

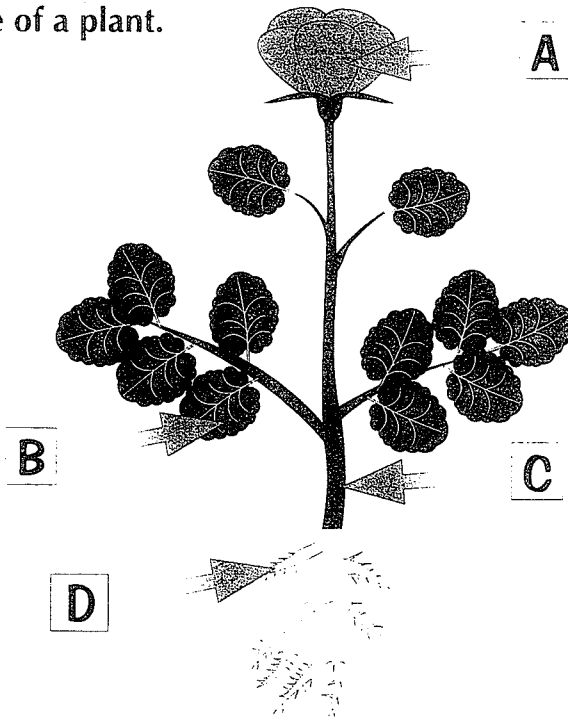
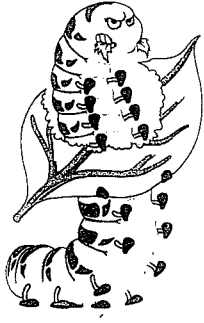
# **Learning Recovery**

## **Science – KS3**

**WRITE ANSWERS ON LINED PAPER**

**DO NOT WRITE IN THE BOOK**

Q1 Look at this picture of a plant.



a) What are the names of the labelled parts?



A .....

B .....

C .....

D .....

b) In which part of the plant is food made?

.....

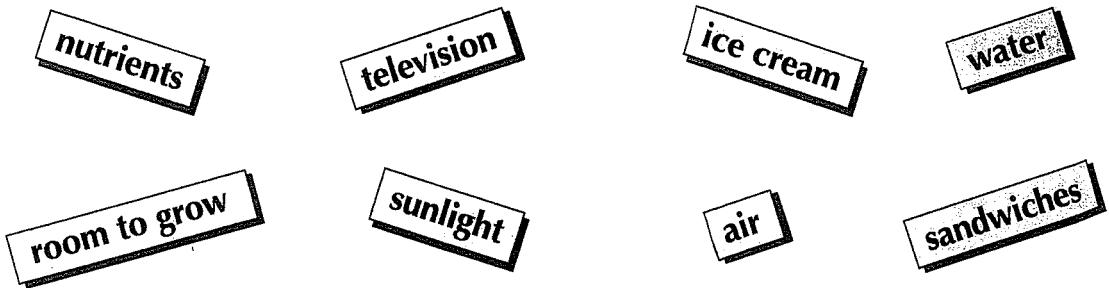
c) Which two main jobs does the part of the plant labelled C do?

.....

.....

.....

Q2 Put a **circle** around five things below that plants need to grow and be healthy.



Q3 June wanted to know where the best place in her room to grow a plant was. She put three plants in different places and gave them the same amount of water each day. She recorded how much they grew in a month.

**WORKING  
SCIENTIFICALLY**

Her results are in the table below.

Plant	Location	Growth (cm)
Jasmine	Under her bed	5
Cactus	On her windowsill	1
Rose	In a sealed glass jar	0



a) Why wasn't June's investigation a fair test?

.....

.....

b) June fixed her mistake and did the investigation again.

Where do you think the plant grew the most this time? Explain your answer.

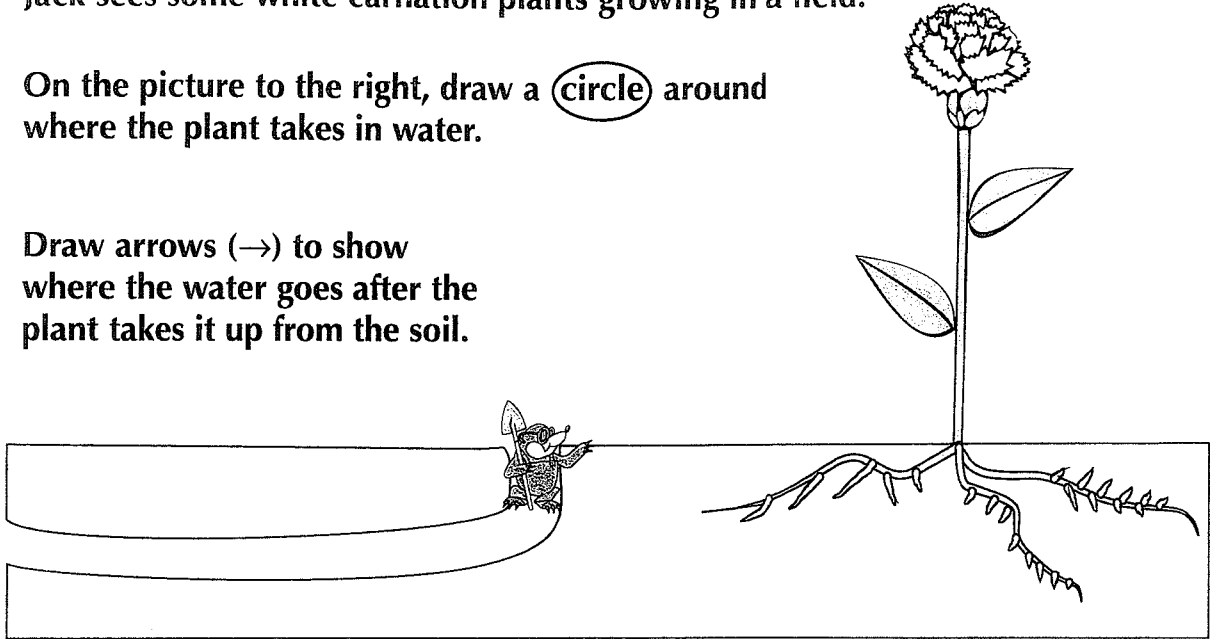
Location: .....

Reason: .....

.....

Q1 Jack sees some white carnation plants growing in a field.

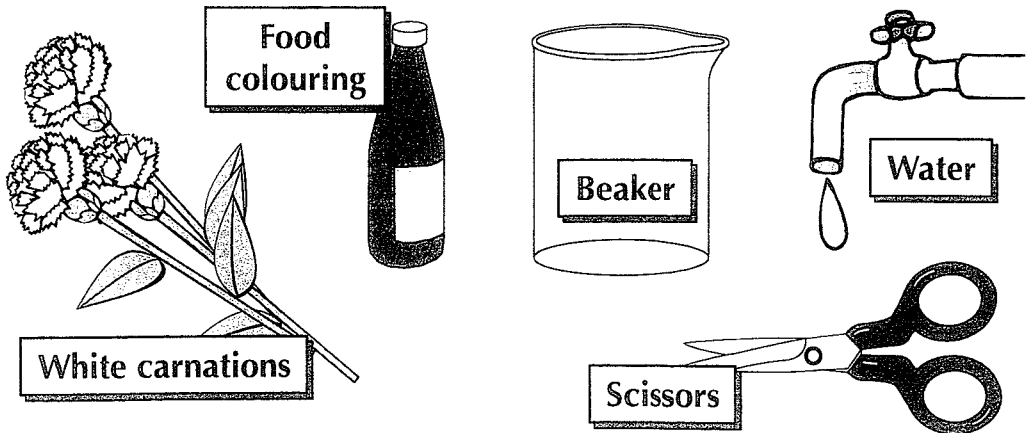
- a) On the picture to the right, draw a **circle** around where the plant takes in water.
- b) Draw arrows (→) to show where the water goes after the plant takes it up from the soil.



Jack is trying to show Jill how water is transported in plants.

- c) Write a method for an experiment that Jack could do with the equipment shown below to show how water is transported in plants. The first bit has been done for you.

