

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 2

INTEGRATED SCIENCE

TIME: 1h 30min

Name: _____

Class: _____

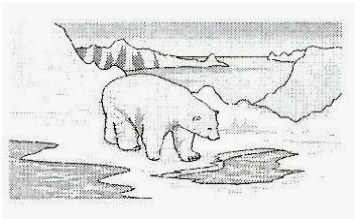
ANSWER ALL QUESTIONS

- 1) Different organisms live in different habitats.
a) Draw a line from the organism to its habitat.

crab	freshwater
earthworm	desert
seagull	seashore
frog	soil
lizard	cliffs

5 marks

- b) The following table shows an animal and some information about it.

	<p>Polar Bear – Fact file lives on the cold Arctic ice covered in thick white fur thick fat layer stored below the skin short thick neck and legs small ear lobes broad feet which have large claws</p>
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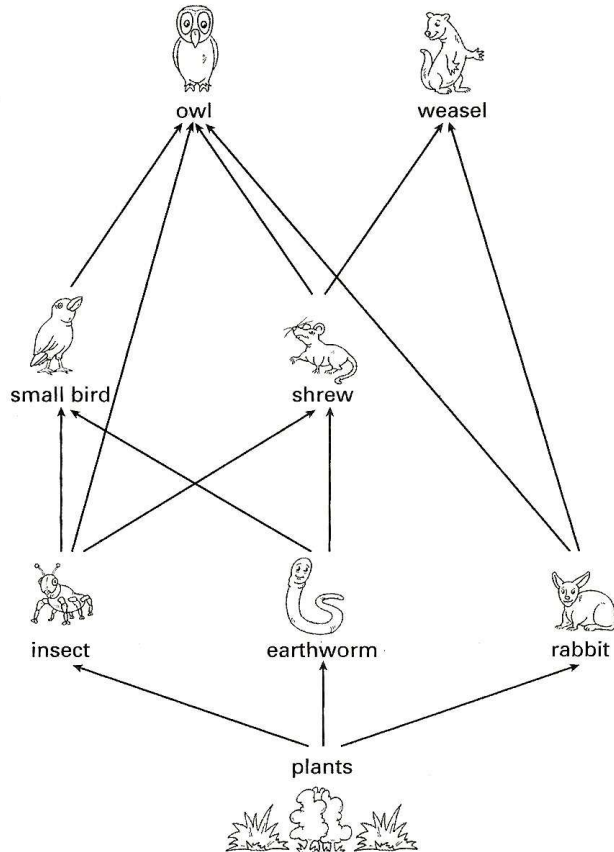
Select two of the features in the polar bear fact file and explain how each of them helps the polar bear to exist on the Arctic ice.

- 1) _____

- 2) _____

4 marks

2) The diagram shows a food web.



Use the information in the food web to help you answer **ALL** questions.

a) What two things do shrews eat?

_____ 2 marks

b) Name the producer. _____

1 mark

c) The owl is a predator.

i) Name one other predator. _____

1 mark

ii) Name an animal that is both a prey and a predator. _____

1 mark

iii) Explain what helps the owl to be a good predator.

2 marks

d) If the shrews are all killed, what effect would this have on the rabbits and the owl?

2 marks

3) Chris is given seven different liquids and tests their pH.

Liquid	A	B	C	D	E	F	G
pH of liquid	4.0	8.5	3.5	2.0	13.0	7.0	2.5

- a) Which liquid is neutral? _____ 1 mark
- b) Which liquid is the weakest acid? _____ 1 mark
- c) Which liquid is most alkaline? _____ 1 mark
- d) Write the liquids that are not acids.

_____ 3 marks
- e) Which liquid is safest to use? _____ 1 mark
- Why? _____ 1 mark

4) Farmer Cassar has a large farm on which he grows a range of crops

He reads that potatoes grow best in soil with a pH value of 6.0.

- a) What is meant by a pH value of 6.0?

_____ 1 mark
- b) He tests the soil in several places on his farm to find pH values.
The results are shown in the table.

soil sample	soil A	soil B	soil C	soil D
pH value	7.0	6.5	3.5	4.5

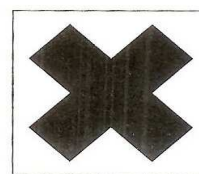
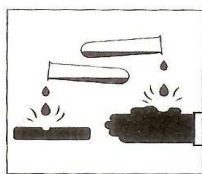
- i) Why did he take readings in several places?

