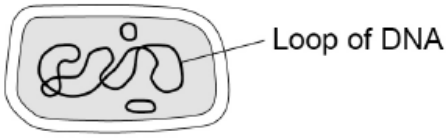
AQA - Cell structure – GCSE Biology

1. May/2020/Paper_1F/No.1

0 1 This question is about cells.

0 1 . 1 **Figure 1** shows a cell.

Figure 1



What type of cell is shown in **Figure 1**?

[1 mark]

Tick (✓) **one** box.

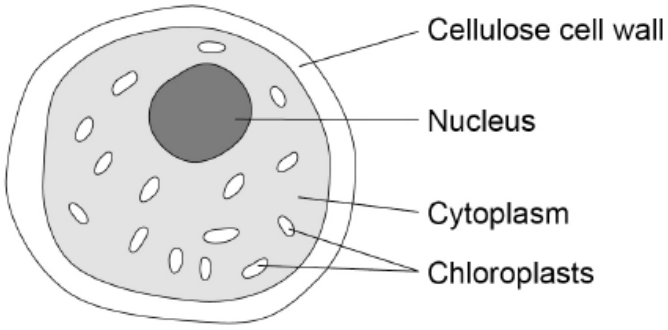
Animal ☐

Bacterium ☐

Plant ☐

Figure 2 shows an algal cell.

Figure 2



0 1 . 2 What is the function of the cell wall?

[1 mark]

Tick (✓) **one** box.

To contain the genetic material ☐

To stop the chloroplasts leaking out ☐

To strengthen the cell ☐

0 1 . 3 The algal cell is green.

Which part of the algal cell makes it green in colour?

[1 mark]

Tick (✓) **one** box.

Cellulose ☐

Chloroplast ☐

Cytoplasm ☐

Nucleus ☐

0 1 . 4 Cells contain sub-cellular structures.

Draw **one** line from each structure to its function.

[3 marks]

Structure	Function
	Controls transport of substances into the cell
Cell membrane	Where energy is released
Mitochondria	Where glucose is made
Ribosomes	Where photosynthesis takes place
	Where proteins are made

A student prepared a microscope slide of cheek cells.

The student looked at one cell using a microscope.

Figure 3 shows the image the student saw.

Figure 3

0 1 . 5 What should the student do to get a clear image?

[1 mark]

Tick (✓) **one** box.

Adjust the focus knob ☐

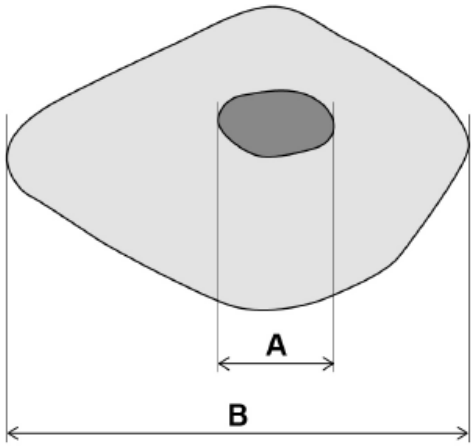
Make the light dimmer ☐

Put water on the slide ☐

The student then obtained a clear image.

Figure 4 shows the clear image.

Figure 4



0 1 . 6 Measure the length of the nucleus (**A**) and the length of the cell (**B**) in millimetres (mm).

[2 marks]

A = _____ mm

B = _____ mm

0 1 . 7 How many times longer is the cell (**B**) than the nucleus (**A**)?

[1 mark]

_____

Number of times longer = _____

0 1 . 8 The student looked at another cell.

The image width of the cell was 40 mm

The real width of the cell was 0.1 mm

Calculate the magnification of the cell.

[2 marks]

Use the equation:

$$\text{magnification} = \frac{\text{size of image}}{\text{size of real object}}$$

Magnification = ×

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Figure 12 shows an animal cell viewed using a microscope.

Figure 12

0 7 . 1 The cell contains a nucleus.

What is the function of the nucleus?

[1 mark]

0 7 . 2 Name **one** type of cell that does **not** contain a nucleus.

[1 mark]

0 7 . 3 Draw a simple diagram of the cell in **Figure 12**.

Label **two** parts of the cell.

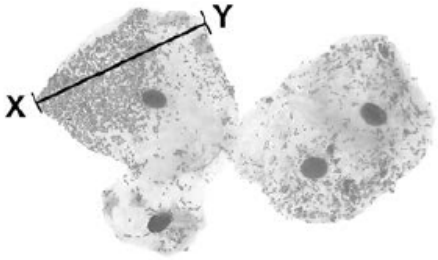
[2 marks]

0 7 . 4 Name **one** structure found in a plant cell but **not** found in an animal cell.

[1 mark]

Figure 13 shows some different cells.

Figure 13



0 7 . 5 The real length from point **X** to point **Y** is 0.06 mm

Calculate the magnification.

Use the equation:

$$\text{magnification} = \frac{\text{size of image}}{\text{real size of object}}$$

[3 marks]

Magnification = × _____

0 7 . 6 The cells shown in **Figure 13** were viewed using a light microscope.

Give **two** advantages of using an electron microscope instead of a light microscope.

[2 marks]

1 _____

_____

2 _____

_____

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Figure 1 shows an animal cell viewed using a microscope.

Figure 1

0 1 . 1 The cell contains a nucleus.

What is the function of the nucleus?

[1 mark]

0 1 . 2 Name **one** type of cell that does **not** contain a nucleus.

[1 mark]

0 1 . 3 Draw a simple diagram of the cell in **Figure 1**.

Label **two** parts of the cell.

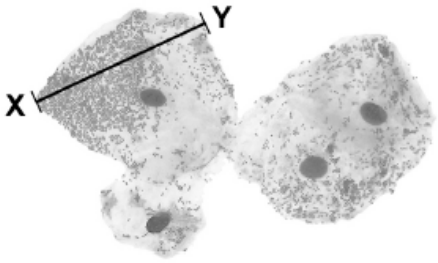
[2 marks]

0 1 . 4 Name **one** structure found in a plant cell but **not** found in an animal cell.

[1 mark]

Figure 2 shows some different cells.

Figure 2



0 1 . 5 The real length from point **X** to point **Y** is 0.06 mm

Calculate the magnification.

Use the equation:

$$\text{magnification} = \frac{\text{size of image}}{\text{real size of object}}$$

[3 marks]

Magnification = × _____

0 1 . 6 The cells shown in **Figure 2** were viewed using a light microscope.

Give **two** advantages of using an electron microscope instead of a light microscope.

[2 marks]

1 _____

_____

2 _____

_____