**WORKING  
SCIENTIFICALLY**



*Fill the beaker with water.*

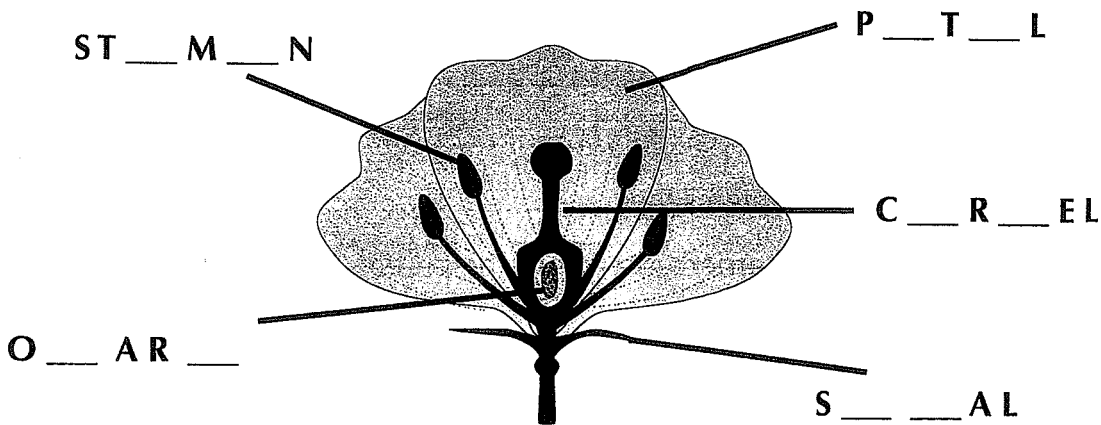
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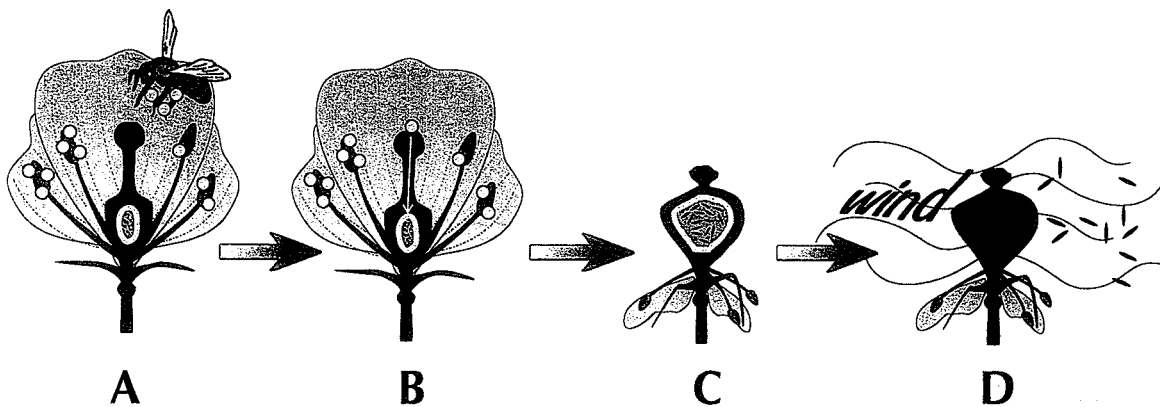
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.....

Q1 Fill in the missing letters of these words to name the parts of a flower.



Q2 This picture shows some stages in the reproduction of a flowering plant.



Fill in the name of each stage using the words below.

seed dispersal

pollination

seed production

fertilisation



A: .....

B: .....

C: .....

D: .....

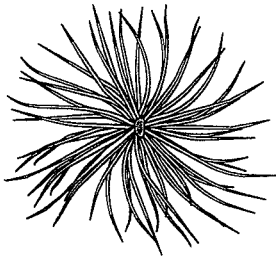
Q3 Use some of the words from the list below to complete these sentences.

pollination	seeds	stem	overcrowding	ovary
-------------	-------	------	--------------	-------

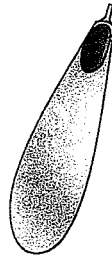
When the flower dies, the ..... becomes a fruit which contains the .....

Seeds must be carried away from the parent plant to prevent .....

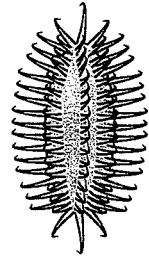
Q4 Here are some seeds from different plants.



Thistle



Ash tree



Cocklebur

a) Name one of these seeds that is dispersed by the wind. Explain how the seed is adapted to be dispersed in this way.

Seed: .....

Explanation: .....

.....

b) Name one of these seeds that is dispersed by animals. Explain how the seed is adapted to be dispersed in this way.

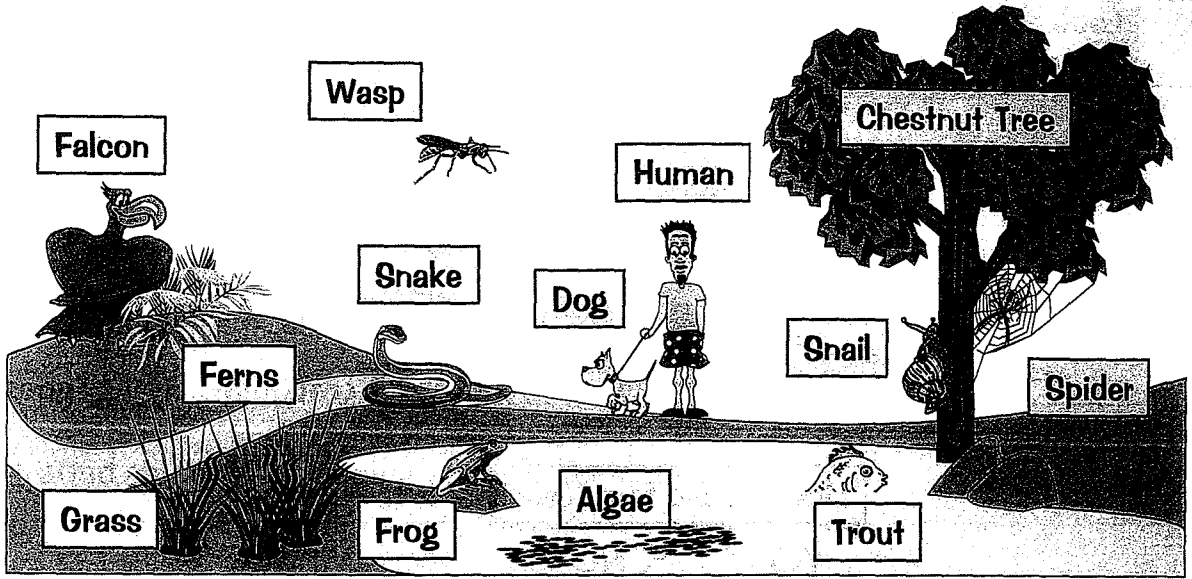
Seed: .....

Explanation: .....

.....



Damon can see loads of living things in the park.



a) Animals that have backbones are called vertebrates, and those that don't are called invertebrates. Find three of each in the picture.

Vertebrates: .....

Invertebrates: .....

b) Plants can be grouped into flowering and non-flowering. Use the picture to find one example of each.

Flowering: .....

Non-flowering: .....

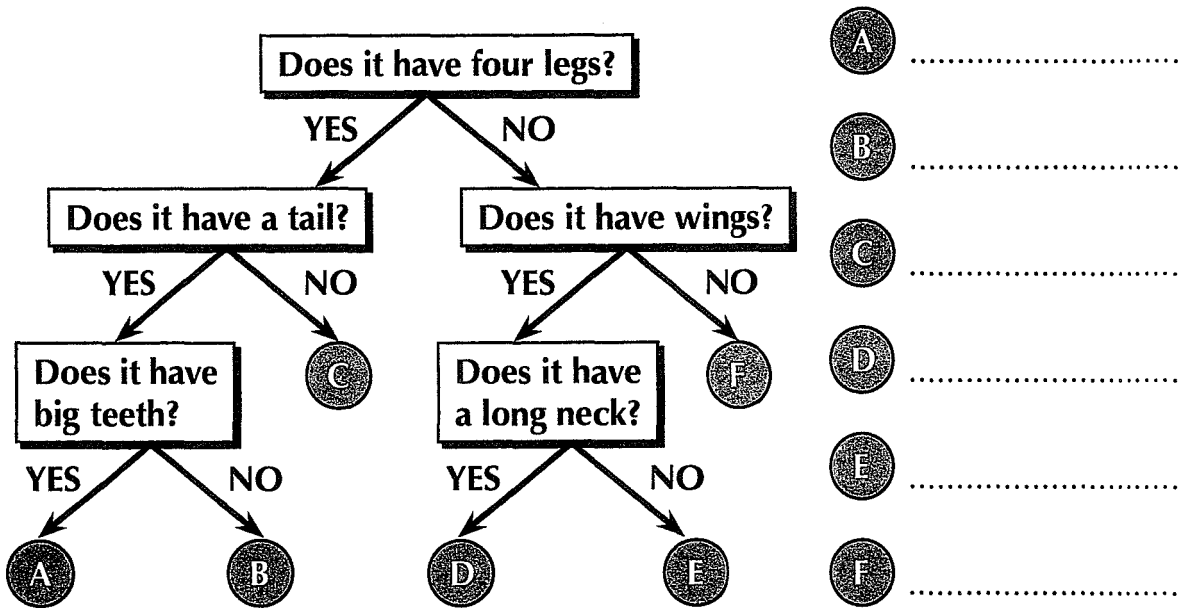
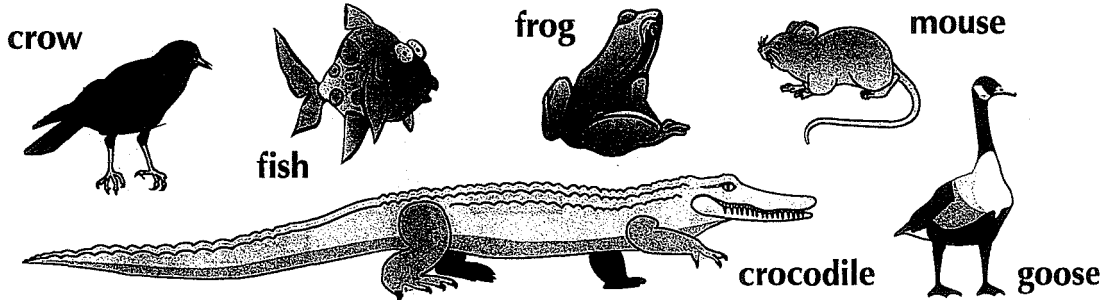
c) Use some of the words from the box to complete the sentences below.

mammals      gills      beaks      features      lungs      birds
Animals and plants have ..... that allow us to sort them into groups. For example, birds and mammals both breathe using ..... But ..... give birth to live young, unlike ..... which lay eggs.