_____ 2 marks
- ii) Which soil sample is most acidic?

_____ 1 mark
- c) Which soil sample is most suitable to grow potatoes in? Why?

_____ 2 marks

- 5) These three hazard labels are seen on three different chemical bottles.
What does each label mean?



3 marks

- 6) Many changes take place everyday. Some of them are reversible and others are not.
a) What is the meaning of the word reversible?

2 marks

- b) Are reversible changes called **physical** or **chemical** changes?

1 mark

- c) Tick (✓) **three** boxes to show which changes are reversible.

cooling water

baking bread

boiling an egg

boiling water

dissolving salt in water

burning a candle

3 marks

- 7) The diagram shows a way of producing hydrogen.
This method of collecting hydrogen uses one property of hydrogen.

- a) Which property is this?

2 marks

- b) Give another property of hydrogen.

1 mark

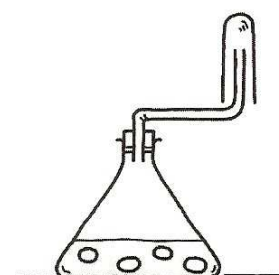
- c) We test hydrogen by adding a lighted splint to the gas.

- i) What happens when the lighted splint is put into hydrogen gas?

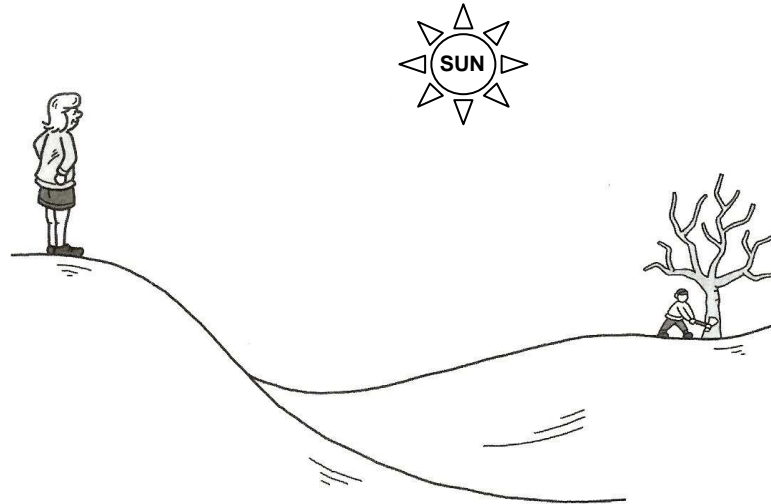
2 marks

- ii) When hydrogen burns in air it joins with oxygen to form a liquid.
What is this liquid called?

1 mark



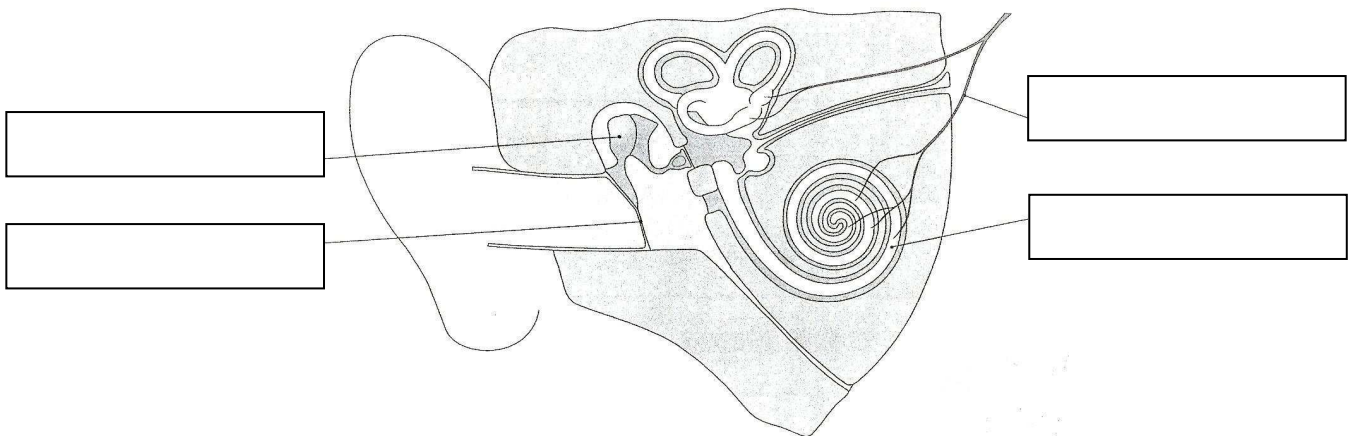
8) Jane looks across the fields and sees a man chopping down a tree.



