

Biology

Delprov A1
engelsk version

Årskurs

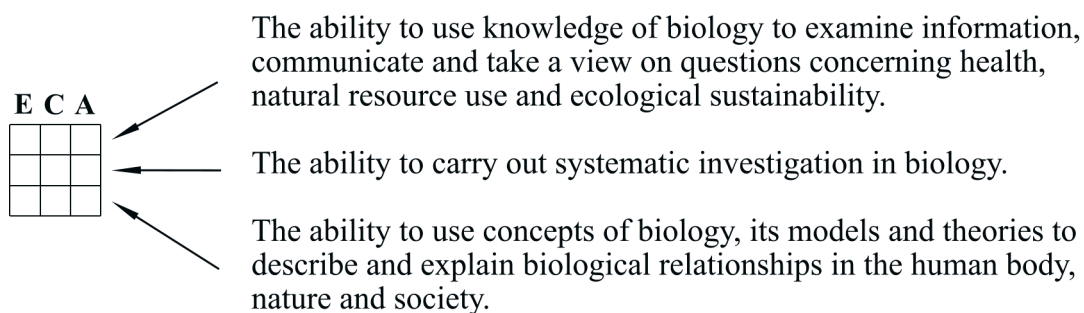
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Elevens namn och klass/grupp

NATIONAL TEST IN BIOLOGY 2018

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 minute

Name: _____

School: _____ Class: _____

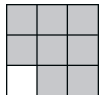
Date of Birth: Year _____ Month _____ Day _____

Your answers must be written on separate sheets of paper. The question paper must be returned to your teacher together with your answers.

1. The human body needs many different nutrients to work. The different nutrients have different functions in the body.



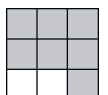
Combine each of the nutrients 1–4, with one of the functions in the body A–D.



Nutrient	Function in the body
1. Iron	A. Facilitates the work of the intestines.
2. Salt	B. Regulates the fluid balance.
3. Proteins	C. Builds muscles.
4. Fibres	D. Binds and transports oxygen.

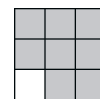
2. Humans depend on the different ecosystems in nature. The goods and services we humans get from the ecosystems are called ecosystem services. One example of an ecosystem service is that some plants are used to produce medical drugs.

- Give another example of an ecosystem service.
- Explain in what way the chosen ecosystem service is of value for us humans.



3. Between humans, infectious diseases are for example spread through the air and different body fluids.

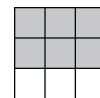
What can you, as an individual, do to decrease the spread of diseases?
Give one example.



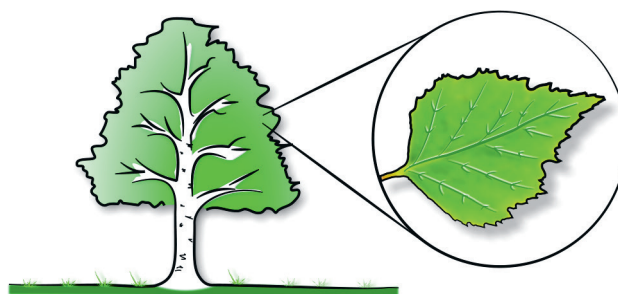
4. The European Tree Frog lives in leafy trees where it eats insects and larvae. Through evolution, the tree frog has adapted to the environment where it lives. One example of an adaptive attribute of the tree frog is that it has a long and sticky tongue.



Explain how the tree frog's long and sticky tongue has developed. You should, in your explanation, start from the four concepts variation, selection, inheritance, and time.

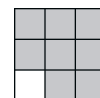


5. Photosynthesis is a chemical reaction that, for example, occurs in the green leaves of the plants.



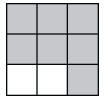
One of the alternatives A–D describes what will be produced in the reaction. Which?

- A. Carbon dioxide and water
- B. Carbon dioxide and glucose
- C. Oxygen and water
- D. Oxygen and glucose



6. If a person over a long period drinks too much alcohol, several organs in the body might be damaged.

- State one organ that can be damaged if a person over a long period drinks too much alcohol.
- Explain how the damage affects the function of the organ.



7. A person with colour vision and a person with colour blindness have a child together with the biological sex girl.

Facts:

- Gene for colour vision and colour blindness is located on the X chromosome.
- Colour vision is the dominant allele and colour blindness the recessive allele.

Person with colour vision



Sex chromosomes X X

Person with colour blindness



Sex chromosomes X Y

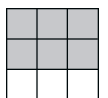


Child

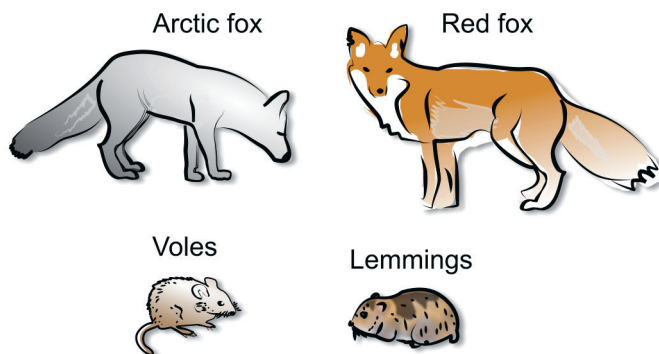


Sex chromosomes X X

Explain using your knowledge in genetics if the child will have colour vision or colour blindness.

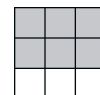


8. Sweden has two species of fox: Arctic fox and red fox. Both species live in badger's dens and eat, for example, voles and lemmings.

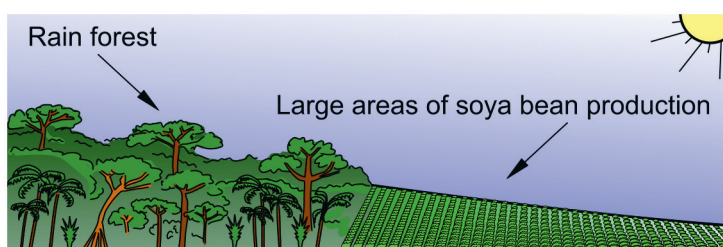


The Arctic fox lives only in the north of Sweden and is endangered. The Arctic fox is, for example, threatened by the red fox spreading to the Arctic fox's area and that the number of voles and lemmings are decreasing.

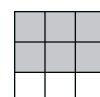
- State two actions that might increase the number of Arctic foxes.
- Explain how the two actions might lead to a higher number of Arctic foxes.



9. Cows are eating forage that often consists of soya beans. Soya beans are grown in rain forest areas. The rain forest is cut down to make space for large areas of soya bean production.

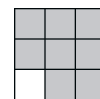


Reason in two steps about two consequences that large areas of soya bean production can have on the environment.



10. Scientific discoveries have led to the development of many different methods of investigation in health care.

Combine each of the methods of investigation 1–4, to one of the areas of use A–D.



Methods of investigation

1. EKG

2. X-ray

3. Skin prick test

4. Urine tests

Areas of use

A. Investigate the patient's skeleton.

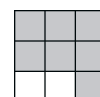
B. Investigate whether the patient is pregnant.

C. Investigate the patient's heart.

D. Investigate whether the patient has allergies.

11. A person who needs blood, for example after an accident, can get a blood transfusion. During the 19th century, medical doctors found that the blood given for a blood transfusion has to come from humans.

- State another scientific discovery about blood that has made more people survive from a blood transfusion.
- Explain how this discovery has contributed to more people surviving from a blood transfusion.





UMEÅ UNIVERSITET

Institutionen för tillämpad utbildningsvetenskap