

Name \_\_\_\_\_ Date \_\_\_\_\_

*Disclaimer: This test and mark scheme have been written by the authors.*

# End-of-year test

## Questions

### Biology

- 1 Which two statements about microorganisms are **not** correct?

Tick **two** boxes.

They are usually single-celled. ☒

They include bacteria. ☒

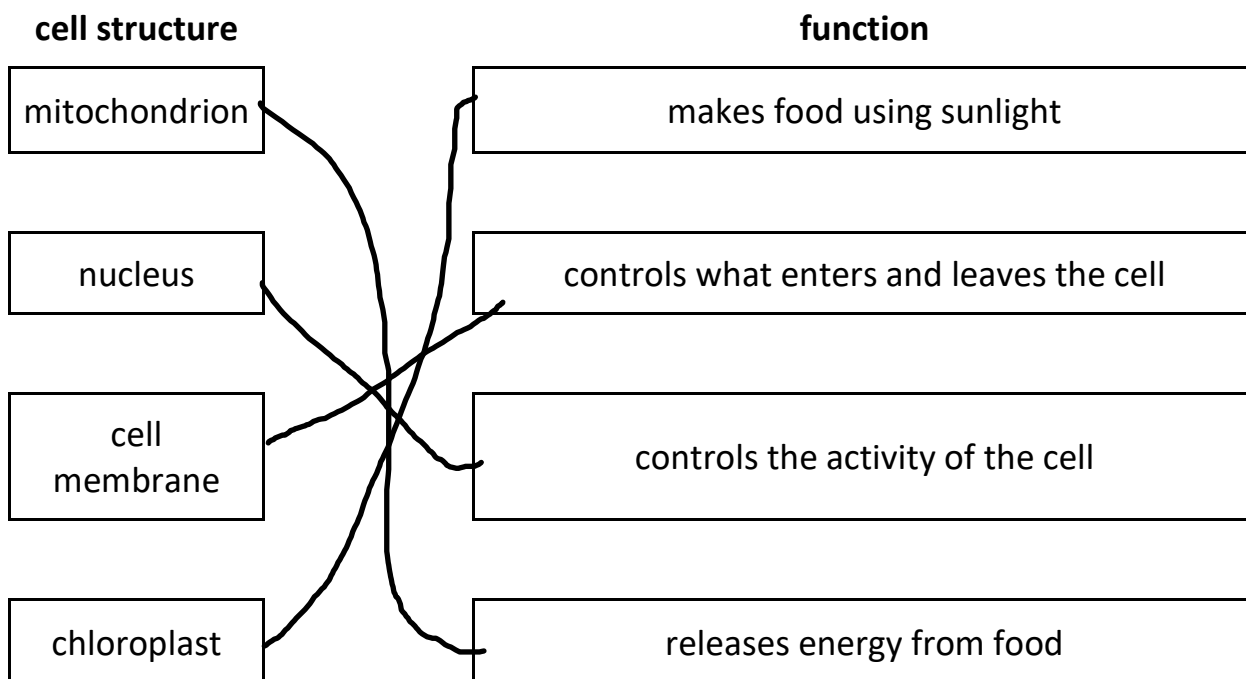
They have tissues and organs. ☐

They are all decomposers. ☐

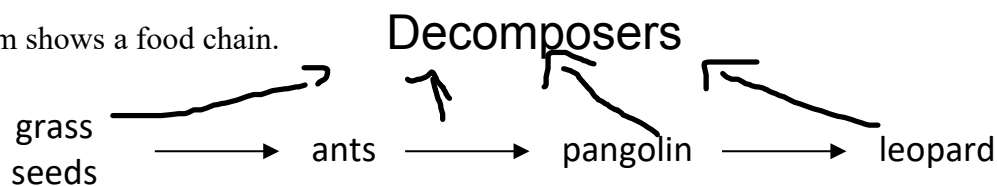
[2]

- 2 Draw one line from each cell structure to its function.

[4]



3 The diagram shows a food chain.



a What do the arrows in the food chain represent? [1]

where the energy gets passed on

b Some kinds of microorganism act as decomposers.

