

# Biology

**Delprov A**

Årskurs

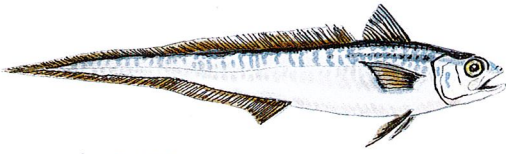
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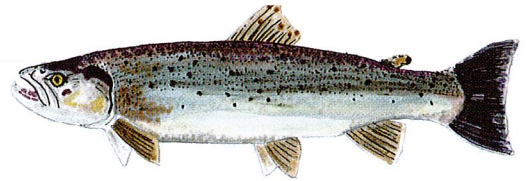
Elevens namn och klass/grupp

The test results summarize your performance on the National test. The mark for the entire term does not have to be in agreement with the test results since the mark is based on all of your performance in the subject and not only on the National test.



*Hoki*

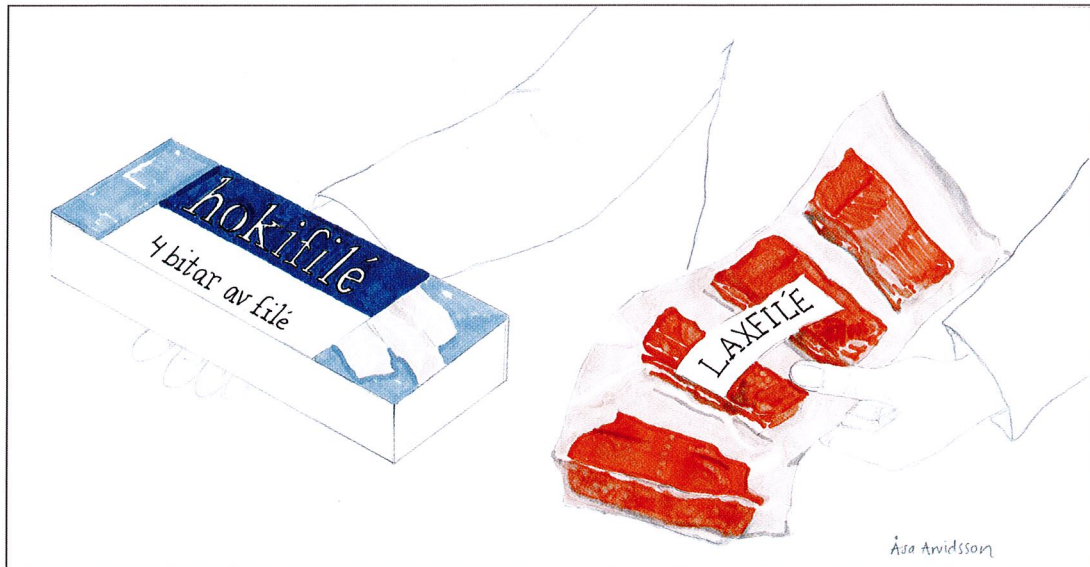
Åsa Arvidsson

*Salmon*

Åsa Arvidsson

This task is about how the environment and people are affected by which fish we choose to eat.

You and your family are shopping fish for dinner. You are choosing between two common kinds of fish, *salmon* and *hoki*. Today, the price per kilo is the same for both kinds of fish.



In order to decide which fish to choose, you need to know more about these kinds of fish. Below there are eight questions that you could ask in order to find out more.

1. How are salmon and hoki caught?

5. How large is a salmon?

2. Where do hoki fishes live?

6. Which fish is most plentiful: salmon or hoki?

3. Which fish is more nutritious: salmon or hoki?

7. Are salmon and/or hoki cultivated?

4. Which fish tastes the best: salmon or hoki?

8. How fast do salmon and hoki fish grow?

Your task is to **choose two of the questions**, which can aid you in choosing fish.

The questions need to provide **information about how people and the environment** are affected by which fish you buy.

**Justify why** these questions are important to pose. Give several justifications if you can.

**Do not forget:**

- to broaden and deepen your justifications
- to use your **knowledge in science**
- you are **not** supposed to answer the questions.

