

# Characteristics and Classification of Living Organisms

## Question Paper 1

|                   |  |
|-------------------|--|
| <b>Level</b>      | IGCSE  |
| <b>Subject</b>    | Biology  |
| <b>Exam Board</b> | CIE  |
| <b>Topic</b>      | Characteristics and Classification of Living Organisms |
| <b>Sub-Topic</b>  |  |
| <b>Paper Type</b> | Alternative to Practical                               |
| <b>Booklet</b>    | Question Paper 1                                       |

**Time Allowed:** 54 minutes

**Score:** /45

**Percentage:** /100

1 Fig. 2.1 shows three worms. One is a nematode.

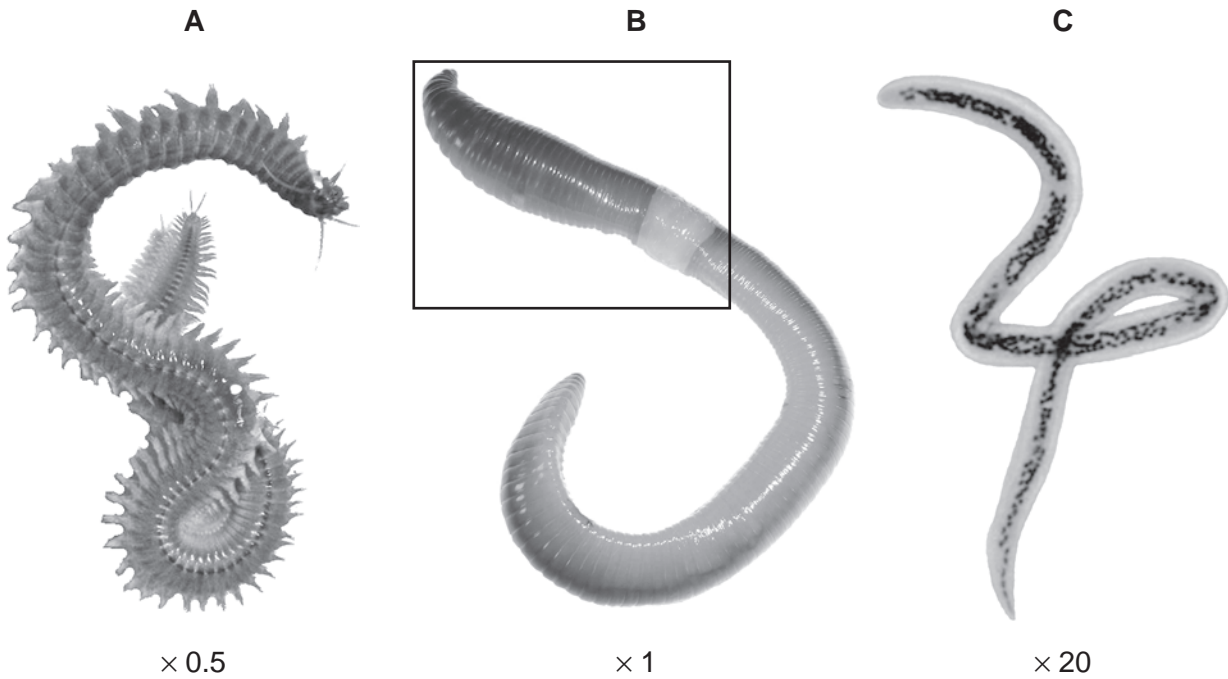


Fig. 2.1

(a) (i) Write the letter that identifies a nematode worm ..... [1]

(ii) Give **two** reasons for your answer.

.....

.....

.....

..... [2]

(iii) The other two worms belong to a different group.

Name this group ..... [1]

(b) Part of the worm labelled **B** is shown in a rectangle.

Make a large labelled drawing of this part of worm **B**.

(c) Some students studied a population of 40 worms. They measured the lengths of 35 worms. These measurements are shown in Table 2.1.

(i) Complete Table 2.1 by measuring the lengths of the five worms shown in Fig. 2.2. Use a ruler to measure them.