Add these microorganisms to the food chain. [2]

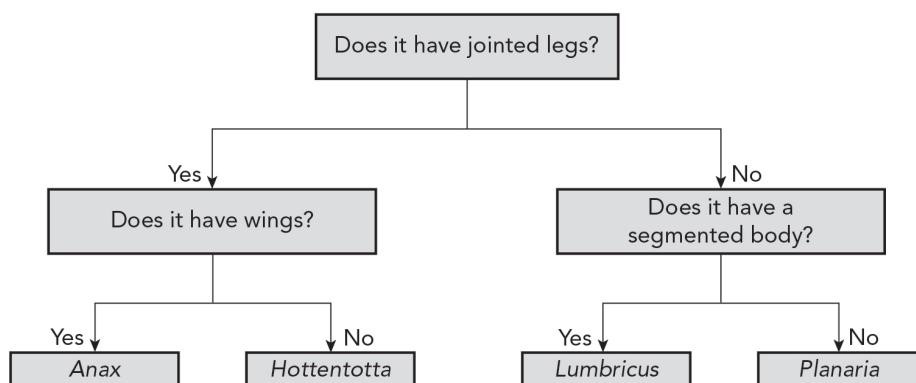
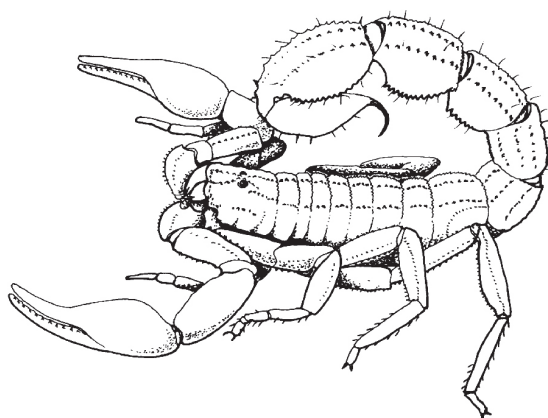
c Explain the ecological importance of decomposers. [2]

To get rid of dead bodies or animal waste  
and provide nutrients for the soil

4 a Complete the sentence about species.

A species is a group of organisms that can reproduce to produce fertile offspring. [1]

b Use the key to identify the species of organism shown in the picture. Hottentotta [1]



- 5 Read the information about the cold virus.

**The virus that causes common colds is very small. It is not made of cells. It cannot move itself, but it can get into the body through your nose if you breathe it in from the air.**

**It enters cells in the nose, or in the tubes leading down to the lungs. Once it is inside a cell, it reproduces to produce more viruses. This kills the cells and makes you feel ill.**

- a Write down **one** piece of information that could be a reason for classifying the cold virus as a living thing. [1]

It can reproduce

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- b Write down **one** piece of information that suggests that the cold virus is **not** a living thing. [1]

It cant excrete

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## Chemistry

6 Sort these words and statements into the correct column.

[2]

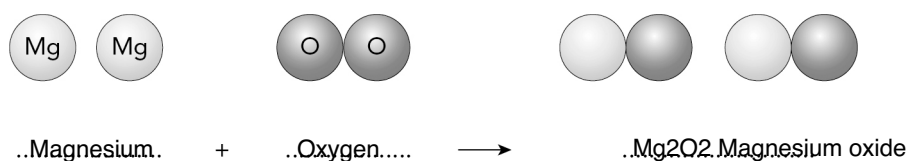
feels soapy   pH 4   turns litmus blue   turns universal indicator red   potassium hydroxide

Acid	Alkali
<p>ph 4</p> <p>turns universal indicator red</p>	<p>feels soapy</p> <p>turns litmus blue</p> <p>pottasium hydroxide</p>

7 Complete the equation by adding:

[2]

- the names of the reactants and product
- the symbols of the product.



8 Draw **one** line between each material and the correct statement.

[2]

material	statement
metal	found on the left of the Periodic Table
gas	low melting point
alloy	can be compressed
non-metal	a mixture of two or more metals

Handwritten connections: metal to found on the left of the Periodic Table; gas to low melting point; alloy to can be compressed; non-metal to a mixture of two or more metals.

9 Look at these symbols and formulae.

Na	O <sub>2</sub>	Ca	CO <sub>2</sub>	NaOH	KCl	CaCO <sub>3</sub>
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a Name **one** of the substances that is a compound. [1]

CO<sub>2</sub>

b Name **one** of the substances that is a gas. [1]

O<sub>2</sub>

c Name the **one** substance that contains a metal and carbon. [1]

KCl

10 There are two bottles of sodium hydroxide in a laboratory.

Bottle A has been used in a neutralisation reaction. It took 25 cm<sup>3</sup> of hydrochloric acid to neutralise the sodium hydroxide in Bottle A.

