g) to remain for a time instead of going                       |
| 7) concern      | h) a long period of dry weather when there is not enough water |
| 8) determine    |  |

**6. Say whether the following statements are «true» or «false»:**

- 1) She travelled to Uganda six years to support conservation.
- 2) She was so shocked with the poverty in villages that she decided to help only people.
- 3) ACE raises money for building hospitals.
- 4) Diseases and bad conditions reduce life expectancy to 48.
- 5) People don't suffer from the shortage of water because there are two rainy seasons a year.
- 6) Angela doesn't buy an anti wrinkle cream because it doesn't help her to look young.
- 7) Angela is the only person who feels enthusiastic about the raising of money for the people in Uganda.
- 8) Angela and Victor are the people with high income.

**7. Read the text again and write a summary of it.**

## **NATURAL PRIDE NATIONAL PARKS**

1. *What's your opinion about the role of national parks? Give your arguments in written form.*

Brian Jackman writes, «For me, the most thrilling sight in India is not the Amber Palace or the temple carvings; it is the Bengal tiger. It

took me three days, riding out each morning on the back of an elephant into the misty dawns of Madhya Pradesh, before I saw my first tiger in Kanha national park. It was an adult female, moving like a copper flame through the long grass of the Kanha national meadows. As we approached her, I could feel my elephant trembling. As for me, I was so excited I nearly fell off. Only the tigress seemed unconcerned, humbling us with her supreme indifference».

Today the tiger is vanishing into history, pursued by poachers to satisfy the bizarre demand for tiger bones, a prized ingredient of traditional Chinese medicine. Yet, the fact that these great cats have survived at all is due entirely to the political will that led to the creation of India's national parks. There, in Kanha and Corbet the tiger still roams in the forests of the night.

National parks are the first and last lines of defence against the destruction of the natural world. When Yellowstone in Wyoming, America, became the world's first national park in 1872, it was in response to the tide of civilization that was sweeping away the old Wild West. Half a century later, Aldo Leopold, the American conservationist, described what was happening. «No living man will see again the long-grass prairie, where a sea of prairie flowers lapped at the stirrups of the pioneer», – he wrote. «Wildness is a resource that can shrink but cannot grow».

Much more would have been lost had it not been for Yellowstone's founding fathers. Now thanks to their foresight, no other country has more protected landscapes than the United States. Together they make up a wilderness area bigger than Holland, Belgium and Denmark put together, and the national park concept has become America's greatest gift to the world.

In the best-run parks, the need to conserve wildlife and wild landscapes is paramount. Apart from tourism, no other human activity is allowed.

## YELLOWSTONE, USA

Yellowstone is a geothermal hothouse of boiling springs, bubbling mud pots and active geysers – 250 in all – of which the best known are Old Faithful and the Great Fountain, which shoots columns of steam 60 metres into the air for up to an hour at a time. Another great scenic set piece is the Grand Canyon of the Yellowstone River,

with its waterfalls and golden cliffs. The park's huge pine forests are recovering well from the devastating firestorms of 1988, and its lakes, mountains, creeks and flower meadows support a rich array of wildlife. Birds range from bald eagles to trumpeter swans. Mammals include black and grizzly bears, bison, moose, elk and beavers.

#### DENALI, Alaska, USA

An adult grizzly needs lots of space. Nothing less than a territory of 250sq km will do – so the bears that live in Denali should be very contented. Denali contains the full panoply of North American wildlife, including moose, caribou, black bears, bighorn sheep, wolves, lynx, golden eagles and gyrfalcons.

#### CANAIMA, Venezuela

Here, rising out of the rainforest, mysterious table mountains known as tepuis create a landscape like something from another planet. No wonder Sir Arthur Conan Doyle was inspired by one of these brooding sandstone citadels – the 2,810-metre high Mount Roraima – to write his novel *The Lost World*. The park's most famous site is Angel Falls, the world's highest waterfall. Imagine 18 Niagaras placed one above the other and you get some idea of what it looks like as it plunges for nearly 1,000 metres down the cliffs of Devil Mountain. All this, plus the treasures of the rainforest: clouds of butterflies and hundreds of different tropical orchids.

#### TORRES DEL PAINE, Chile

The Andes are, arguably, the most spectacular mountains on earth, and nowhere are they more inspiring than in southern Chile. The park takes its name from a trio of colossal, sheer-sided pink granite spires that dominate the surrounding lakes and meadows. Black-necked swans sail on the glacial lakes and condors circle over this immense wilderness.

*(From The Sunday Times)*

## 2. *Answer the questions:*

- 1) What impressed Brian Jackman in India most of all?
- 2) Why have tigers survived in India's national parks?

- 3) What was America's response to the damage of civilization for the old Wild West?
- 4) When was the world's first national park created? In which country?
- 5) Why did the landscapes of the national park in Venezuela inspire Sir Arthur Conan Doyle to write his novel «Lost World»?
- 6) What makes Yellowstone unique?
- 7) How do the national parks conserve wild nature?

3. *State what parts of speech the following words belong to:*

wildness, conservationist, highest, bigger, national, best, faithful, devastating.

4. *Make up sentences or short stories with the following words and expressions:*

- 1) animals, masterpieces of architecture, can't be, sight, only, thrilling, but as well.
- 2) wild nature, play, national parks, great role, preservation.
- 3) will see, no, long-grass prairie, living man, again.
- 4) wildlife, lakes, support, mountains, a rich array, flower meadows.
- 5) clouds of butterflies, treasures, are, hundreds of tropical orchids, rainforest.

5. *The following are the answers to the questions. Write suitable questions:*

- 1) Today the tiger is vanishing, pursued by poachers to satisfy the bizarre demand for tiger bones.
- 2) National parks are the first and last lines of defence against the destruction of the natural world.
- 3) Together national parks make up a wilderness area bigger than Holland, Belgium and Denmark put together.
- 4) No, it isn't. In the best-run parks any human activity is forbidden except tourism.
- 5) Yellowstone in America was.
- 6) The huge pine forests in Yellowstone are recovering well from

the devastating firestones of 1988.

- 7) Because an adult grizzly needs lots of space.
  - 8) Mysterious table mountains in Canaima, Venezuela create a landscape like something from another planet.
6. *Which national park would you like to visit? Why?*
7. *Find some additional information about national parks abroad and in our country. Write an essay.*

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# **АНГЛИЙСКИЙ ЯЗЫК**

**Развитие навыков чтения текстов  
по специальности  
для студентов-биологов и экологов**

