Every task may be done by student of any grade (tasks are not divided into groups by grade).

1. Many organisms reproduce asexually in favourable conditions and use sexual reproduction in a severe environment. Why? Support your opinion by examples.

2. There are some plants and other organisms which we can eat without cooking. However, most foods need to be cooked. Why? Explain it from a biological point of view.

3. The tumbleweed is an extraordinary plant. Its parts can be separeted and roll on the ground like a ball. What is the goal of this process? What problems do these plants have?

4. Both birds and insects reproduce by laying eggs. What are the similarities and the differences in reproductive behavior of these two diverse groups?

5. It is usually assumed that homoiothermy is more evolutionary advanced that poikilothermy. Yet cold-bloodedness provides some advantages for poikilothermic animals. List as much advantages of poikilothermy as you can.

6. In the human body, difference in size between large and small cells are comparable with difference between an elephant and a mouse. However, all cells possess similar genetic information. How can cells reach this difference? How is this difference useful for the human body?

7.

A mournful time of year! Its sad enchantment
flatters my vision with a parting grace —
I love the sumptuous glow of fading nature,
the forests clad in crimson and in gold...

A. S. Puskin
translated by Peter France

The autumn arrived. Leaves have changed into bright colours and then have fallen down. In towns, leaves are cleaned up almost immediately after falling. It is needed for the town to look tidy. But is it good from the biological point of view? List some advantages and disadvantages of this procedure and justify your ideas.

We grade the answers as following:

Points are given for correct answers only. The score is not reduced by incorrect answers. The total score depends on points given for correct answers on each question and student grade.

Usually biology questions have several (sometimes many) correct answers. For each correct answer you can get from 1 to 2 points (the amount depends on question difficulty and answer evidence).

There are questions to which there is no uniquely correct answer. In this case scores are given for any reasonable hypothesis.

If the student gives arguments for the answer he'll get more points than without arguing. In some tasks students are asked to provide examples; each correct example gives additional 0.5–1 point. Given examples should correspond to the question. For example, when asked about the luminous aquatic animals an example of "Firefly" will be ignored.

The same is for very homogeneous examples. If question is about animals which the larvae and adults eat different food, examples of the "frog" and "toad" will be treated as homogeneous.

For every task you can get a few points, and even many (8–10). There is no upper limit. Unfortunately, often students give only one answer and get only 1 or 2 points. The amountof consistent arguments and correct examples given by a student is important. The volume of written text does not affect the score.

Arguing on the questions that are not from the task won't give additional points. Only student work is graded. No points are given for texts copied from any literature or any other source or other students' works..