



Year 8 Science - Cells

End of Unit

20 marks

45 mins

Date

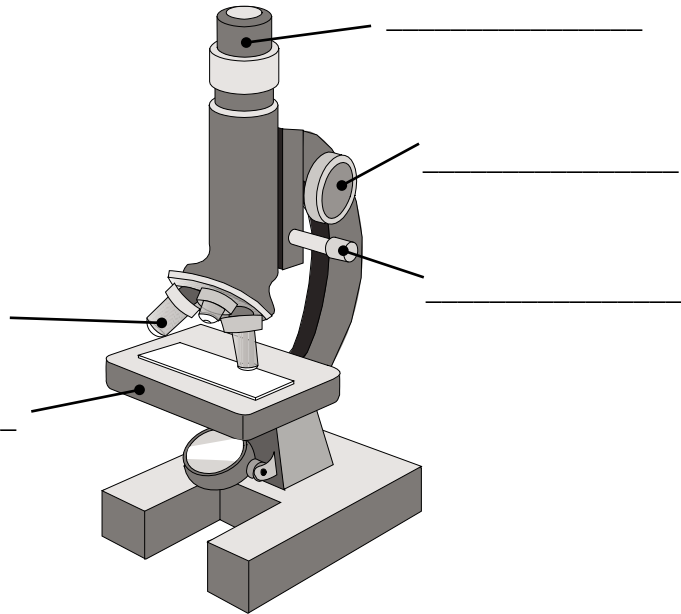
Instructions: 1. Answer all questions on this paper.

Name _____

Class _____

- 1 A microscope is supplied with a 10x magnification eyepiece and three objective lenses of 5x, 10x, and 40x. What is the maximum magnification and minimum magnification that the microscope can provide? (1)

- a) Max = 50x, min = 10x
- b) Max = 50x, min = 50x
- c) Max = 400x, min = 50x
- d) Max = 400x, min = 10x

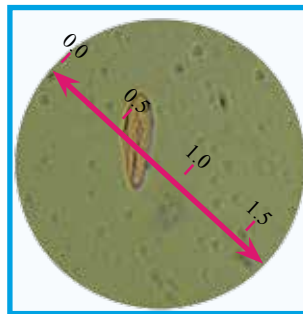


- 2 Label the microscope with the following parts: (2½)

- coarse focus _____
- eyepiece lens _____
- fine focus, _____
- objective lens _____
- stage _____

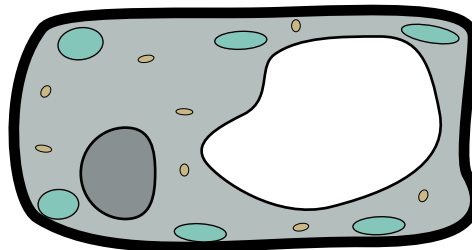
- 3 Estimate the length of the paramecium in the field of view given that the field diameter is 1.7 mm: (1)

- a) 0.5 mm
- b) 0.7 mm
- c) 1.5 mm
- d) 1.7 mm



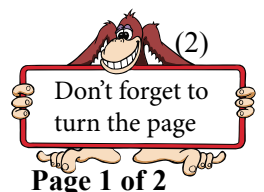
- 4 Label the cell with the following parts: (3½)

- cell membrane _____
- cell wall _____
- chloroplasts _____
- cytoplasm _____
- mitochondria _____
- nucleus _____
- vacuole _____



- 5 Give two reasons to support the conclusion that the above cell is a plant cell. (2)

- a) _____
- b) _____



6 The majority of the protists are microscopic, unicellular organisms with a membrane bound nucleus (eukaryotic).

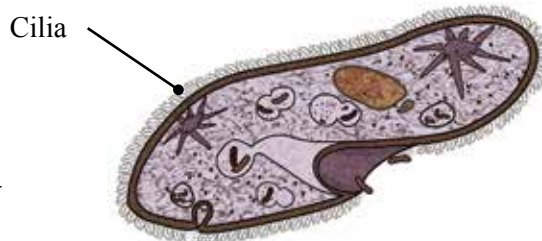
a) What is meant by the term unicellular?

b) Many protists have a flagellum or cilia.

Suggest two possible functions of the flagellum or cilia.

i) _____

ii) _____



A paramecium showing the fine hairs (cilia).

(1)

(½)

(½)

7 Bacterial cells are microscopic unicellular organisms with no membrane around their nucleoid DNA (prokaryotic).

a) Label the cell with the following parts:

- cell wall
- cytoplasm
- flagellum
- nucleoid



(2)

b) Use the terms spirillum, coccus, bacillus, or vibrio to describe the following bacterial shapes:



(2)

8 Mitosis is the name given to the process of cell division that produces two identical cells. Mitosis consists of four phases. In the diagram below, indicate which phase of mitosis is represented by each of the letters:

a) A _____

b) B _____

c) C _____

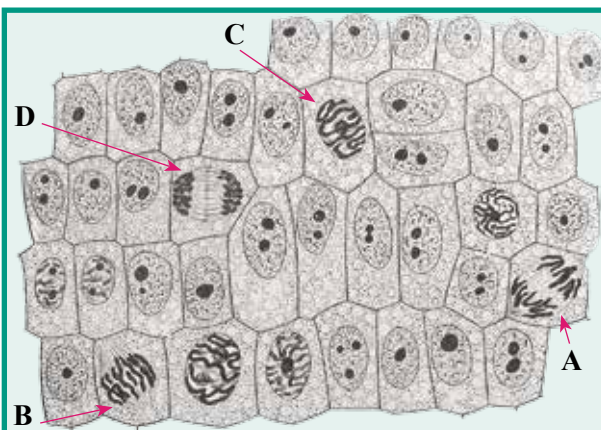
d) D _____

Prophase
The nucleus membrane breaks down. The chromosomes thicken and become more obvious.

Metaphase
Spindle fibres attach to each side of the chromosome.

Anaphase
The chromosomes are separated.

Telophase
Spindle fibres disappear. Cell divides into two. Nuclear membrane forms. Chromosomes become longer.



Cells in the growing root-tip of an onion. The sketch shows all four phases of mitosis.

(4)

Did you find your silly mistakes?

