Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel International Award in Primary

Centre Number | | | | | |

Candidate Number | | | | |

Friday 31 May 2019

Morning (Time: 1 hour) | Paper Reference **JSC11/01**

Science

Achievement Test iPrimary

You must have:
a ruler

Total Marks

Instructions

- Use **black** ink or **black** ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 60.
- The paper is divided into two sections, Section A and Section B.
- The total mark for Section A is 45.
- The total mark for Section B is 15.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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1/1/1/1/1/

P 6 3 6 9 5 A 0 1 3 2

Pearson

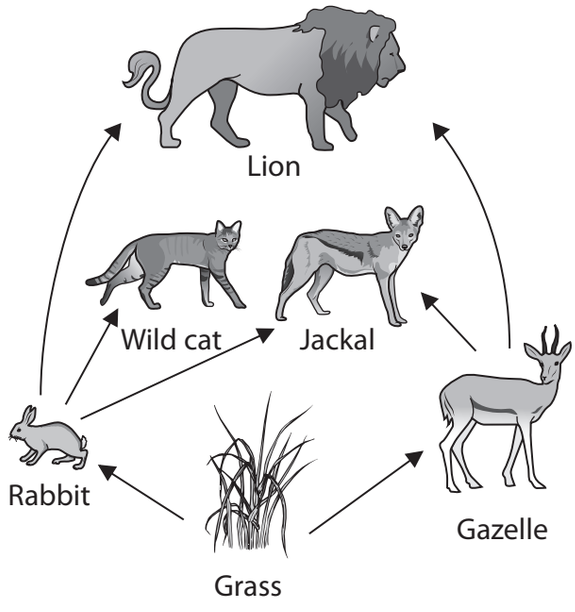
SECTION A

Answer ALL questions.

For questions 1–10 put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.

Each question is worth one mark.

1 The diagram shows a food web.



Which two animals in this food web are herbivores?

☒ **A** the gazelle and the rabbit

☒ **B** the lion and the gazelle

☒ **C** the lion and the jackal

☒ **D** the wild cat and the jackal

(Total for Question 1 = 1 mark)

2 Which planet is nearest to the Sun?

☒ **A** Jupiter

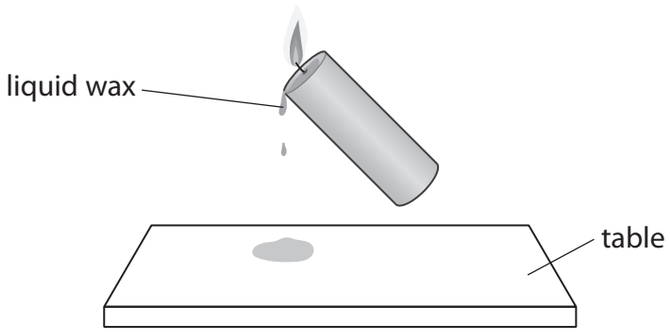
☒ **B** Mars

☒ **C** Mercury

☒ **D** Neptune

(Total for Question 2 = 1 mark)

3 The picture shows liquid wax dripping from a lighted candle onto a table.



When the liquid wax drops onto the table it turns into a solid.

Which change of state takes place when the liquid wax turns into a solid?

☒ **A** condensing

☒ **B** evaporating

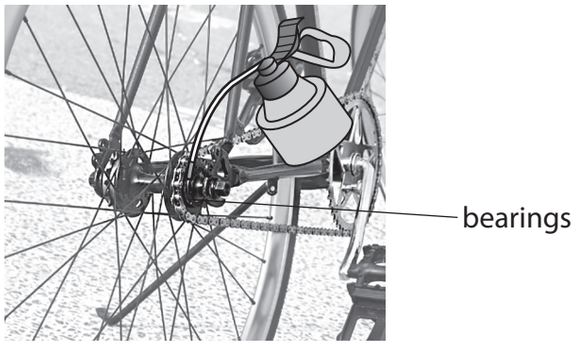
☒ **C** freezing

☒ **D** melting

(Total for Question 3 = 1 mark)

4 A bicycle has become very hard to pedal.

Some oil is put on the bearings. This makes the bicycle easy to pedal again.