I choose question number \_\_\_\_\_  
because

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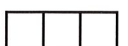
I choose question number \_\_\_\_\_  
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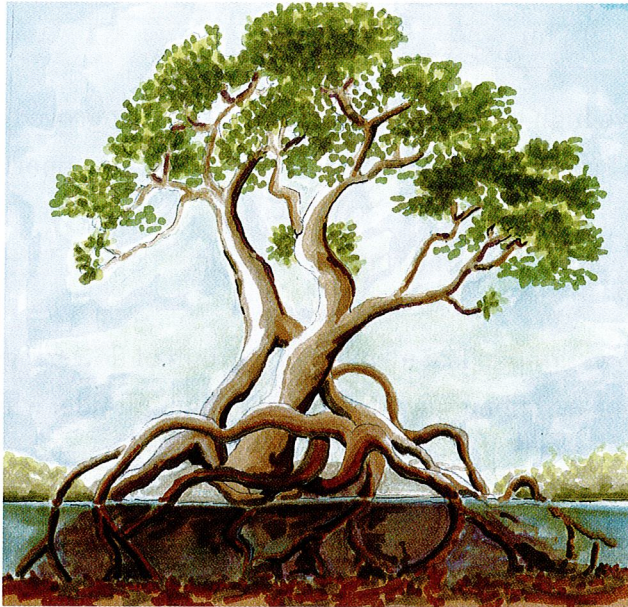
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You are supposed to work with mangrove forests in school. Mangroves are trees and bushes growing in coastlines in warm areas of the earth.



Åsa Arvidsson



U.S. National Oceanic and Atmospheric Administration

Your group is supposed to make a presentation about the **importance** of mangrove forests for **both people and animals**. Tim, who is in your group, has collected facts about mangrove forests on the Internet.

He sends an e-mail to the group asking which of the sources you should use for your presentation. You are supposed to choose 4 sources. **First read the e-mail from Tim carefully.**



## Mangrove assignment

**From:** Tim

**Sent:** Yesterday

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**To:** Science group

Hi everyone!

I've found a lot of facts about mangrove! :) Tim

**Source 1:** The roots of mangrove trees have high tolerance towards salt. The mangrove trees may grow to a height of 30 meters. Many trees have stilt roots that provide structural support.

**Source 2:** Many species of sea fish reproduce between the roots at high tide.

**Source 3:** American mangrove (*Rhizophora mangle*) is a member of a group of flowering plants growing in tropical coastal areas. The roots are submerged in water during high tide, while during low tide they dry out.

**Source 4:** A belt of 100 meters of healthy mangrove provides shelter for tsunamis and tropical cyclones.

**Source 5:** The mangrove is one of the most threatened ecosystems. The forest is cleared in order to give room for hotels. Elsewhere, industrial shrimp farming may compete with the mangrove.

**Source 6:** Maria lives at the east coast of Nicaragua. She walks with deft steps down the path from her hut by the edge of the water in the mangrove forest. By cutting incisions in a couple of trees she collects some sap and describes how a decoction of the bark is good for inflammations. She is one of the thousand Rama Indians living here and trying to preserve their way of life.

**Source 7:** Mangrove snake [-gro:'-], *Boiga [boi'ga] dendro'phila*, species in the colubrid family of snakes. It can be found in forests and mangrove areas in south-east Asia. This species can reach a length of 2.5 meters. It lives in trees and is nocturnal. The venom is relatively potent, but the snake rarely attacks humans.



**Source 8:** Many birds build their nests in the trees. Crabs, shrimps, bivalves, fish, and many other kinds of animals live in the water between the mangrove roots.