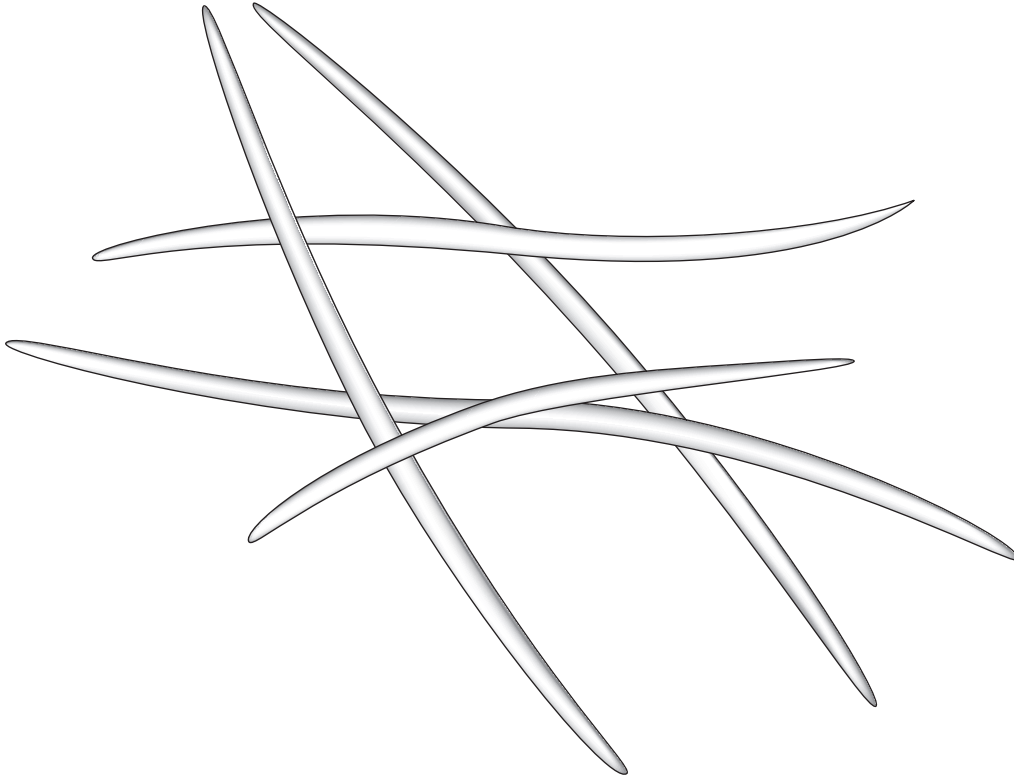


Fig. 2.2

Table 2.1

|           |     |     |    |  |  |  |  |      |      |  |
|-----------|-----|-----|----|--|--|--|--|------|------|--|
| length/cm | 7.0 | 8.1 | 10 |  |  |  |  | 12.1 | 13.5 |  |
|-----------|-----|-----|----|--|--|--|--|------|------|--|

|           |      |   |  |  |  |      |      |   |  |      |
|-----------|------|---|--|--|--|------|------|---|--|------|
| length/cm | 11.3 | 7 |  |  |  | 13.7 | 15.5 | 8 |  | 15.2 |
|-----------|------|---|--|--|--|------|------|---|--|------|

|           |     |     |    |      |   |  |  |  |  |  |
|-----------|-----|-----|----|------|---|--|--|--|--|--|
| length/cm | 9.6 | 8.4 | 14 | 16.0 | 7 |  |  |  |  |  |
|-----------|-----|-----|----|------|---|--|--|--|--|--|

|           |      |   |  |  |     |  |  |  |  |  |
|-----------|------|---|--|--|-----|--|--|--|--|--|
| length/cm | 14.0 | 1 |  |  | 8.3 |  |  |  |  |  |
|-----------|------|---|--|--|-----|--|--|--|--|--|

Record the length of each worm in Table 2.1 [2]