Why does putting oil on the bearings make it easier to pedal?

☒ **A** it increases the friction in the bearings

☒ **B** it reduces the friction in the bearings

☒ **C** it increases the friction between the wheel and the road

☒ **D** it reduces the friction between the wheel and the road

(Total for Question 4 = 1 mark)

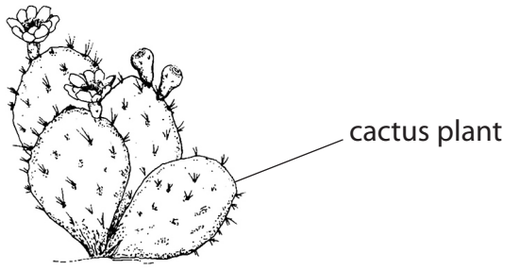
5 A boy is walking to school. As he is late he starts running.

What happens to his heart beat and breathing rate?

- ☒ **A** his heart beats faster and his breathing gets slower
- ☒ **B** his heart beats slower and his breathing gets faster
- ☒ **C** his heart beats faster and his breathing gets faster
- ☒ **D** his heart beats slower and his breathing gets slower

(Total for Question 5 = 1 mark)

6 Cactus plants have very long roots and their leaves lose very little water.



Which of these habitats are cactus plants adapted to live in?

- ☒ **A** desert
- ☒ **B** grassland
- ☒ **C** river
- ☒ **D** woodland

(Total for Question 6 = 1 mark)

7 Which statement is true for all liquids?

- ☒ **A** they are all colourless
- ☒ **B** they are all mixtures
- ☒ **C** they all flow and take the shape of their container
- ☒ **D** they all boil at 100 °C

(Total for Question 7 = 1 mark)

8 A school is choosing a fruit tree to grow in the school garden.

The area is in the sun in the morning and the shade in the afternoon. The soil is well drained.

Which fruit tree, A, B, C or D, would grow the best in the school garden?

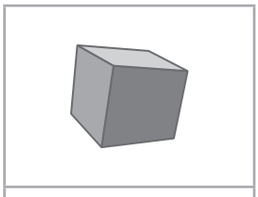
	where the fruit tree will grow well	
☒ **A**	in the sun or shade	only in well-drained soil
☒ **B**	only in the sun	only in wet soil
☒ **C**	only in the shade	only in well-drained soil
☒ **D**	only in the shade	only in wet soil

(Total for Question 8 = 1 mark)

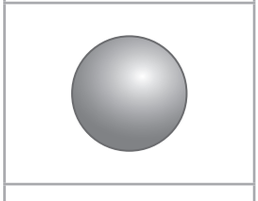
9 Four identical pieces of plasticine are made into four shapes, A, B, C and D. They are each dropped into water.

Which of the four shapes will fall through the water quickest?

☒ **A**

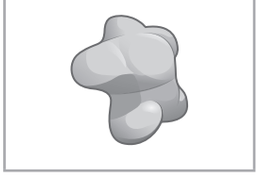


☒ **B**



☒ **C**

☒ **D**



(Total for Question 9 = 1 mark)

10 Which statement about decomposers is true?

☒ **A** all decomposers are herbivores

☒ **B** all decomposers are predators

☒ **C** all decomposers are plants

☒ **D** all decomposers break down dead organisms

(Total for Question 10 = 1 mark)

11 Water passes through plants in four stages.

Number the stages in the correct order in which they take place. The first one has been done for you.

(2)

water passes into the leaves	
water is taken in from the soil	1
water is transported through the stem	
water is transported through the roots	

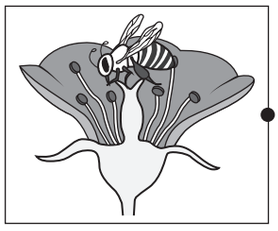
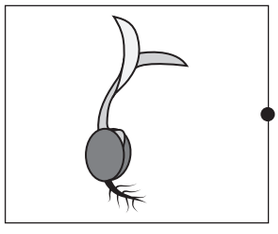
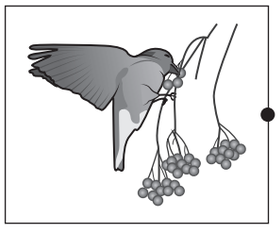
(Total for Question 11 = 2 marks)

12 The pictures show three stages in the life cycle of plants.

Draw one straight line from each picture to the correct name for that life cycle stage.