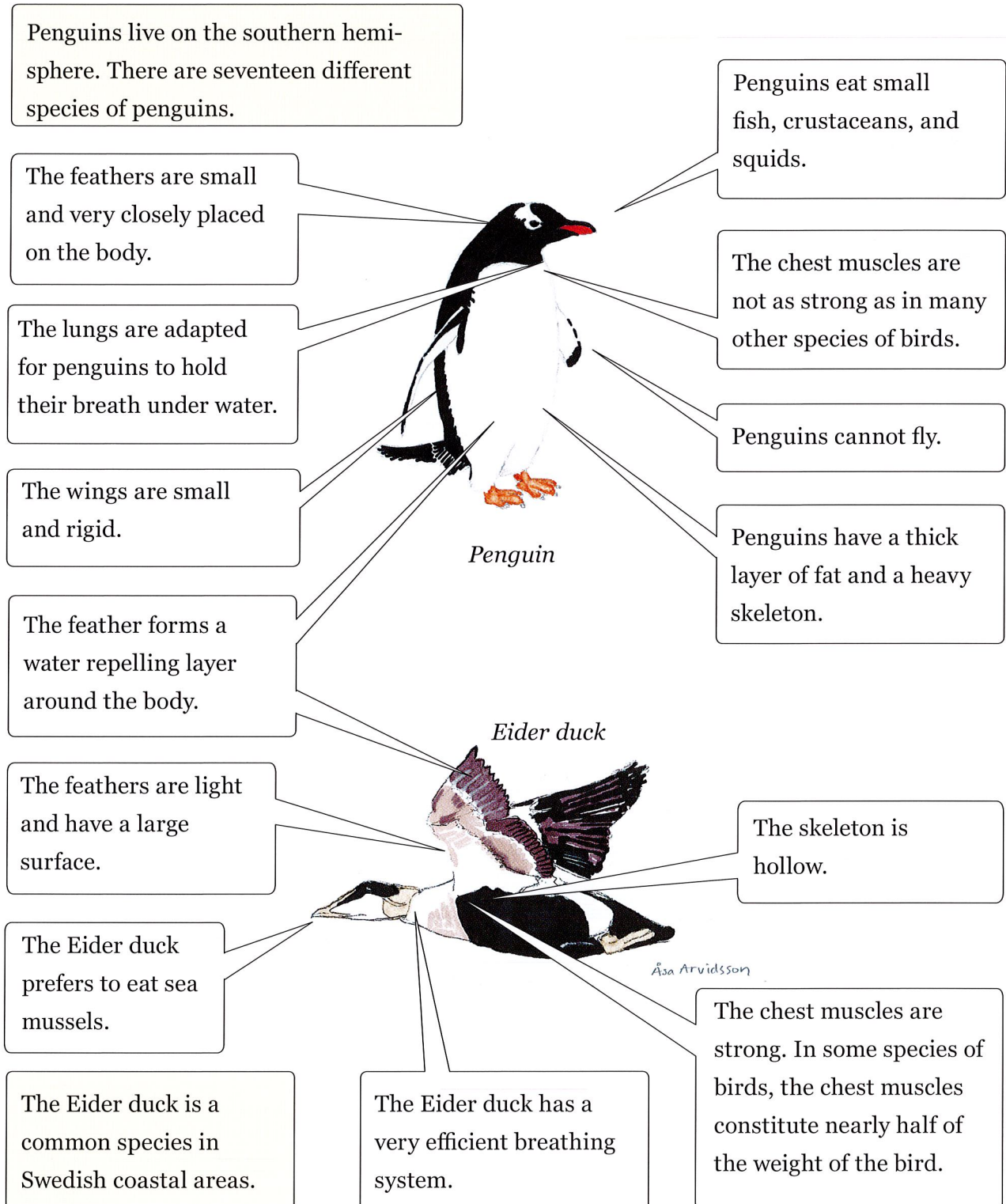
**Source 9:** When mangrove forests are destroyed they can no longer fixate carbon, which may increase global warming.





There are birds almost all over the world. Different species are adapted to different ways of life. For instance, the Eider duck can fly, but the penguins cannot.

Read the information in the boxes below. Think about how the penguins are adapted to their way of life, as compared to the Eider duck.



Your class is going to write about **adaptations**. The texts are going to be posted on the walls in the classroom.

Your task is to **compare** the birds by describing **two differences** between the penguin and the Eider duck.

Also **explain why** the birds are different. Use the information in the boxes.

**Do not forget:**

- that the explanations for the differences should be about **adaptations**
- to explain as thoroughly as you can
- to use your **knowledge in science**.



### Penguins and the Eider duck



One difference between the birds is \_\_\_\_\_

\_\_\_\_\_

There is a difference because \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Another difference between the birds is \_\_\_\_\_

\_\_\_\_\_

There is a difference because \_\_\_\_\_

\_\_\_\_\_

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# Biology

**Delprov B**

Årskurs

6

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Elevens namn och klass/grupp

### Test results

Your test results are based on the knowledge you have shown in the National Tests.