Arun and Zara want to find out if the sodium hydroxide in Bottle B is weaker or stronger than the sodium hydroxide in Bottle A. Here are their results:

**Arun**

Volume of sodium hydroxide from bottle B used in cm <sup>3</sup>	Volume of hydrochloric acid used in cm <sup>3</sup>			
	First attempt	Second attempt	Third attempt	Mean
20	24	24	26	25

**Zara**

Volume of sodium hydroxide from bottle B used in cm <sup>3</sup>	Volume of hydrochloric acid used in cm <sup>3</sup>			
	First attempt	Second attempt	Third attempt	Mean
25	35	37	35	36

- a When Arun and Zara carry out this investigation, how will they know when they have added enough acid to neutralise the alkali? [1]  
**when it turns green**
- 

- b Why did Arun and Zara both carry out the test three times? [1]  
**To make sure and make so that the answers are more reliable**
- 

- c Which products are formed in this reaction? [2]
- 

- d Suggest why Arun's results are lower than Zara's. [1]
- 

- e Is the sodium hydroxide from bottle B stronger or weaker than that in bottle A? Give a reason for your answer. [1]
-

## Physics

11 Jupiter is the largest planet in the Solar System.

- a Explain what keeps Jupiter in orbit around the Sun.

[2]

The suns Gravity

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- b State why there is no air resistance acting on Jupiter as it moves around the Sun.

[1]

Because it is in space and space is a vacuum which means there are no particles

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12 Describe how fold mountains form.

[2]

When two tectonic plates crash onto each other and one slides below the other one

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13 The picture shows a cell.



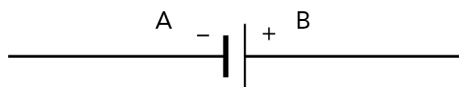
- a Name the energy store in a cell.

[1]

chemical

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- b The diagram is the circuit symbol for a cell.

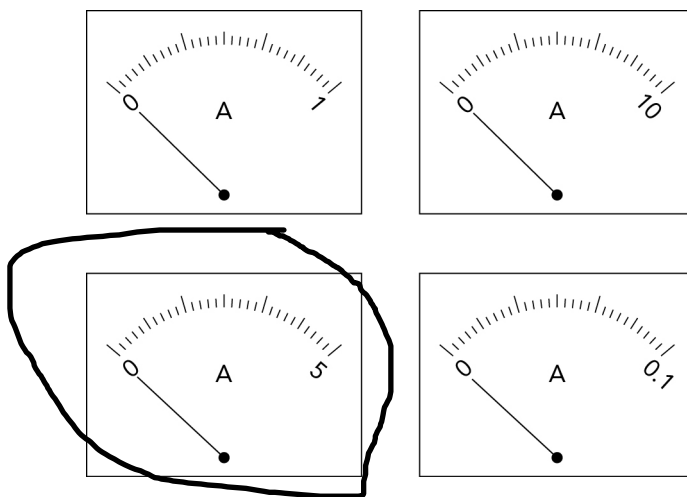


Explain which terminal of the cell, A or B, will attract electrons.

[2]

B, because electrons have a negative charge so they need to attract a positive charge and B is positive.

- 14 Sam investigates the current in a circuit. He has four ammeters to choose from.

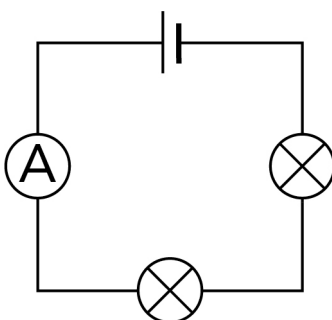


Sam knows that the largest current in his circuit will be 2 A.

- a Circle the best ammeter for Sam to use.

[1]

- b Sam sets up this circuit.



The reading on the ammeter is 0.8 A.

Sam then removes one of the lamps.



Predict:

- i the reading on the ammeter with one lamp in the circuit [1]

**1.6 A**

- ii the effect on the brightness of the one lamp remaining in the circuit by making this change. [1]

**It will be much brighter**

- 15 Put each of these objects into the table by deciding if it is a conductor or insulator. [2]

glass marble    cardboard box    metal spoon    copper coin    wooden chair				
conductors		insulators		
copper coin metal spoon		Glass marble wooden chair cardboard box		

- 16 Most plastics are insulators.

Scientists have designed a type of plastic that conducts electricity.

Explain, in terms of particles, the difference between the insulating plastic and the conducting plastic.

[2]

**In conductors, the electron particles can easily flow through.  
But in insulators they cannot flow through or it is hard.**

[Total: 45]