(3)

When you have finished there will be two boxes on the right you will not have used.

life cycle stage	**name**
	germination
	variation
	pollination
	fertilisation
	seed dispersal

(Total for Question 12 = 3 marks)

For questions 13 – 18 put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.

Each question is worth one mark.

13 Which row of the table shows three types of micro-organism?

☒ **A**	ants	bacteria	viruses
☒ **B**	bread	viruses	yeast
☒ **C**	viruses	yeast	bacteria
☒ **D**	yeast	soil	bacteria

(Total for Question 13 = 1 mark)

14 What does it mean if an object is opaque?

☒ **A** it conducts electricity

☒ **B** it is a light source

☒ **C** light can pass through it

☒ **D** no light can pass through it

(Total for Question 14 = 1 mark)

15 The table shows the temperature at which some substances change state from solid to liquid, and from liquid to gas.

Which substance melts at the lowest temperature?

		temperature of state change in °C	
	substance	**solid to liquid**	**liquid to gas**
☒ **A**	glass	1400	2230
☒ **B**	mercury	−39	357
☒ **C**	olive oil	−20	300
☒ **D**	water	0	100

(Total for Question 15 = 1 mark)

16 The words solid, solute, solvent and solution can be used when describing dissolving.

Which of these statements is correct?

☒ **A** a solution added to a solvent forms a solute

☒ **B** a solution added to a solute forms a solid

☒ **C** a solid added to a solvent forms a solute

☒ **D** a solute added to a solvent forms a solution

(Total for Question 16 = 1 mark)

17 Micro-organisms can be helpful or harmful.

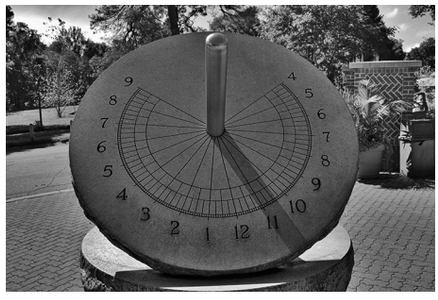
Which row of the table correctly shows a helpful and a harmful use of micro-organisms?

	helpful	harmful
☒ **A**	making bread and cheese	making compost
☒ **B**	making food go mouldy	making bread and cheese
☒ **C**	causing disease	making food go mouldy
☒ **D**	making compost	causing disease

(Total for Question 17 = 1 mark)

18 The photograph shows a sundial.

The shadow on the sundial moves during the day. The shadow can be used to tell the time.



NAEWI112139 – © Jeff Lueders/Alamy

Why does the shadow on the sundial move during a sunny day?