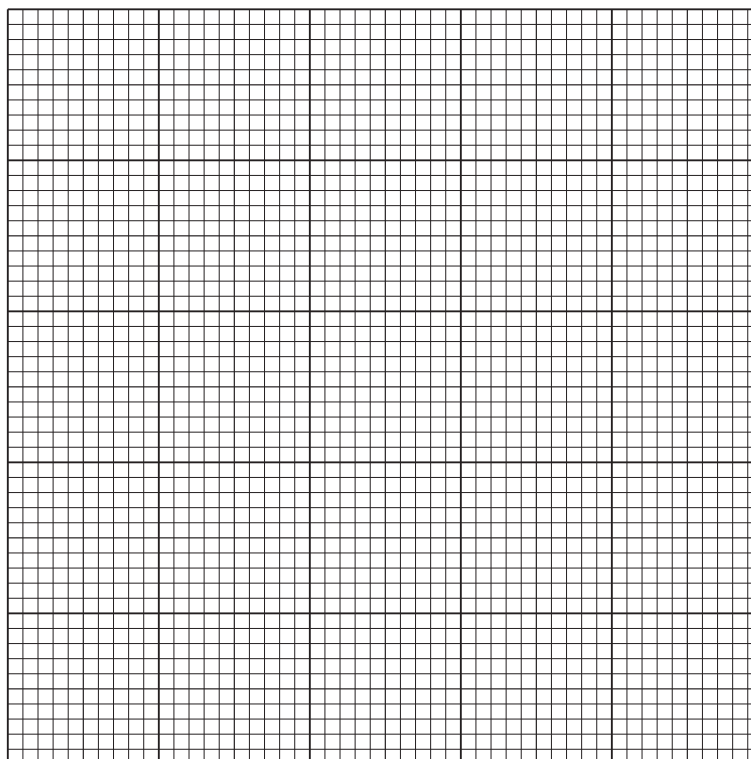
- (ii) Complete the tally chart, Table 2.2, to show the number of worms in each range of lengths.

Table 2.2

| range of lengths / cm | tally | frequency |
|-----------------------|-------|-----------|
| 5.0 - 6.9             | ..... |           |
| 7.0 - 8.9             | ..... |           |
| 9.0 - 10.9            | ..... |           |
| 11.0 - 12.9           | ..... |           |
| 13.0 - 14.9           | ..... |           |
| 15.0 - 16.9           | ..... |           |

[3]

- (iii) Use the data from Table 2.2 to plot a histogram showing the frequency of each range of lengths.



[4]

(iv) Suggest a reason for the shape of the histogram.

.....  
..... [1]

[Total: 18]

2 Fig. 3.1 shows an invertebrate animal.



Fig. 3.1

Fig. 3.2 shows the external features of six other animals.

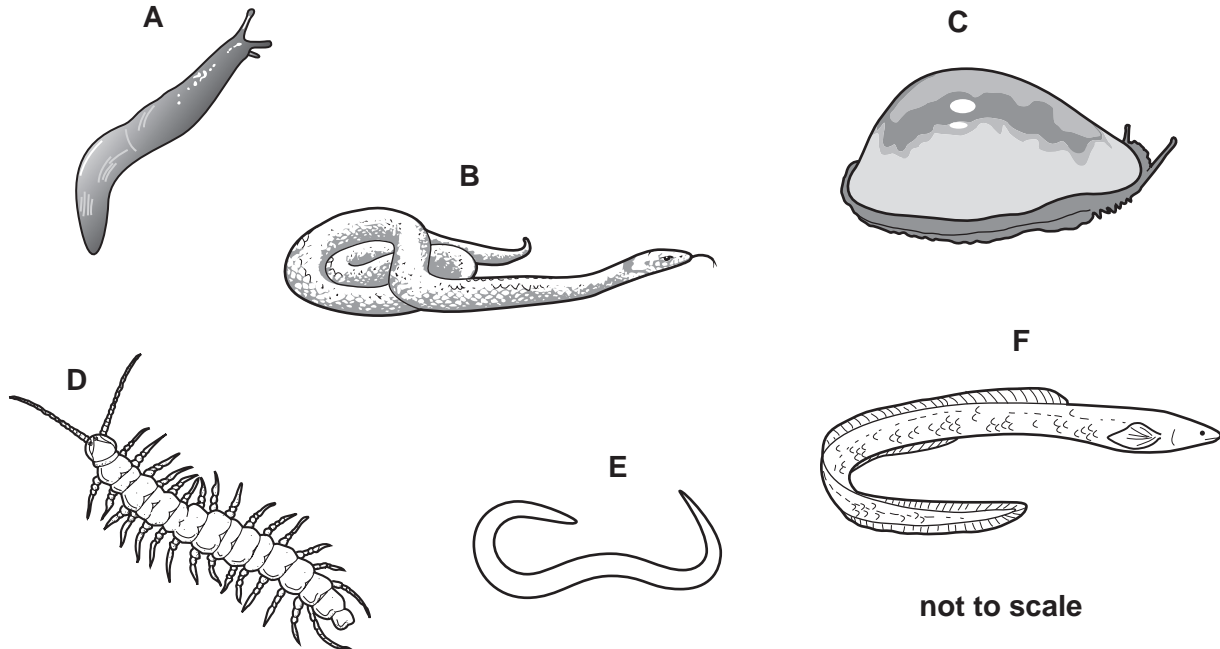


Fig. 3.2

(a) Give the letters of **two** animals that belong to the same group as the invertebrate shown in Fig. 3.1.