- a) Which object in the picture gives out light? _____ 1 mark
- b) On the diagram draw rays of light to show how Jane can see the man chopping the tree. 2 marks
- c) Jane can see the man chop the tree before she can hear the noise. Explain why.

_____ 1 mark

9) The diagram shows part of the human ear.



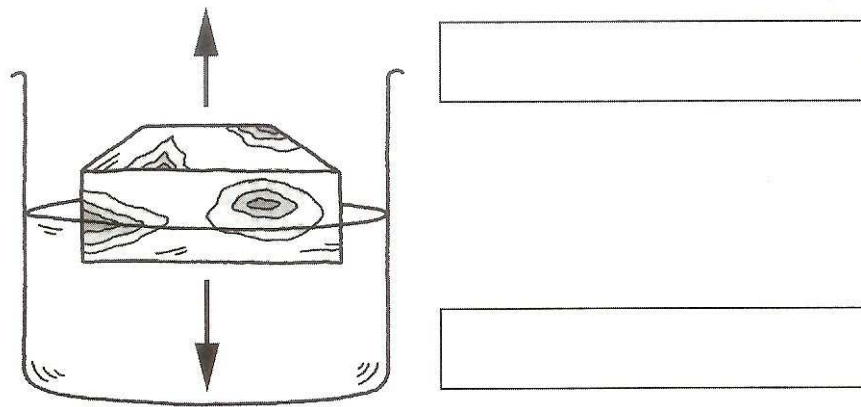
- a) Label the diagram using the following words. 4 marks
- nerve eardrum small bones cochlea

- b) Describe what happens to our eardrums when sound reaches them. 1 mark
- _____

10) Robert is trying to float a piece of wood, a brick, a ball of plasticene and a piece of jablo in a bowl with water.

a) Robert tries the block of wood first.

The arrows show the direction of two forces acting on the piece of wood.



i) On the diagram label the forces.

2 marks

ii) The wood floats on the water.

Are these forces balanced or unbalanced? _____

1 mark

b) Robert tries to float the brick on the water.

i) What happens to the brick?

_____ 1 mark

ii) Why?

_____ 2 marks

c) i) Say whether the jablo will float or sink.

The jablo will _____

1 mark

ii) Give a reason for your answer.

_____ 1 mark

d) Robert noticed that the ball of plasticene sank to the bottom.

How can Robert make the plasticene float? Tick ✓ the correct answer.

Divide it into small pieces.

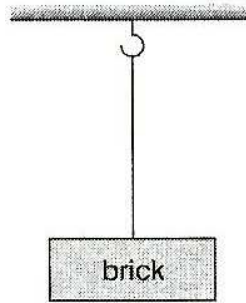
Make a hole in the middle

Give it the shape of a boat.

1 mark

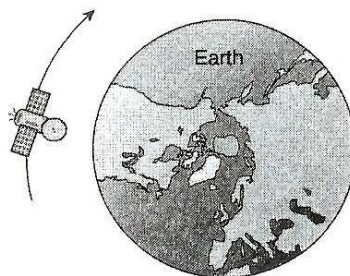
11) Draw an arrow on each of the following diagrams to show the direction of the force named.

a) The weight of a brick hanging from the ceiling.



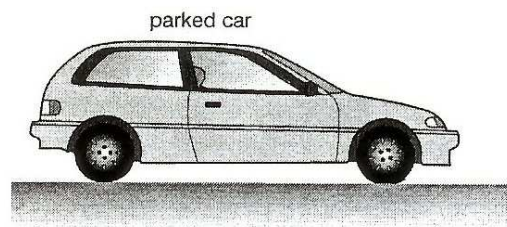
1 mark

b) The gravitational force of the Earth on an orbiting satellite.



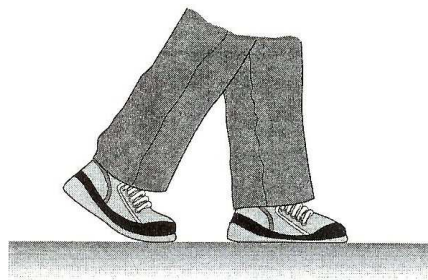
1 mark

c) The force of the road on the tyre of a parked car.