☒ **A** because the Earth rotates on its axis once a day

☒ **B** because the Earth orbits the Moon once a day

☒ **C** because the Moon orbits the Earth once a day

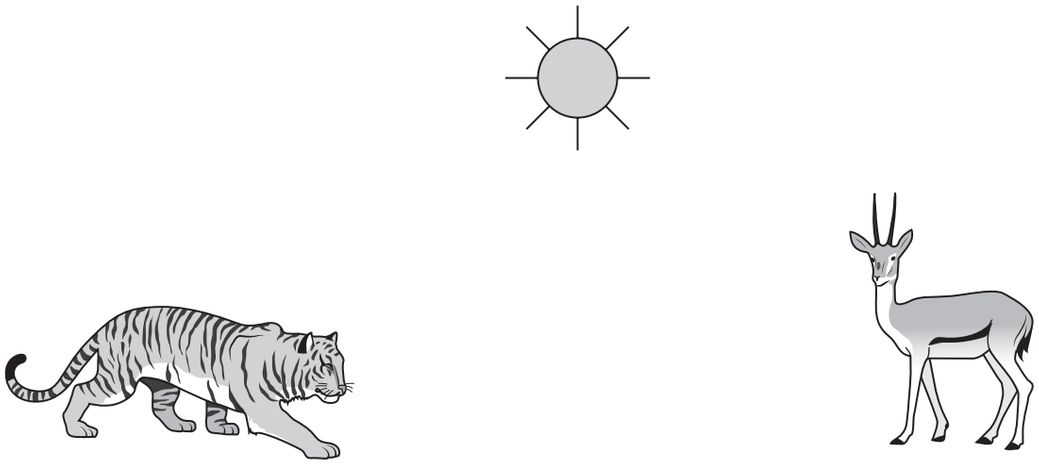
☒ **D** because the Sun orbits the Earth once a day

(Total for Question 18 = 1 mark)

19 The picture shows a tiger watching a gazelle.

On the picture draw a ray diagram to show how the Sun helps the tiger to see the gazelle.

(2)



(Total for Question 19 = 2 marks)

20 (a) The table contains some statements about the human circulatory system.

For each statement tick (✓) the correct column to show if the statement is true or false.

(2)

	True	False
the heart pumps blood around the body		
the blood picks up oxygen in the lungs		
the nose is part of the circulatory system		
ventilation of the lungs is called respiration		

(b) Here are two statements about blood.

Complete each statement by underlining the correct word in the box.

(2)

- Blood travels to the lungs which are found in the [head / thorax / throat].
- Blood travels to all parts of the body through blood [pipes / tubes / vessels].

(c) The blood carries water and oxygen around the body.

Name **one** other thing that the blood carries around the body.

(1)

.....

(Total for Question 20 = 5 marks)

21 A girl is riding her skateboard downhill. Her speed is increasing. Then she gently touches one foot on the ground.

Explain what will happen to her speed when she puts her foot on the ground.

(2)

.....

.....

.....

(Total for Question 21 = 2 marks)

For questions 22 – 26 put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.

Each question is worth one mark.

22 The diagram shows a flowering plant.

In which part of the plant are seeds produced?

☒ **A** anther

☒ **B** flower

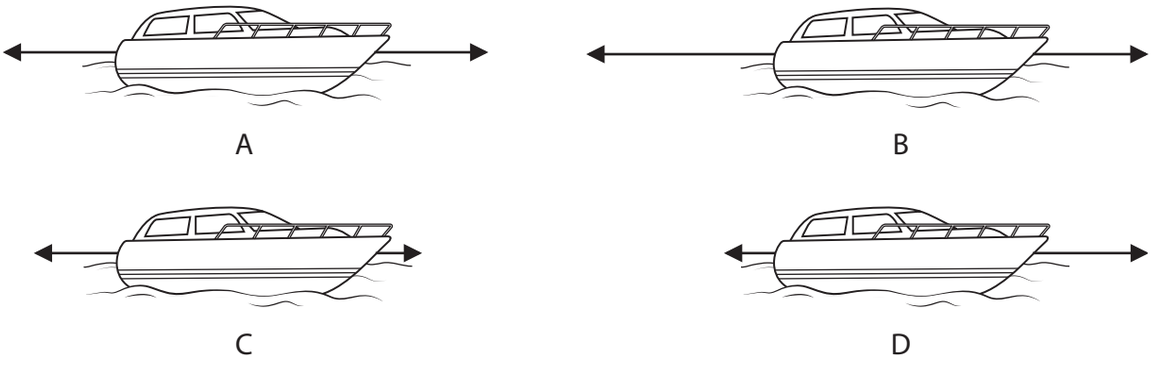
☒ **C** leaf

☒ **D** stem

(Total for Question 22 = 1 mark)

23 A boat is on a lake.

The diagrams show two of the forces acting on the boat.



A

B

C

D

In which diagram are the two forces balanced?