**WORKING SCIENTIFICALLY**

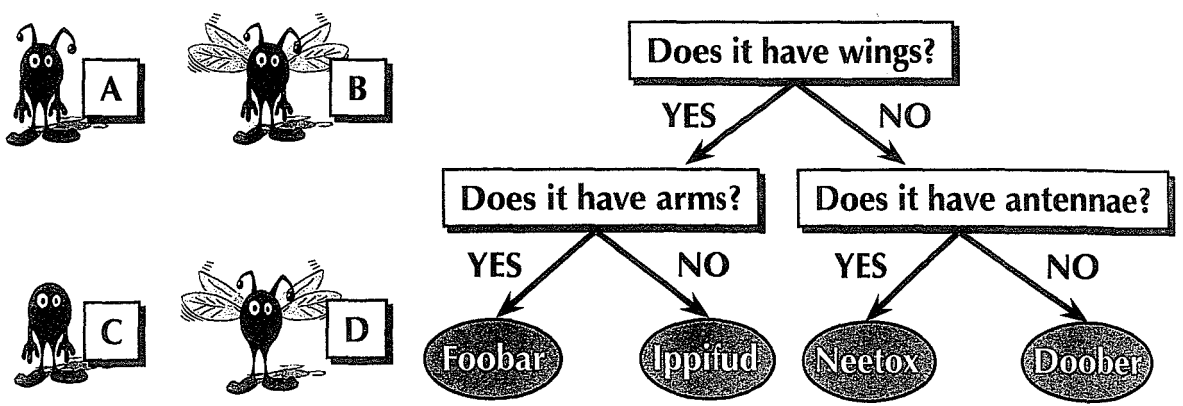
Q1 Eve made a key that she could use to identify six animals.

Look at each animal and write their names in the spaces to finish the key.



Q2 "The Four Shlops", an alien musical quartet, are touring Earth. They don't have mouths and so can't tell us their names.

Use the key to find out their names and write them in the spaces below.

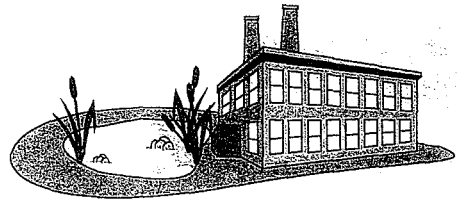


A: ..... B: ..... C: ..... D: .....



Q1 Here is a pond next to a factory.

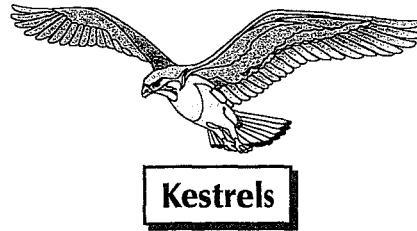
Use words from the box to complete the sentences.



protect    pollute    houses    clean    gardens    eat

Harmful chemicals ..... ponds and kill plants, so the pond animals have nothing to ..... . Humans can ..... pond animals by building ponds in their .....

Q2 A company wants to build some new flats on meadowland. Here are some things that live in the meadow.



a) Why might the shrews and mice die out if the flats are built?

.....  
.....

b) Why might the kestrels die out if the flats are built?

.....  
.....

c) Suggest one thing that humans can do to protect the habitats of living things.

.....

# 1.7 Life Cycles: Plants and Animals

Q1 Put these steps of sexual reproduction in plants in order by writing numbers in the boxes. The first one has been done for you.

The pollen and the egg join to make a seed.

1 Pollen from one plant lands on the stigma of another.

The seed grows into a seedling.

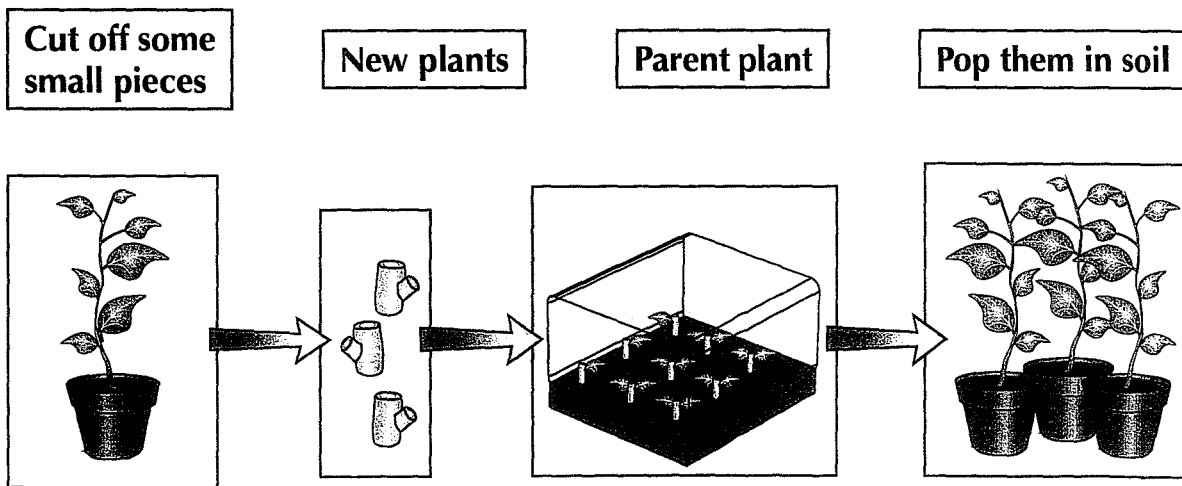
The seedling grows into a plant.

Q2 Some plants can reproduce without pollen or an egg.

a) What is this kind of reproduction called?

.....

b) Calvin is trying to grow a new plant by taking cuttings. Match the descriptions to the pictures using lines to show him what to do.



Q3 **Circle** all the sentences about sexual reproduction in animals that are true.

All animals give birth to live babies.

All animals lay eggs.

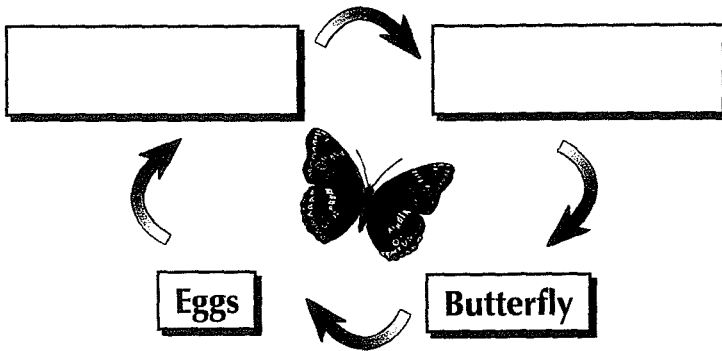
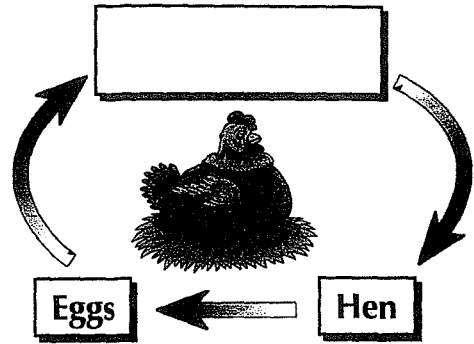
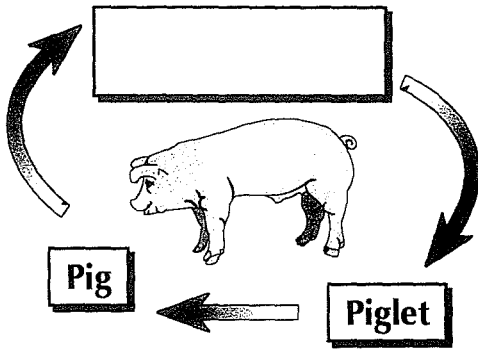
Some animals lay eggs.

Sperm comes from the mother animal.

Sperm comes from the father animal.

Eggs are fertilised by sperm.