Your term results are not necessarily the same as your test results, as they are based on all the knowledge you have shown in your subjects.

# 1 | *The great tit*

The great tit is a very common bird in Sweden. In the autumn and winter you can often see them on bird feeding tables.

By studying one particular great tit that visits a feeding table, you can get answers to certain questions.

a. Which of the following questions can you answer by studying great tits at a feeding table, about an hour each day for the period of one month?



Bird feeding table with food

**Put a cross in the right squares!**

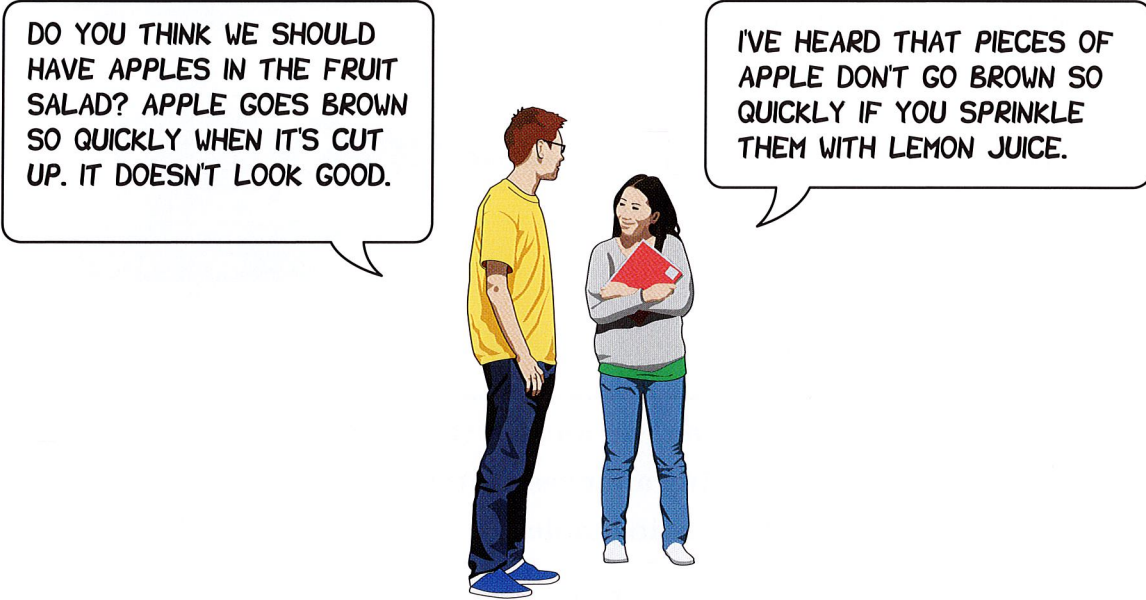
	<b>Yes, you can answer this by using an investigation at a feeding table</b>	<b>No, you can't answer this by using an investigation at a feeding table</b>
How old can great tits become?	<input type="checkbox"/>	<input type="checkbox"/>
How often do great tits visit the feeding table?	<input type="checkbox"/>	<input type="checkbox"/>
Why do great tits like eating seeds?	<input type="checkbox"/>	<input type="checkbox"/>
Do great tits eat the same type of seed all the time?	<input type="checkbox"/>	<input type="checkbox"/>
How do great tits build their nests?	<input type="checkbox"/>	<input type="checkbox"/>

b. Suggest two questions of your own that you could answer by observing the bird feeding table in the investigation described above.

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Emma and Philip are planning to make fruit salad for a party. Read what Philip and Emma are talking about..



You are to plan an experiment that investigates if Emma is right when she says that lemon juice will stop the pieces of apple going brown so quickly.