☒ **A**

☒ **B**

☒ **C**

☒ **D**

(Total for Question 23 = 1 mark)

24 A class compares the friction acting between the bottom of a mug and four different materials.

They place the mug near the edge of a wooden board (Diagram A).

They measure the distance they have to raise the board before the mug starts to slide (Diagram B).

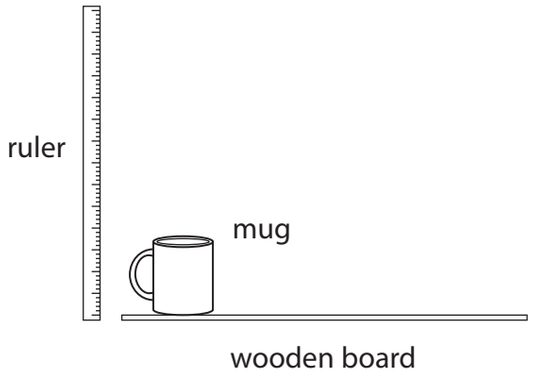


Diagram A

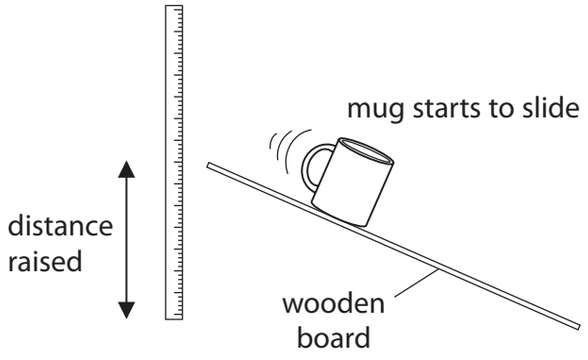


Diagram B

They repeat the experiment with different materials covering the board.

Here are their results.

material	distance board raised in cm
wood	26
rubber mat	48
carpet	35
sandpaper	54

Which of these statements is a correct conclusion from these results?

☒ **A** the type of material does not affect the amount of friction

☒ **B** the friction is greatest between the sandpaper and the mug

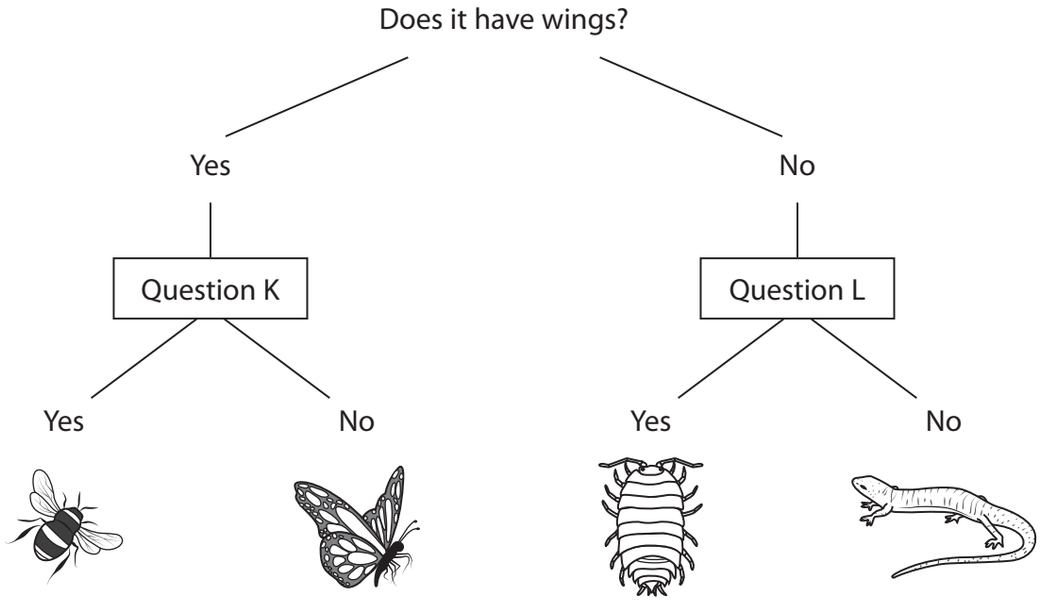
☒ **C** the friction is greatest between the wood and the mug

☒ **D** the friction is least between the sandpaper and the mug

(Total for Question 24 = 1 mark)

25 A student is writing a key to help identify four animals.

Here are the four animals and the key she has written.