**Q4** The life cycles of a pig (mammal), a chicken (bird), and a butterfly (insect) are shown below. Use the words from the grey box to fill in the missing labels.



chrysalis  
chick  
fertilised egg  
caterpillar

**Q5** Moths make new moths by sexual reproduction.

a) What kind of animal is a moth?

.....

b) Draw out the life cycle of a moth in the space below.  
You don't have to draw pictures, but do label each stage.

Q1 The picture below shows some of the stages of the human life cycle.



a) Put these words in the order that they happen in the human life cycle:

adult

old age

adolescent

child

baby

..... → ..... → ..... → .....

b) During which stage do people first start to talk?

.....

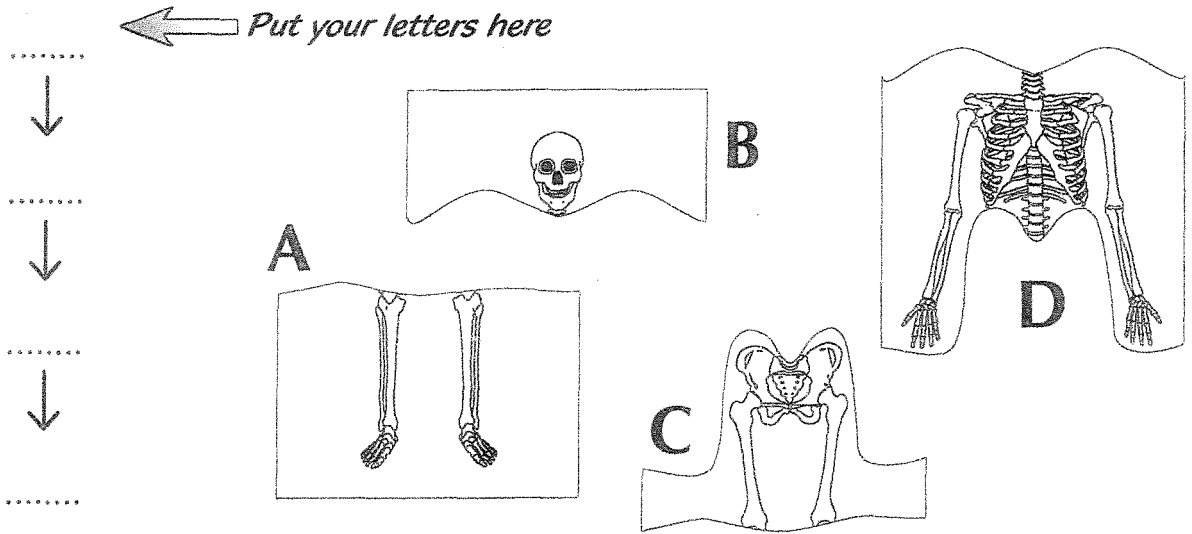
c) What is the name of the stage when you go through puberty?

.....

d) Name one thing that happens to a boy's body during puberty.

.....

Q1 a) Use the letters to put the parts of this diagram in the correct order to form a picture of a skeleton.



b) Use the skeleton diagram to help you complete this table about bones. In the job column, write "protects", "supports" or "protects and supports".

Clue	Name	Job
1) The main head bone.	<i>Skull</i>	
2) The bones which wrap around the heart and lungs.		<i>Protects and supports.</i>
3) The column at the back of the body.	<i>Backbone</i>	
4) You have a pair of them, and they're good for playing football with.	<i>Legs</i>	

c) Which bone protects the brain from damage?

.....

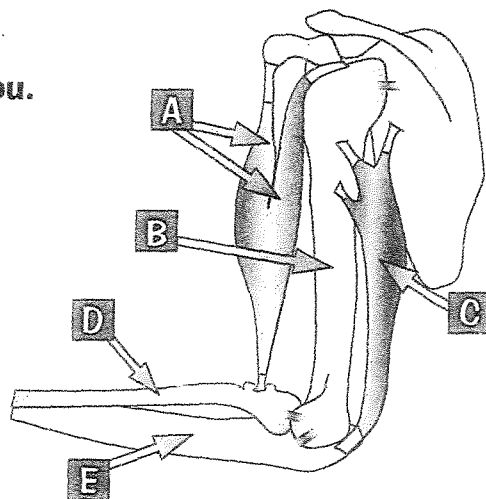
d) Which of the bones in the table surrounds and protects the spinal cord?

.....

Q2 This diagram shows an arm.

a) Write bone or muscle by each letter to show what's what. The first one has been done for you.

- A ..... *Muscle* .....
- B .....
- C .....
- D .....
- E .....



b) What happens to the muscle labelled A when you bend your arm?

.....

c) What job do tendons do? Tick (✓) one box.

Join bones to other bones.

Join bones to muscles.

Join muscles to other muscles.



Q3 Muscles work in pairs.

Explain how a pair of muscles works together to bend and straighten the arm.

.....

.....

.....

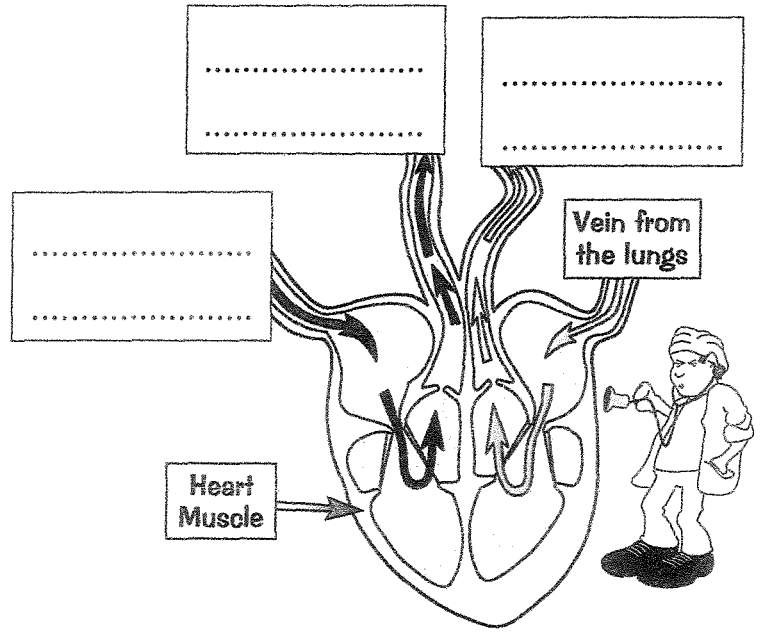
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Q1 Finish labelling the heart using these labels.

Vein from the body

Artery to the lungs

Artery to the body



Q2 a) Use the words in the box to fill in the gaps.

blood vessels	waste products	heart	oxygen	food
---------------	----------------	-------	--------	------

The ..... pumps blood through the .....  
 so that ..... and ..... can get to all parts of the body.  
 ..... are also removed by the blood.

b) Match up the blood vessels and their functions using lines.

Capillary

Carries blood from the body back to the heart.

Artery

Allows food and gases to move in and out of the blood.

Vein

Carries blood away from the heart to the rest of the body.

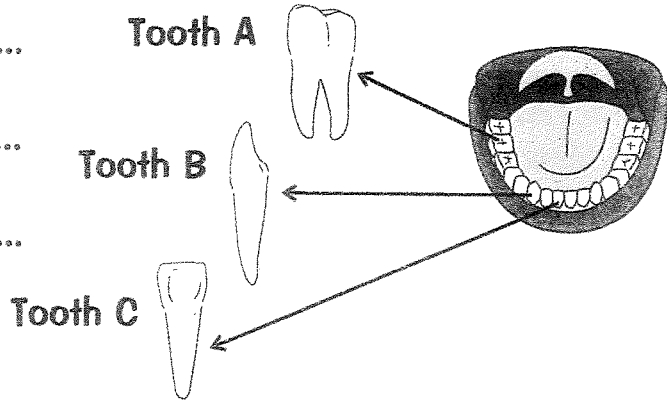
Q1 This is a diagram of a set of healthy teeth.

a) Look at the picture and name the teeth. One has been done for you.

Tooth A .....

Tooth B ..... *Canine* .....

Tooth C .....

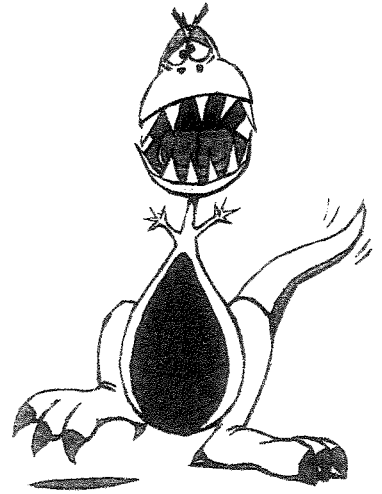


b) What is Tooth A used for? Tick (✓) one box.

Tearing

Chewing

Cutting



c) What is Tooth C used for? Tick (✓) one box.

Tearing

Chewing

Cutting

Q2 This shark has plaque on its teeth.  
Build up of plaque can lead to tooth decay.