**Write your plan so carefully that one of your classmates could carry out the investigation without asking you anything!**

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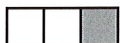
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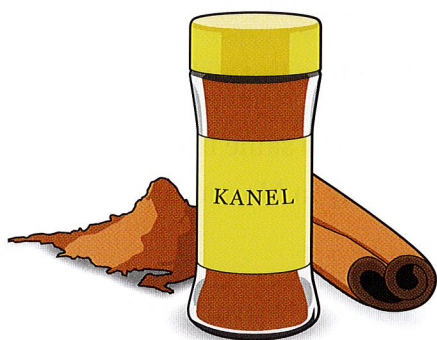
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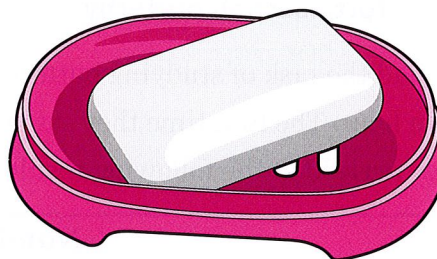
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Cinnamon



Soap

The sense of smell can vary in sensitivity between different people. You are to describe how you can test at what distance your friend distinguish a certain smell. You can choose either cinnamon or soap for your test, but you should not reveal which one you choose to use.

**Your description should be so carefully written that someone else can follow your instructions to complete the experiment.**

This is how you can test **at what distance** a friend can distinguish a certain smell:

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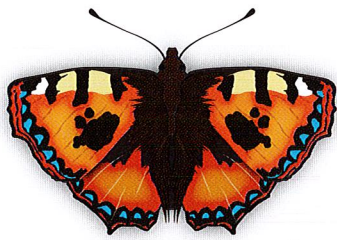
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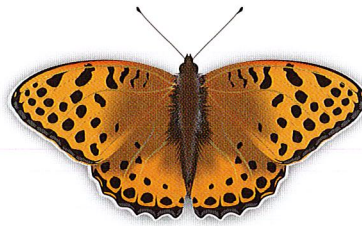
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Tortoiseshell butterfly



Fritillary butterfly

Four pupils had the task of studying butterflies. They all sat at the same buddleia bush together for about half an hour. The first time they sat by the bush was a day in May, and the next time was in August. They arrived at the following results:

Student and placing	Number of butterflies during the first obser- vation (May)	Number of butterflies during the second observation (August)
<b>Maria</b> sits directly in front of the bush	1 tortoiseshell butterfly	3 tortoiseshell butterflies , 4 fritillary butterflies
<b>Ali</b> sits to the left of the bush	1 tortoiseshell butterfly	4 tortoiseshell butterflies, 3 fritillary butterflies
<b>Zara</b> sits directly behind the bush	1 tortoiseshell butterfly	4 tortoiseshell butterfly, 2 fritillary butterflies
<b>Robin</b> sits to the right of the bush	No butterflies	3 tortoiseshell butterfly, 4 fritillary butterflies

a. Look at the numbers of butterflies observed in August. Even though the **pupils** sat by the bush at the same time and were paying attention, they **don't have the same results**.

Give four suggestions for likely causes for these differences:

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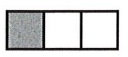


b. A sure sign of spring is when you see the first butterflies flying around. Different species of butterflies hibernate in different ways; as adult butterflies, as eggs, as larvae or in the pupa stage. Adult butterflies live on the nectar of flowers, for example of the buddleia bush that blooms in August.

**Describe how these factors can explain the differences between the results the pupils got in their observations in May and August.**

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Four pupils investigated how deep one should sow sunflower seeds in the earth for them to germinate and grow.

The table below shows the results the pupils got.

Elev	Fröets djup i jorden	Resultat
<i>Maria</i>	0.5 cm	Germinated
<i>Ali</i>	1 cm	Did not germinate
<i>Zara</i>	2 cm	Did not germinate
<i>Robin</i>	3 cm	Germinated

This is what they had done:

- They brought various sorts of pots from home and filled them with earth
- Each pupil watered their own pot
- They sowed one seed in each pot
- They wrote down how deep they sowed the seed
- Then they put the pots in various places around the classroom and waited for about three weeks.

It is difficult to compare the results achieved by these pupils and to draw any conclusion from their investigation. Suggest **five ways of improving** this experiment so that the pupils can do a new investigation where **the results can be compared** with each other.

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- .....
- .....