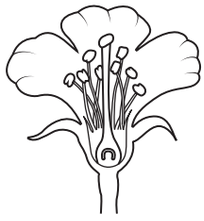


Two questions, K and L, are missing. Which could be the missing questions?

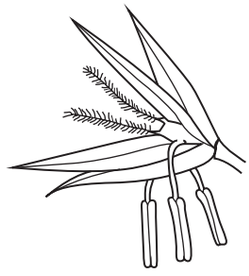
	Question K	Question L
☒ **A**	does it have a shell?	does it have wings?
☒ **B**	does it have a striped body?	does it have feathers?
☒ **C**	does it have a shell?	does it fly?
☒ **D**	does it have a striped body?	does it have more than four legs?

(Total for Question 25 = 1 mark)

26 The drawings show two flowers, R and S. One is a wind pollinated flower and one is an insect pollinated flower.



flower R



flower S

Which of the statements is correct?

☒ **A** flower R is wind pollinated because it has large petals

☒ **B** flower R is wind pollinated because it has anthers hanging outside the flower

☒ **C** flower S is wind pollinated because it has large and feathery stigmas to catch the pollen

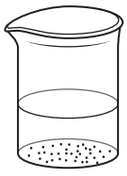
☒ **D** flower S is wind pollinated because it has a small and smooth stigma to collect pollen

(Total for Question 26 = 1 mark)

27 A student is given 10 g of three different powders, M, N and P.

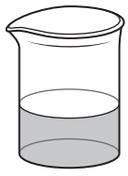
He adds each powder to separate beakers containing 30 cm^3 of water and stirs five times.

Here are his results.



M

some of the powder dissolves



N

all of the powder dissolves

P

none of the powder dissolves

(a) Give the letter of the powder that can be completely separated from the water by using only filtration.

(1)

.....

(b) How could he make the powder dissolve faster?

(1)

.....

(Total for Question 27 = 2 marks)

28 (a) A cook has dropped some dry rice grains into a bowl of flour.

Explain how he can separate the rice from the flour.

(2)

.....

.....

.....

(b) The cook is making breakfast. The four things he does are shown in the table.

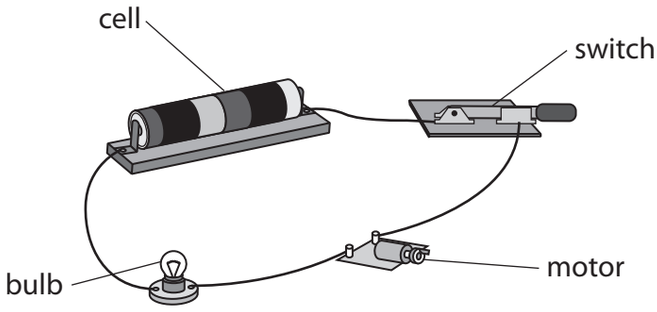
For each one put a tick (✓) in the correct column to show if each change is a reversible or an irreversible change.

(2)

	reversible change	**irreversible change**
fries an egg		
warms frozen orange juice		
makes toast		
adds sugar to a cup of hot tea		

(Total for Question 28 = 4 marks)

29 A student makes this circuit.



(a) State two ways she could increase the speed of the motor.

(2)

1 .....

2 .....

(b) The circuit contains a switch.

Explain what a switch does in a circuit.

(2)

.....

.....

.....

(Total for Question 29 = 4 marks)

TOTAL FOR SECTION A = 45 MARKS

SECTION B

Answer ALL questions.

30 A student investigates how well four substances dissolve in two different liquids, A and B.

The four substances are chalk, salt, sand and sugar.

Here is her method.

Step **1**: measure the same volume of liquid A into four separate beakers and take the temperature of the liquid.