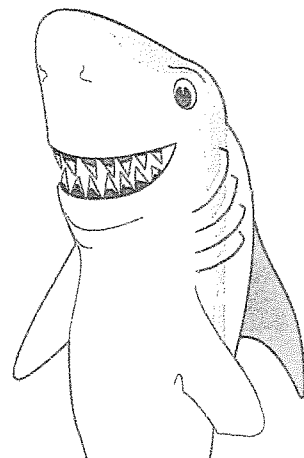
Tick (✓) two things that can help to prevent tooth decay.

Brushing your teeth.

Drinking fizzy pop.

Eating sweets.

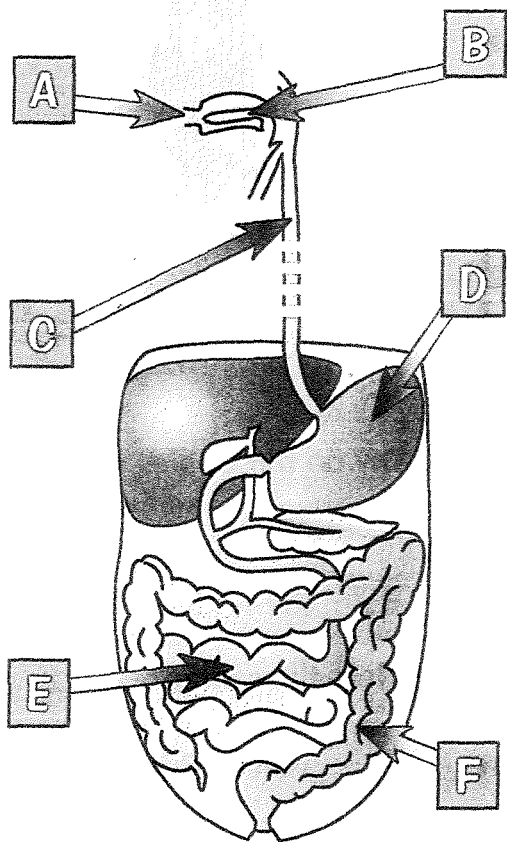
Visiting the dentist.





Q1 Here is a diagram of the digestive system.

a) Write down the name of the organ that each letter represents.



A: .....

B: .....

C: .....

D: .....

E: .....

F: .....

b) What is the function of the digestive system?

.....

c) What happens in organ F?

.....

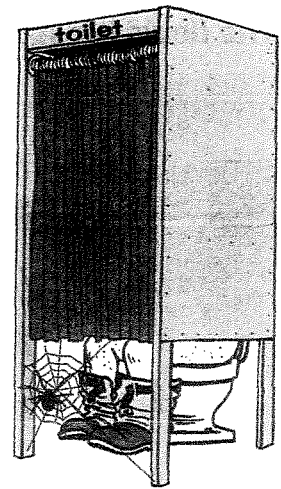
d) What happens to food that has been broken down in organ E?

.....

Q1 Eric is eating a healthy diet except that he is missing foods with fibre in them.

a) Tick (✓) one of these foods that he needs.

- |       |                          |         |                          |
|-------|--------------------------|---------|--------------------------|
| Cakes | <input type="checkbox"/> | Fruit   | <input type="checkbox"/> |
| Eggs  | <input type="checkbox"/> | Water   | <input type="checkbox"/> |
| Milk  | <input type="checkbox"/> | Alcohol | <input type="checkbox"/> |



b) Eric gets some of his protein from eating fish. Why do our bodies need protein?

.....

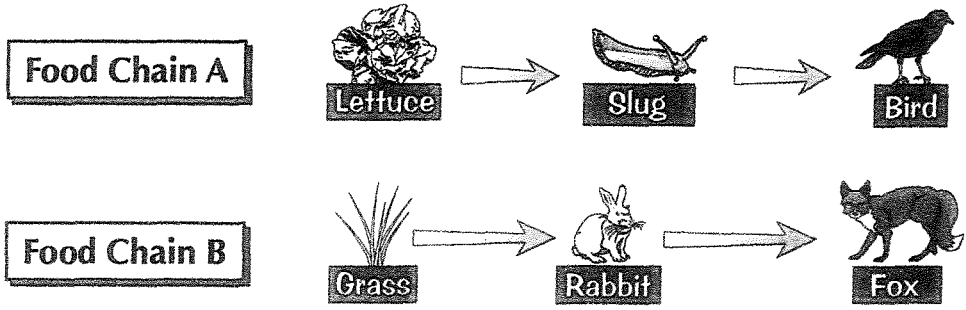
c) Fill in the missing letters in these words to complete the sentences.

To stay healthy you need to eat a B \_\_\_ L A \_\_\_ C E \_\_\_ diet. This means eating foods that give you the right amount of different \_\_\_ U T \_\_\_ I \_\_\_ N T \_\_\_.

Q2 **Circle** the unhealthy activities in this picture.



Q1 Have a look at these two food chains and then answer the questions.



- a) What animal does the fox eat?
- b) What animal eats lettuce?

.....

- c) How will the number of slugs in Food Chain A change if there is more lettuce?

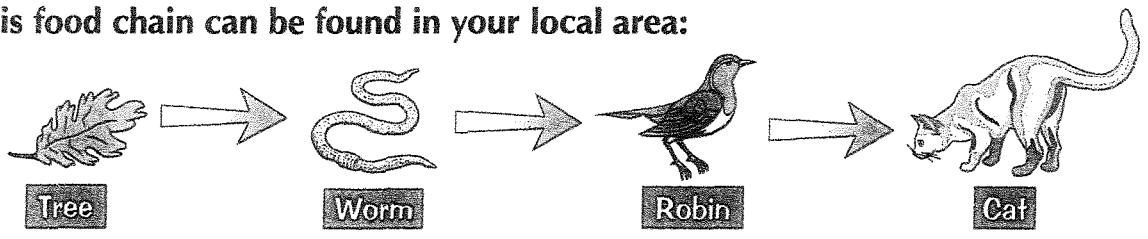
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.....

- d) What kind of organism is at the start of both food chains?

.....

Q2 This food chain can be found in your local area:



Fill in the missing words in these sentences:

- a) The ..... is the producer in this food chain.
- b) There are three consumers in the food chain, the ....., the ..... and the .....
- c) The robin is the prey of the .....
- d) The ..... is the predator of the worm.

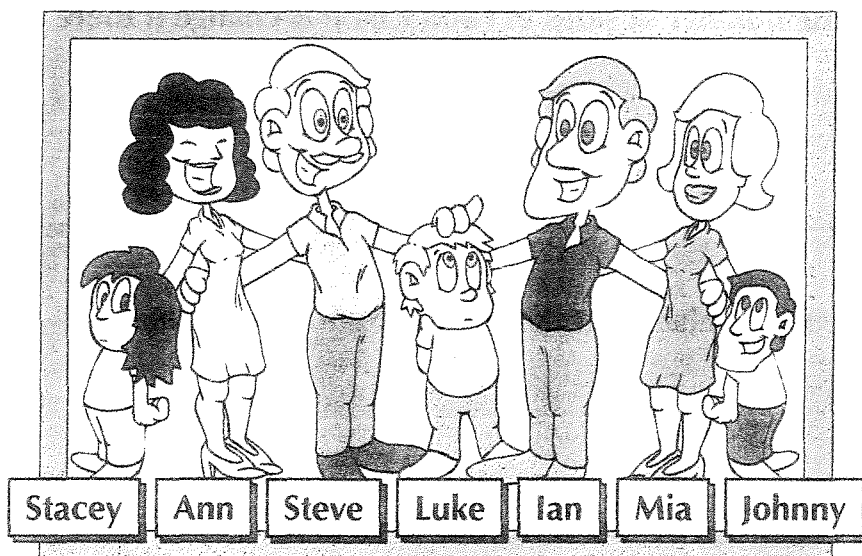


Q1 Complete these definitions by filling in the missing letters.

- a) The children that animals and plants produce: \_ F \_ S P \_ \_ \_ G
- b) To get a feature from a parent: I \_ H E \_ \_ T
- c) The differences between parents and children: V \_ \_ I A \_ \_ O N

Q2

The Smith and Jones families went on holiday together. They took this picture.



- a) Name one feature you can see that Ian Smith has passed onto his son Johnny.

.....

- b) Name one feature you can see that Johnny has inherited from his mother, Ann Smith.

.....