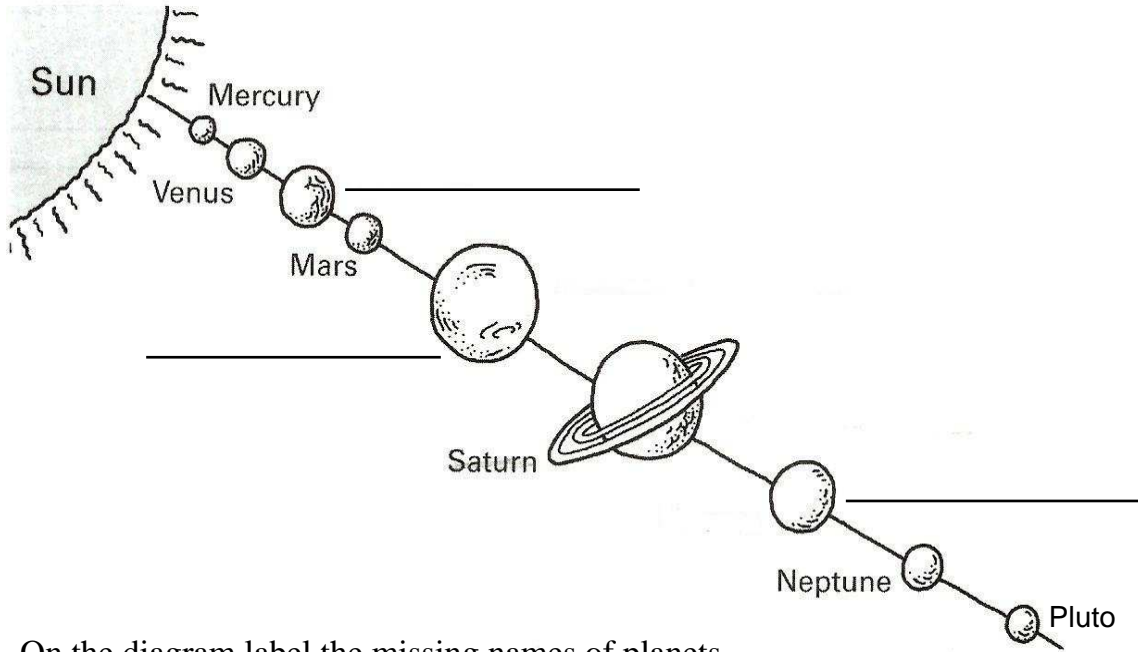
1 mark

d) The force of friction on the shoe of someone walking forwards



1 mark

12) The diagram shows the solar system.



a) On the diagram label the missing names of planets. 3 marks

b) Which is the biggest **object** in the solar system? _____ 1 mark

c) Complete the sentences about the solar system.
Choose words from **this** list. Each word can be used more than once or none at all.

Earth Jupiter Mercury Moon Sun Uranus

All the planets of the solar system orbit the _____

Earth has a smaller orbit than _____

The Earth is orbited by the _____

Light is given out by the _____

The planet with the hottest surface temperature is _____

5 marks

d) Write **true** or **false** below each idea.

1 It takes the Earth a year to make one complete orbit around the Sun.

2 The Earth does not spin as it orbits the Sun.

3 It takes the Moon about 28 days to orbit the Earth.



3 marks

13) Respiration is a process in which glucose combines with oxygen to provide energy to the body.

Underline the correct word from the brackets in the following sentences.

- a) Respiration takes place in the (lungs, nose, cells, blood).
- b) Glucose comes from (air, food, water, iron).
- c) We get oxygen by (eating, drinking, thinking, breathing).
- d) The energy is used by the body (all the time, when we run only, when we eat only).

4 marks

14) The body needs food to live.

Use the following groups of words to finish the sentences below.

small pieces the blood to be healthy nutrients

Food is needed to get energy, for growth and repair and _____.

Carbohydrates, proteins and fats are called _____.

Teeth are used to break food into _____.

In the small intestine food is absorbed into _____.

4 marks

15) Our teeth have different shapes because they do different jobs.

Complete the table below.

type of tooth	job
incisor	
canine	
	To crush food

3 marks

16) Microbes can sometimes be useful.

a) Name two useful objects that are made with the help of microbes.

object	microbe used

4 marks

b) Answer true or false.

Yeast is used to make pizza dough. _____

Yeast is used to make wine. _____

Yeast is used to make yoghurt. _____

Yeast is used to make beer. _____

4 marks