Step **2**: add 15 g of chalk into the first beaker, add 15 g of salt into the second beaker, add 15 g of sand into the third beaker and add 15 g of sugar into the fourth beaker.

Step **3**: stir each mixture ten times.

Step **4**: repeat steps **1**, **2** and **3** using liquid B instead of liquid A.

(a) She starts to write her equipment list.

Add two more pieces of equipment she would need.

(2)

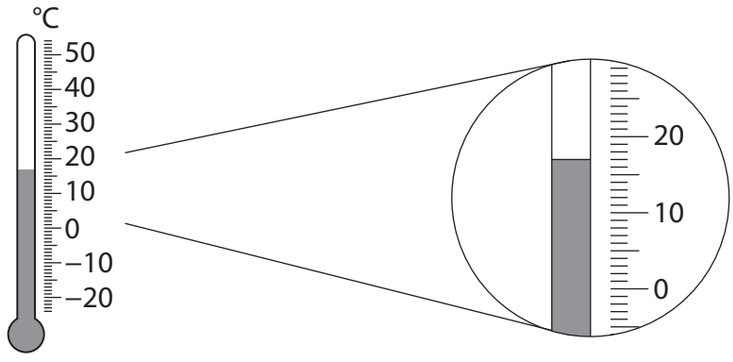
- four beakers
- thermometer
- .....
- .....

(b) She uses the thermometer to measure the temperature of the liquids.

The diagram shows the thermometer.

What is the temperature shown on the thermometer?

(1)



The temperature is ..... °C.

(c) Why should the liquids be at the same temperature each time?

(1)

.....

For question 30(d) put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.

(d) The table shows which substance dissolves in each liquid.

	liquid A	liquid B
chalk	dissolves	does not dissolve
salt	dissolves	does not dissolve
sand	does not dissolve	does not dissolve
sugar	dissolves	dissolves

After her investigation the student uses her table to produce the following list of how well the four solids dissolve.

1st sugar

2nd chalk and salt

3rd sand

What do scientists call this?

(1)

☒ **A** the conclusion

☒ **B** the data

☒ **C** the evidence

☒ **D** the prediction

(Total for Question 30 = 5 marks)

31 A class investigates the difference that feeding birds has on the number and type of birds that come into the school garden.

(a) During the first week they do not feed the birds and they keep a tally of how many birds they see.

The table shows their tally chart.

type of bird	tally	number
blackbird	𝍸 𝍸 II	.....
robin	𝍸	5
starling	𝍸 III	.....
pigeon	𝍸 I	.....

Complete the tally chart by adding in the total number of each type of bird seen.

(1)

(b) During the next week the class puts bird seed out for the birds each day.

The table shows the number of birds they count that week.

type of bird	number
blackbird	18
robin	7
starling	11
pigeon	9

(i) State **one** variable they should control in their investigation.

(1)

.....

.....

(ii) State **one** effect of feeding the birds that these results show.

(1)

.....

.....

(Total for Question 31 = 3 marks)

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32 A scientist investigates the pulse rate of several different animals.

She takes the pulse rates of ten of each type of animal.

(a) Why did the scientist take the pulse rate of ten of each type of animal?

(1)

.....

.....

(b) These are her results for the ten horses.

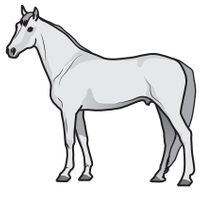
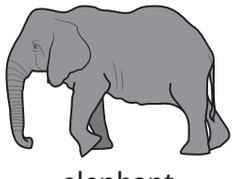
(1)

42	36	45	98	39	49	46	47	41	51

She thinks one of the results is wrong.

Circle the result that is wrong.

