

Cell Biology – GCSE Biology Paper 1

1. No.5

0 5

The protist that causes malaria is passed from one person to another person by mosquitos.

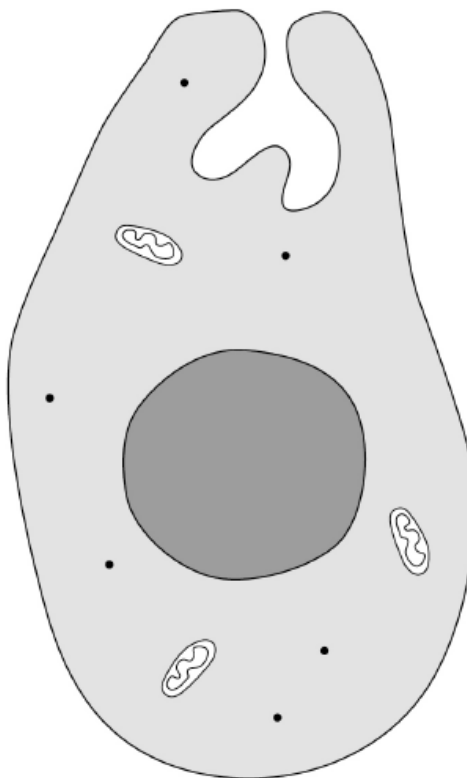
0 5 . 1

What term describes an organism that passes a pathogen from one person to another person?

[1 mark]

0 5 . 2

Figure 7 shows the malarial protist.

Figure 7

The malarial protist is a eukaryotic cell.

Describe **three** ways the structure of the malarial protist is different from the structure of a prokaryotic cell.

Do not refer to size in your answer.

[3 marks]

1 _____

2 _____

3 _____

0 5 . 3

During one stage of malaria infection, the malarial protists enter red blood cells and cause them to burst.

Explain why the bursting of red blood cells causes tiredness.

[2 marks]

0 5 . 4 The malarial protist reproduces sexually and asexually during a life cycle.

Complete **Table 3** to give **three** differences between sexual reproduction and asexual reproduction.

[3 marks]

One difference has been completed for you.

Table 3

	Sexual reproduction	Asexual reproduction
	Involves two parents	Involves one parent
1		
2		
3		

0 5 . 5 One drug for treating malaria prevents mitosis occurring in the malarial protist.

The drug stops the synthesis of new DNA bases in the cell.

Suggest how the drug prevents mitosis occurring.

[1 mark]

0 5 . 6

Describe the process of cell division by mitosis.

[3 marks]

0 5 . 7

Different types of disease may interact.

Scientists studied the incidence of malaria infections in children:

- with disorder **S**
- without disorder **S**.

The incidence of malaria in children with disorder **S** was calculated as a percentage of the incidence in children without disorder **S**.

Table 4 shows the results.

Table 4

Age in years	Calculated percentage (%) incidence of malaria in children with disorder S
2 to < 4	69
4 to < 6	63
6 to < 8	50
8 to 10	45
> 10	73

Describe what the results in **Table 4** show about the interaction between disorder **S** and malaria.

[2 marks]