# 6 | Fingerprints

Fingerprints are unique and the fingerprints we are born with remain the same all our lives. Human beings have three different types of fingerprint: whorls, loops and arches (See picture). You are to investigate your own fingerprints in this task.

a. Press your index finger **once** onto an ink pad and then press once in each box until you have a good print.



b. Compare the clearest print above with the pictures below, and put a cross in the correct box. You can see better if you use a magnifying glass and hold the paper up to the light.

Type of fingerprint	Examples of fingerprints	Most similar to my fingerprint. Put a cross in the correct box! (use a magnifying glass)
whorl		<input type="checkbox"/>
loop (these can come from the right or the left side of the print)		<input type="checkbox"/>
arch		<input type="checkbox"/>

c. Here is a picture of Ali's fingerprint. Which type of fingerprint is this? Put a cross in the correct box.




whorl

Loop

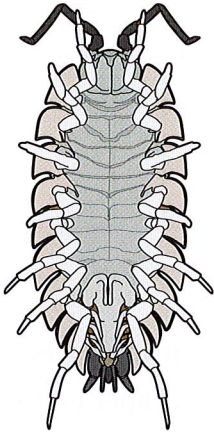
arch

Task 6 executed  
(teacher signature)

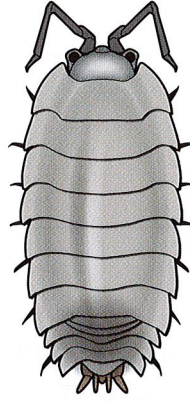


Shrimps and wood-lice are related to each other, but there are both similarities and differences between them. In front of you on the table is a shrimp. You may touch and examine it.

You also have two enlarged pictures of a wood-lice.



Underside of a wood-  
lice



Wood-lice from above



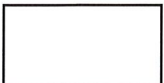
Wood-lice, actual size

- a. Describe **three similarities** you can see between the shrimp and the wood-lice. One similarity in each box.

Similar with regard to	Similarities between the shrimp and the wood-lice
The two eyes	
The shells	
The legs	

b) **Describe three differences** between the shrimp and the wood-louse that you can see!  
In this case, you can decide yourself what to look at!

<b>Differences in regard to</b>	<b>Shrimp</b>	<b>Wood-louse</b>
<b>Colour</b>	<b>Back is pink</b>	<b>Back is grey</b>



Task 7 executed  
(teacher signature)





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# Biology

Delprov C

Årskurs

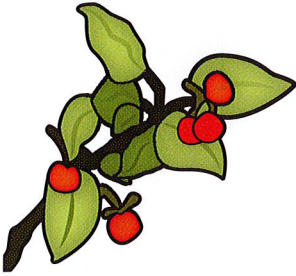
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Elevens namn och klass/grupp

The test results summarize your performance on the National test. The mark for the entire term does not have to be in agreement with the test results since the mark is based on all of your performance in the subject and not only on the National test.

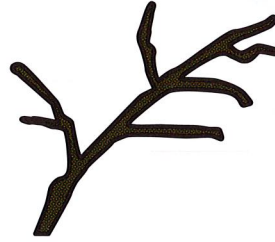
In what order should the images be put to show how an apple tree develops in a year?  
Fill in the numbers in the order they appear.



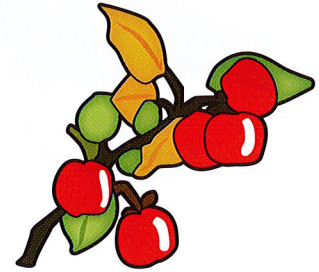
1



2



3



4

First comes image number 3.

After that comes image number \_\_\_\_\_

Then comes image number \_\_\_\_\_

At last comes image number \_\_\_\_\_



Plants need both energy and matter to live.

Where do they get their energy from?

The air

The soil

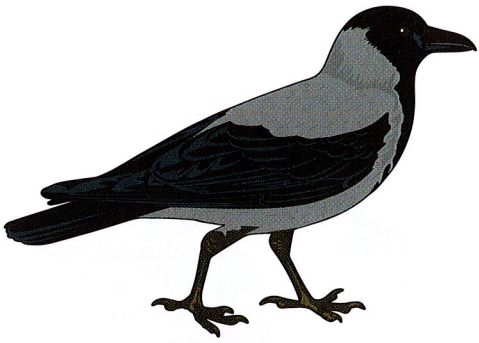
Water

Sunlight



3

What are the names of these birds? Select from the options in the box and type a name under each image..