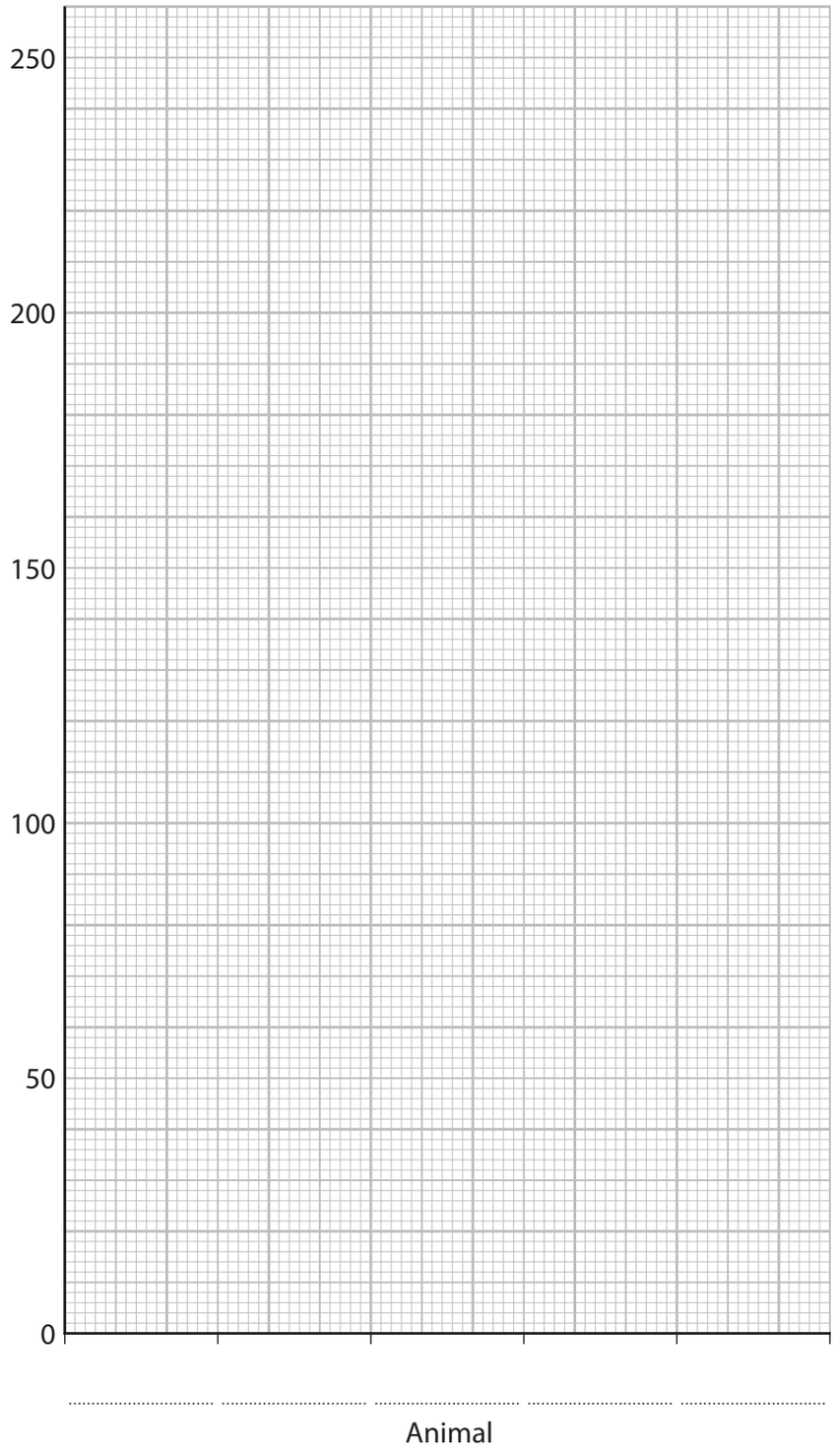
(c) The table shows the average pulse rate of five different animals.

animal	average pulse rate in beats per minute
 rabbit	205
 cat	150
 human	60
 horse	44
 elephant	30

Use the table to complete the bar graph to show the average pulse rate of these animals.

You should also add labels to the axes.

(4)



(d) Predict what the pulse rate of a mouse might be.

(1)

.....

(Total for Question 32 = 7 marks)

TOTAL FOR SECTION B = 15 MARKS
TOTAL FOR PAPER = 60 MARKS

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