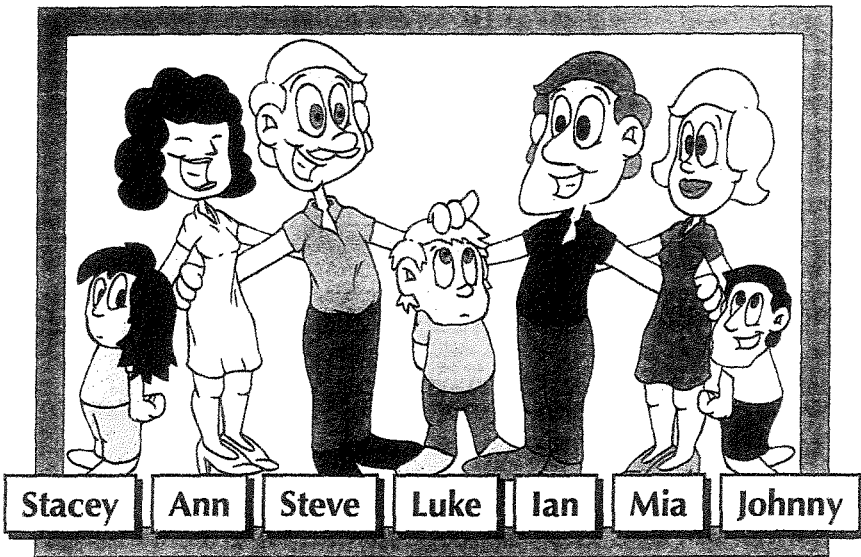
- c) Stacey is Mia's daughter. Give one way that Stacey varies from her mother.

.....

Q1 Complete these definitions by filling in the missing letters.

- a) The children that animals and plants produce: \_\_ F \_\_ S P \_\_ \_\_ \_\_ G
- b) To get a feature from a parent: I \_\_ H E \_\_ \_\_ T
- c) The differences between parents and children: V \_\_ \_\_ I A \_\_ \_\_ O N

Q2 The Smith and Jones families went on holiday together. They took this picture.



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.....

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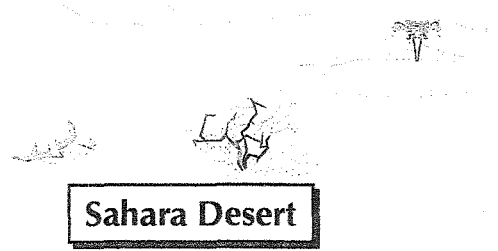
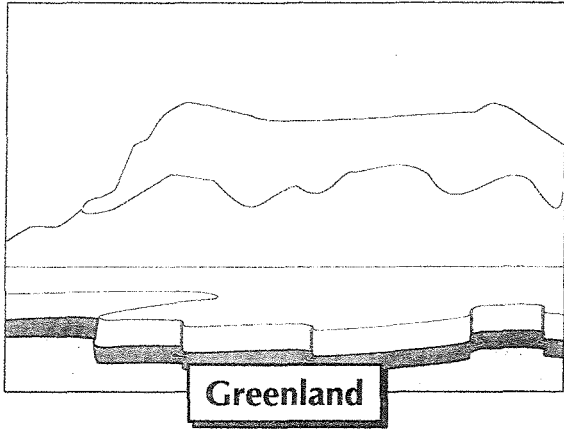
.....

c) Stacey is Mia's daughter. Give one way that Stacey varies from her mother.

.....

**Q1** A place where animals or plants live is called a habitat. The pictures below show two very different habitats.

a) Describe the conditions in both of these habitats in the spaces below.

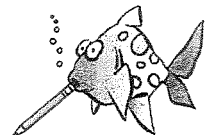


.....  
 .....  
 .....

.....  
 .....  
 .....

b) Animals must be adapted to the habitat they live in, so they can survive.

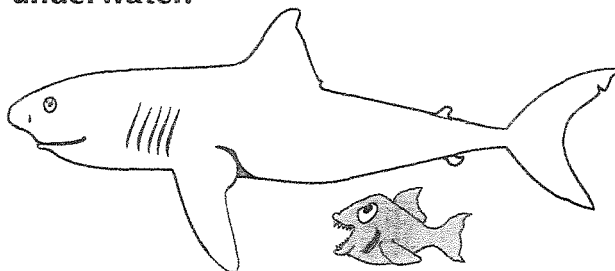
Use the words in the bubbles to complete the sentences about creatures that live in the sea.



fish ..... and other ..... are  
 adapted ..... to living under the sea.

breathe  
 sharks They have ..... to help them ..... through  
 move the water and ..... so that they can .....  
 gills  
 underwater.

fins



Q2 Barn owls eat mice and other small animals. They hunt for their food at night.

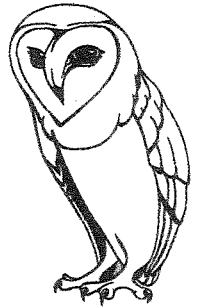
Suggest how each of these features helps a barn owl to survive in its habitat:

Sharp claws: .....

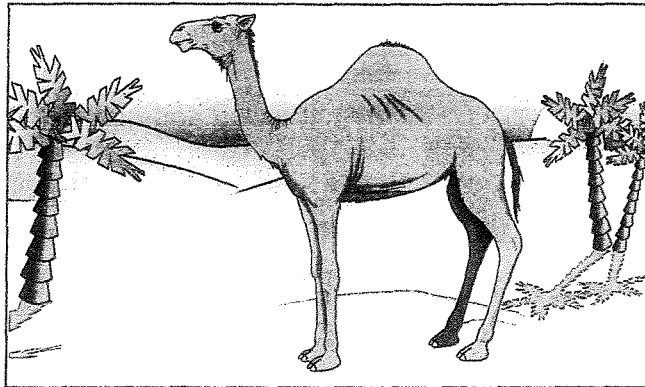
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Large, sensitive eyes: .....

.....



Q3 This is a picture of Joe the camel. Joe lives in the desert.



Explain what adaptations a camel has to help it survive in these conditions:

Very hot: .....

.....

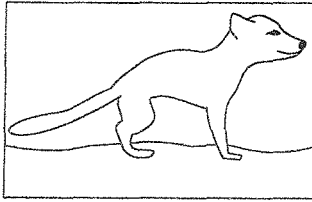
Very dry: .....

.....

Sandy: .....

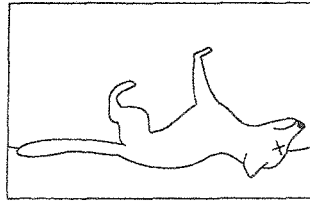
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Q1 Arctic foxes live in very cold habitats. Their thick fur keeps them warm.  
 Match the labels to the pictures to show how the arctic fox evolved thick fur.



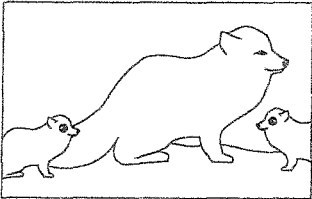
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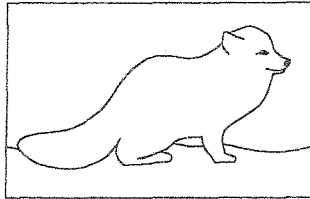
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3

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4

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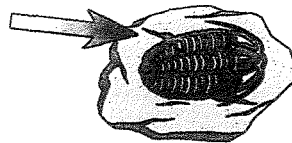
**A** When their habitat got colder, most of the foxes couldn't stay warm enough. Many of them died.

**B** The babies inherited thick fur from their parents. Over time, all the foxes ended up with thicker fur.

**C** In the past, there was a group of foxes with quite short fur.

**D** But some foxes had slightly thicker fur. They stayed warmer, so they survived and had lots of babies.

Q2 Clara has found a fossil of an ancient sea creature.



a) Write down how this fossil was formed.  
 The first sentence has been written for you.

*The creature died and fell to the bottom of the sea, along with mud and sand.*

.....

.....

.....

.....

b) What information do fossils give us?

.....



- Q1 Rani did some experiments to test the properties of different rocks. Her table of results is shown below.

**WORKING  
SCIENTIFICALLY**

		Test	
		Put two drops of water on top of the rock and leave it for two minutes.	Scratch the rock with a steel nail.
<div style="background-color: black; color: white; padding: 5px; text-align: center;">           Marble             Sandstone             Flint         </div>		The water stayed on top of the rock.	No marks were left on the rock.
		The water soaked into the rock.	The rock was scratched.
		The water stayed on top of the rock.	No marks were left on the rock.

Use Rani's results to name one rock from the table with each of the following properties.

impermeable: .....

permeable: .....

soft: .....

hard: .....

- Q2 Which of these is the definition of a fossil? Tick (✓) the correct box.

Fossils are the shapes of long-dead animals found inside rocks.

Fossils are pieces of rocks that become smooth over time.

Fossils are living animals that have become trapped in rocks.

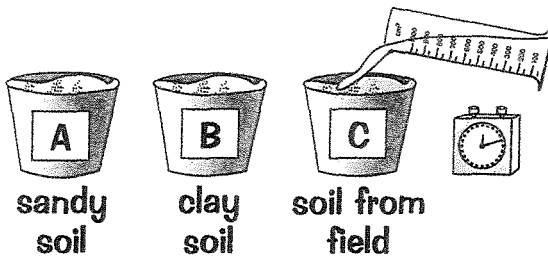
Fossils are rocks made from mixture of other rocks.

**WORKING  
SCIENTIFICALLY**

Q1 Joe saw that puddles had formed on the school field. He thought this might be because the soil stopped the rainwater draining away.

Joe decided to test samples of sandy soil, clay soil and soil from the field to see which of them let water through most easily.

He filled three plant pots with equal amounts of soil — one with sandy soil, one with clay soil and one with soil from the field. Then he poured half a litre of water into each pot and timed how long it took for the water to start leaking out of the bottom.