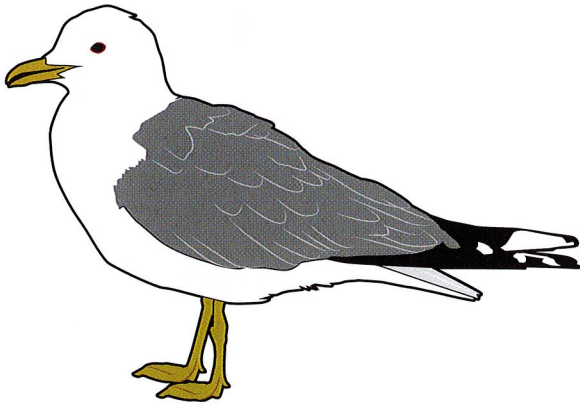


a) \_\_\_\_\_

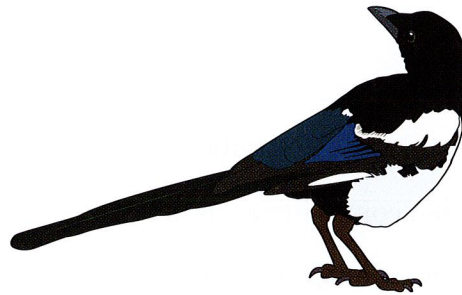


b) \_\_\_\_\_

- blackbird*
- raven*
- seagull*
- house-sparrow*
- crow*
- chaffinch*
- magpie*
- wagtail*
- great tit*



c) \_\_\_\_\_



d) \_\_\_\_\_



4

Decomposers, such as fungi and bacteria, are essential in nature.

Explain how decomposers may be important for plants to grow.

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5

Food chains show who eats what in an ecosystem.

a) Which of the following food chains cannot exist in nature?

- |   | <i>eaten by</i> | <i>is eaten by</i> | <i>is eaten by</i> |
|---|-----------------|--------------------|--------------------|
| <input type="checkbox"/> LEAF           | → APHID         | → ANT              | → WOODPECKER       |
| <input type="checkbox"/> SMALL FISH     | → ALGAE         | → PERCH            | → HUMAN            |
| <input type="checkbox"/> SEED OF SPRUCE | → SQUIRELL      | → OWL              |                    |
| <input type="checkbox"/> FLOWER         | → BUTTERFLY     | → WAGTAIL          | → HAWK             |

b) Explain why the food chain cannot exist in nature.

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6

A deciduous tree is exposed to a larvae infestation. The larvae eat up all the leaves on the tree. The larval infestation also affects other creatures and plants than larvae and the tree!

a) Explain how creatures or plants can be advantaged by the larval infestation.

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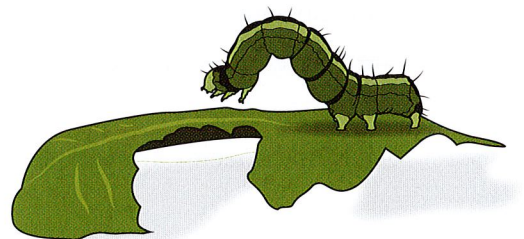
b) Explain how creatures or plants can be disadvantaged by the larval infestation.

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7 Scientists have discovered that there are often creatures such as crickets, bats and snakes in underground caves, but never any plants with green leaves.

Explain why plants with green leaves can not live in underground caves.

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□ □ □

8

Fill in the species that belongs to the groups of creatures. Write a species in each row. Choose from the species in the yellow box below:

GROUP	SPECIES
<i>Insects</i>	
<i>Mammals</i>	
<i>Birds</i>	
<i>Amphibians</i>	
<i>Reptiles</i>	

- natterjack toad*
- garden spider*
- sand lizard*
- freshwater pearl mussels*
- blue whale*
- birnstone*
- ostrich*
- earth worm*

□ □ □

9

Sometimes they say that different species are related to each other, but what is actually true about species kinship? Mark one alternative.

