

Biology

Delprov A1

engelsk version

Årskurs

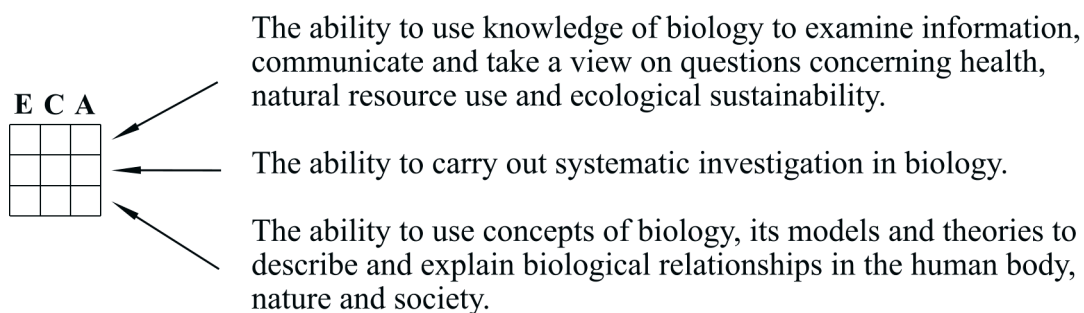
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Elevens namn och klass/grupp

NATIONAL TEST IN BIOLOGY 2017

The national test gives you a chance to show what you know about biology. On the right of each question you will find a symbol that tells you which of three abilities you can demonstrate in your answer.

The rows in the symbol describe these different abilities.



For each row you will be able to show your knowledge at three different levels: E, C and A.

For example, the table on the right indicates that the question allows you to show that you can use concepts of biology, its models and theories to describe and explain biological relationships in the human body, nature and society at level E and C.

Your answers to the questions should be clearly written so that other persons can read your text and understand your meaning. Therefore it is important that you show all your work.

Time allowed: 75 minutes

Name: _____

School: _____ Class: _____

Date of Birth: Year _____ Month _____ Day _____

Your answers must be written on separate sheets of paper, NOT on the question paper. The question paper must be returned to your teacher together with your answers.

1. In the boxes 1-3 statements are given on what will happen during eutrophication of a lake.

Choose the correct statement in each box.

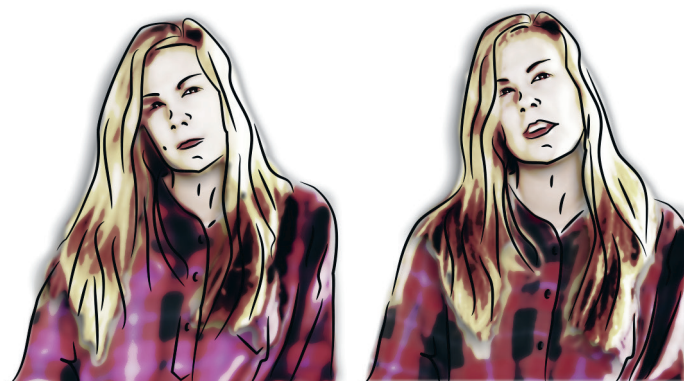


Box 1 { A. The number of nutrients in the lake is increasing.
B. The number of nutrients in the lake is decreasing.

Box 2 { C. The number of plants in the water is increasing.
D. The number of plants in the water is decreasing.

Box 3 { E. Water transparency depth in the lake is increasing.
F. Water transparency depth in the lake is decreasing.

2. Two female identical twins are comparing their muscles. They find that one of the twin sisters has a larger muscle mass than the other twin sister.



- a) Give one example why there might be a difference in the identical twin's muscle mass.



Both women, being identical twins, give birth to one son each almost at the same time.

- b) Is it possible to predict whether there will be any difference between the boys' muscle mass when they are grown-ups?
Explain through your knowledge about heritage and environment.



3. Scientific discoveries have led to the development of several methods within, for example, medicine.

Combine each of the methods **1-4** with one of the descriptions **A-D**.



Methods	Descriptions
1. Ultrasound	A. Delete or add genes.
2. Vaccination	B. Examine the body's internal organs.
3. Gene technology	C. Examine a person's antigens and antibodies.
4. Blood typing	D. Add contaminant activating the immune system.

4. The human body consists of several organ systems that have to cooperate to make the body work.

Explain how the respiratory system and the circulatory system cooperate to make the body's cells work.



5. In the boxes 1-4 there are statements about the arising and evolution of life.

Choose the correct statement in each box.



- Box 1 {
- A. Life evolved on Earth, in connection with the Big Bang, approximately 14 billion years ago.
 - B. Life evolved on Earth, in connection with the arising of amino acids, approximately 3.6 billion years ago.

- Box 2 {
- C. The first organisms were bacteria.
 - D. The first organisms were viruses.

- Box 3 {
- E. The oxygen in the Earth's atmosphere was produced by algae in the oceans.
 - F. The oxygen in the Earth's atmosphere was produced by plants on land.

- Box 4 {
- G. An important adaption to life on land for reptiles is external fertilization.
 - H. An important adaption to life on land for reptiles is internal fertilization.

6. Sea eagles mostly eat big fish that they catch from the sea. Forty years ago, the sea eagles were almost extinct because of environmental pollutants. By feeding sea eagles with non-toxic food, the species was saved.



Use your knowledge about food chains and explain why the sea eagles were so much affected by the environmental pollutants.



7. There are both advantages and disadvantages with birth control methods. One advantage with both condoms and contraceptive pills is, for example, that both protect against pregnancy.

- State one more advantage with condoms or contraceptive pills as birth control.
- State one disadvantage with condoms or contraceptive pills as birth control.

8. A municipality wants to contribute to a better environment and has therefore introduced vegetarian school lunches twice a week.



Reason in two steps about the consequences of the introduction of vegetarian lunches for the environment.

9. Antibiotics are medical drugs used to kill bacteria.

Explain how today's use of antibiotics can affect humans' living conditions. State both a possibility and a risk with the use in your explanation.

10. Jean-Baptiste de Lamarck presented the first evolution theory in 1809. The modern evolution theory was developed by Charles Darwin in 1859.

Jean-Baptiste de Lamarck



"A species develops new features when the individuals within the species take an effort. For example, the giraffes have longer necks since they have had to stretch to get food. Their kids have then also got longer necks."

Charles Darwin



"No, that's not correct. My theory is that..."

Start from the concepts of variation, selection, time, and heritage and explain evolution according to Darwin's theory.





Institutionen för tillämpad utbildningsvetenskap