Pot	Sample	Time for water to leak out (in seconds)
A	sandy soil	15
B	clay soil	50
C	soil from field	40

a) Which soil lets water through more easily than the soil from the field?

.....

b) Give one thing that Joe did to make sure this experiment was a fair test.

.....

.....

c) Joe noticed that it took water longer to pass through soil with smaller particles.

If he had tested gravel in the same way, would you expect it to let water through more easily than sand?

.....

d) Which of the these three types of soil do you think it is hardest for water to pass through? Tick (✓) the correct box.

Sandy soil

Soil made of sand and clay

Clay soil

Q1 Draw lines to show which of these materials are liquid and which are solid. The first one has been done for you.

water

sponge

wood

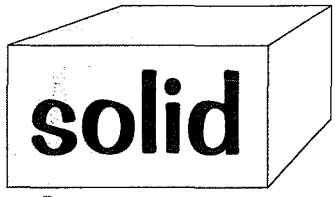
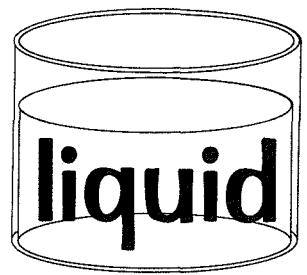
rice

iron

tar

cooking oil

syrup



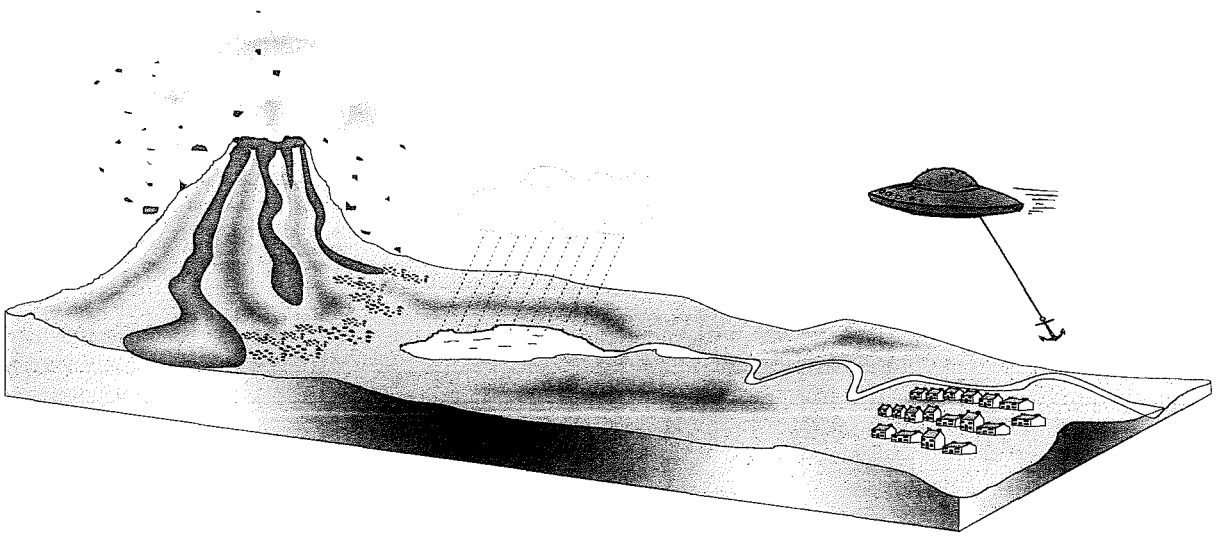
Q2 Use the words from the box below to complete the five sentences.

volume	solids	shape	liquid	gases
1) A _____ changes shape when you move it around in a container.				
2) _____ don't change shape when you move them.				
3) Gases have the same _____ and volume as the container they're in.				
4) Moving a liquid from a bottle to a glass does not change its _____.				
5) Air is made from a mixture of different _____.				

## 2.3

# Solids, Liquids and Gases

Q3 Look at the picture below. A volcano is erupting and lava is pouring out.



a) Name two liquids you can see in the picture.

.....

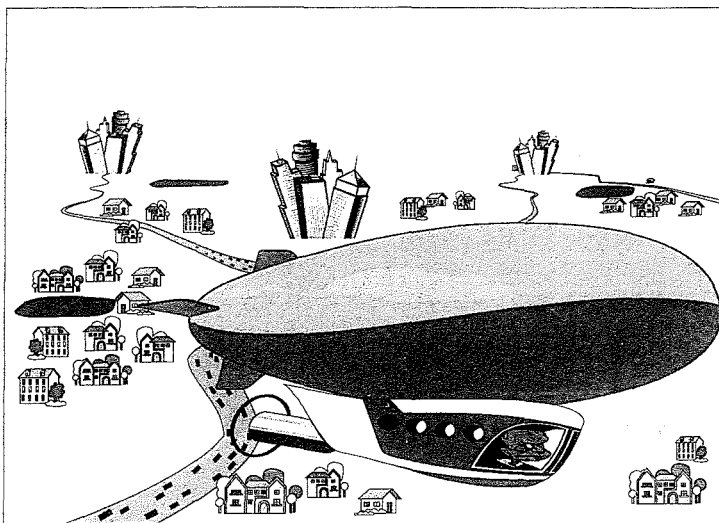
b) Name two solids you can see in the picture.

.....

Q4 Fill in the table below by putting ticks (✓) in the correct boxes. You can tick one, two or three boxes for each answer.

	Solid	Liquid	Gas
<b>A</b> Fills the shape of its container.			
<b>B</b> Stays the same shape when moved to a new container.			
<b>C</b> Air is made up of this.			
<b>D</b> Stays the same volume when moved to a new container.			
<b>E</b> Helium is usually in this state.			

- Q5** Ernie the Extra-Terrestrial is spying on the Earth from his airship. The airship is filled with gas.



- a)** If the airship was see-through, what would Ernie see inside?

.....

.....

- b)** If the airship got a hole in it, where would the gas go?

.....

.....

- c)** Ernie's enemy is going to use a shrinking ray to make Ernie's airship smaller.

**When the airship is shrunk, what will happen to the volume of the gas inside the airship?**

.....

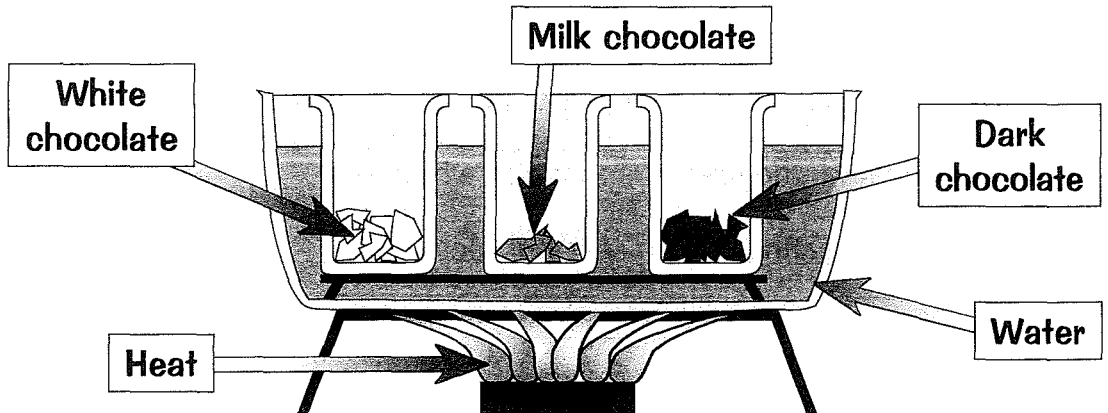
.....

Q1 Omar is doing an experiment to find out what temperature different types of chocolate melt at.

**WORKING  
SCIENTIFICALLY**

He puts beakers containing bits of each kind of chocolate in a pan of water. Then he heats the pan on a hob.

Omar measures the temperature of the water as it heats up and records the temperature that each different type of chocolate melts at.



a) What piece of equipment can Omar use to measure temperature?

.....

b) Find a mistake Omar has made which means his experiment is not a fair test.

.....

.....

c) After fixing the mistake, Omar found that the white chocolate melted at 27 °C, the milk chocolate melted at 30 °C and the dark chocolate melted at 33 °C.

Draw a table in the space below showing Omar's results.

- Q2** Helen is doing an experiment. She puts some ice cubes in a pan and heats them up. A while later, she notices trickles of water running down a window. Fill in the gaps in the sentences, which explain exactly what is happening. Use words from the cloud.



Before she starts to heat the ice cubes up, the ice is \_\_\_\_\_.

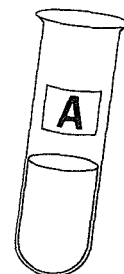
When heated, the ice turns to water which is a \_\_\_\_\_.

On further heating, Helen sees bubbles of \_\_\_\_\_ rising in the water.