1 .....

2 .....

[2]

(b) Describe **two** similarities, **visible** in Fig. 3.2, between animal **B** and animal **F**.

1 .....

.....

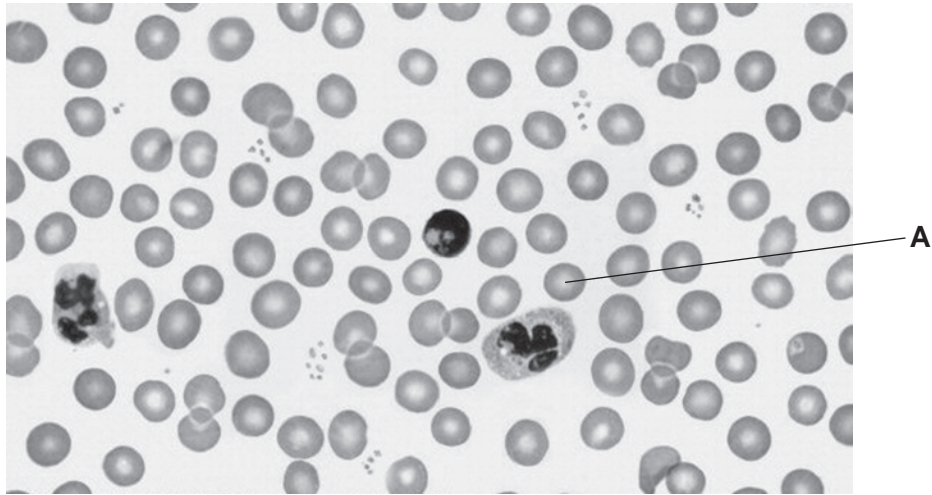
2 .....

..... [2]

[Total: 4]



3 Fig. 3.1 shows a photomicrograph of a human blood smear.



Magnification  $\times 800$

Fig. 3.1

(a) (i) On Fig. 3.1, draw label lines and name **three** different types of blood cell. [3]

(ii) Name **two** parts of the blood that can pass through the capillary walls.

1. ....

2. .... [2]

(b) (i) Measure the diameter of the blood cell labelled **A**.

.....mm [1]

(ii) The photomicrograph has been enlarged by  $\times 800$ , calculate the actual size of cell **A**.

*show your working*

actual size of cell **A** ..... [2]

(iii) State the function of cell **A**.

.....  
..... [1]

[Total: 9]

4 Fig. 2.1 shows the upper surface of an animal.



Fig. 2.1

(a) Make a large drawing of the body of this animal and the leg labelled **X**.

Label **one** of the eyes and **two** features of the back leg.

Figs. 2.2, 2.3 and 2.4, show other examples of the same group (phylum). Each belongs to a different sub-group (class).

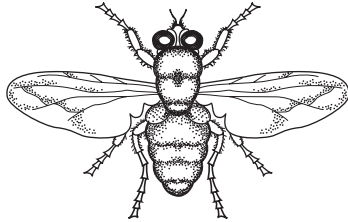


Fig. 2.2

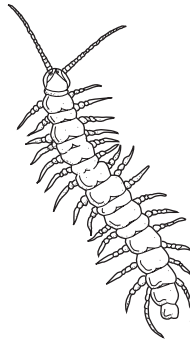


Fig. 2.3

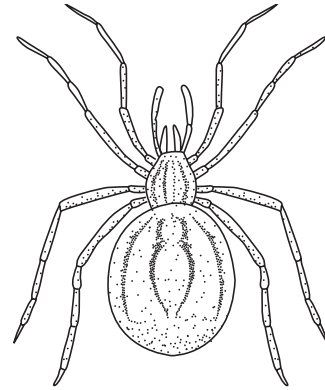


Fig. 2.4

[these animals are not all drawn to the same scale]

(b) (i) Name the main group (phylum) to which these animals belong.

..... [1]

(ii) Describe **one** feature that is characteristic of **all** these animals.

..... [1]

(iii) Complete the table to indicate **one** special feature which makes each sub-group (class) different from all the others.

| Fig. 2.2 | Fig. 2.3 | Fig. 2.4 |
|----------|----------|----------|
|          |          |          |

[3]

(iv) Name each sub-group (class).

Fig. 2.2 .....

Fig. 2.3 .....

Fig. 2.4 ..... [3]

[Total: 14]