Different species are not related to each other, nor have they any common origin.

Only species that resemble each other a lot, like horse and donkey, are related to each other and have a common origin.

Only species within the same group, for example all mammals, are related to each other and have a common origin.

All living species are related to each other and have a common origin.

□ □ □

10

Most people know that smoking is not good for you. The longer you have smoked the more serious injuries you can get.

Why is it foolish to start smoking at all?

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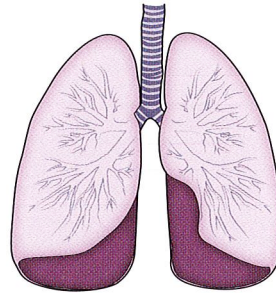
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11

In the air that you **inhale**, there is more oxygen and less carbon dioxide than in the air you **exhale**.

Explain why.



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Imagine that you are eating a meal. Most of the nutrients in the food you eat is absorbed in the small intestine.

- a) Name two organs or body parts that food passes before it reaches the small intestine. Mark the appropriate organs / body parts in the box.

*appendix   liver   large intestine   blood   gastric   kidney   mouth   lungs   rectum*

- b) Describe what happens to the food in the two organs or body parts you chose.

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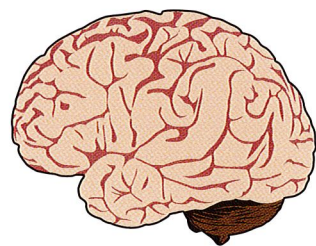
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The brain needs nutrients in order to function.

Explain how the nutrients are transported from the small intestine to the brain.



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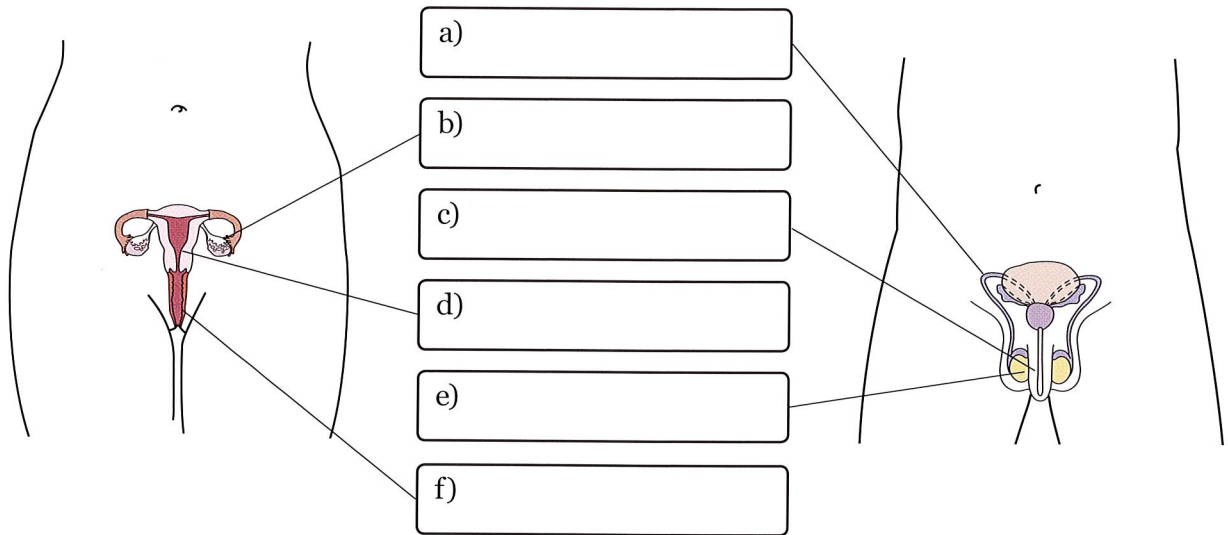


14

What are the names of the organs?

Choose from the words in the box and write the name of the organ in the right place.

*clitoris    testicle    vagina    prostate    ovary    penis    uterus    bladder    spermatic cord*



15

a) Describe a body change that occurs in both boys and girls at puberty.

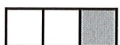
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b) Describe a body change that occurs only in girls at puberty.

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c) Describe a body change that occurs only in boys at puberty.

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