It is now \_\_\_\_\_ and its temperature is \_\_\_\_\_ degrees Celsius ( $^{\circ}\text{C}$ ). The water Helen sees trickling down the window is called \_\_\_\_\_ and is caused by water \_\_\_\_\_ off from the saucepan and then cooling on the window.

- Q3** A scientist has a sample of a mystery chemical. She calls it "Substance A". The table below shows some of the properties of Substance A.

	Temperature
Melting Point	$-11^{\circ}\text{C}$
Boiling Point	$21^{\circ}\text{C}$



- a) What state would Substance A be in if it was kept at  $-5^{\circ}\text{C}$ ?

.....

- b) What state would Substance A be in if it was kept at  $25^{\circ}\text{C}$ ?

.....

## 2.5 (11) Evaporation and The Water Cycle

Q1 Jake and Hilda have been washing their clothes. Jake hangs his jumper outside on a sunny day, but Hilda hangs her jumper out on a cool cloudy day.



Whose washing dries faster, and why?

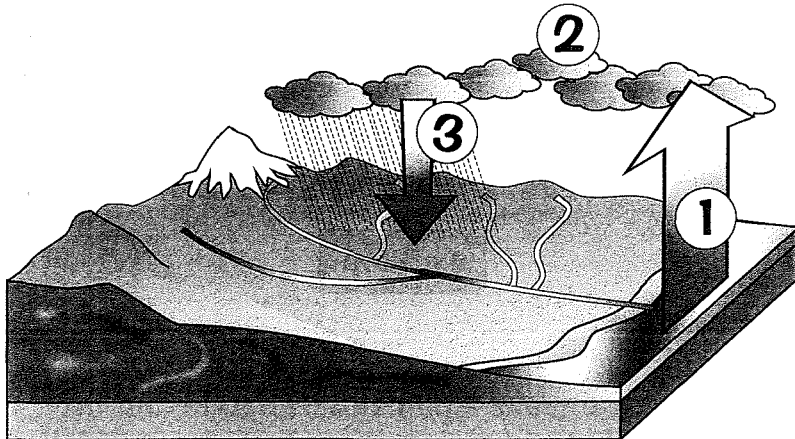
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Q2 Below is a diagram of the water cycle.



Write down what is happening at each of the numbered steps.

1: .....

2: .....

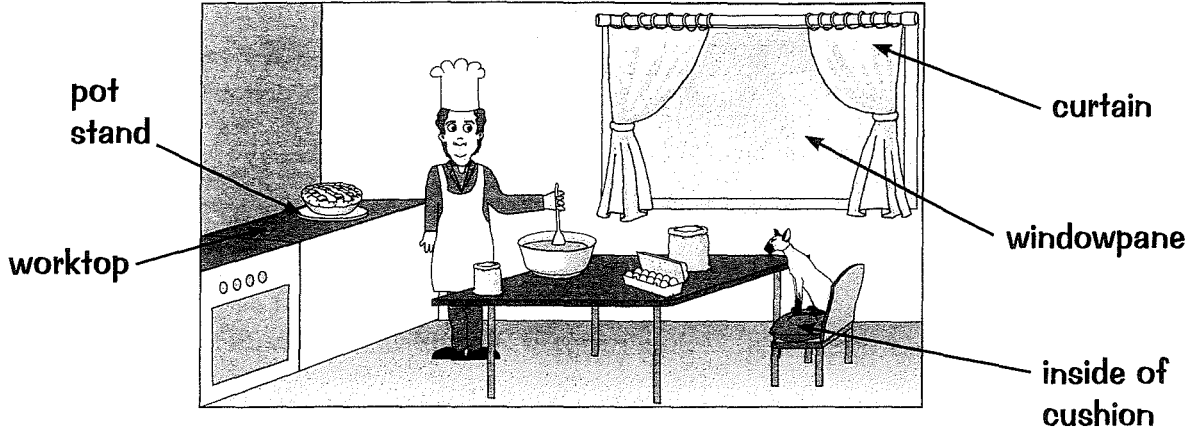
3: .....



# 2.6

# Properties of Materials

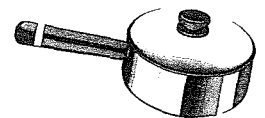
Q1 Lots of different materials can be seen in the picture below.



Draw lines to match up each material with its use and property.

Material	Use	Property
fabric	inside of cushion	opaque
cork	curtain	transparent
marble	windowpane	hard
glass	pot stand	thermal insulator
foam	worktop	soft

Q2 What material would you make a pan and its handle out of? Give reasons for your choice.



The pan would be made out of ..... because .....

.....

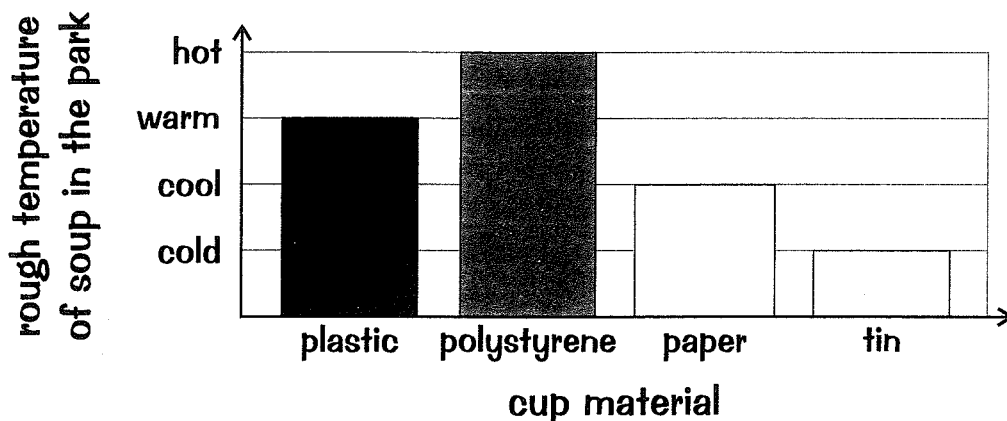
The handle would be made out of ..... because .....

.....

Q3 Cedric has a problem. He loves tomato soup and he loves feeding the ducks in the park. His soup, however, always ends up dreadfully cold.

Cedric makes a plan. He tries taking the soup in a different container each day so that he can decide which is best at keeping the soup warm.

This graph shows the results of his investigation.



**WORKING  
SCIENTIFICALLY**

a) Which material kept Cedric's soup hottest?

.....

b) Why is tin not very good at keeping his soup warm?

.....

.....

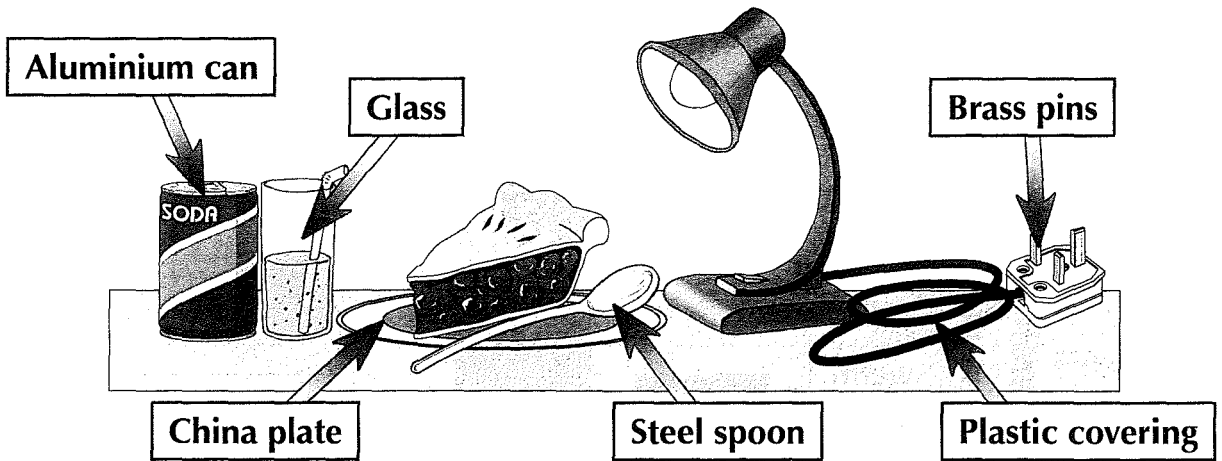
c) Suggest one way that Cedric could make his experiment more accurate.

.....

.....

.....

Q4 Write down which of these objects are electrical conductors and which are electrical insulators.



Conductors: .....

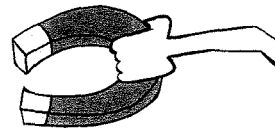
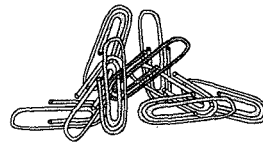
.....

Insulators: .....

.....

Q5 Alyssa has 38 paperclips. Some are made of plastic and some are made of steel. She separates them using a magnet.

a) Which paperclips will be attracted to the magnet? Explain your answer.



.....

.....

b) Could she separate a mixture of plastic paperclips and brass paperclips in the same way? Explain your answer.

.....

.....

You have now finished this booklet.

Well done.