

Reproduction

Question Paper 1

Level	IGCSE
Subject	Biology
Exam Board	CIE
Topic	Reproduction
Sub-Topic	
Paper Type	Alternative to Practical
Booklet	Question Paper 1

Time Allowed: 52 minutes

Score: /43

Percentage: /100

1 Fig. 2.1 is a photograph of a dandelion fruit.



Fig. 2.1

(a) Make a large drawing of the fruit in the space below.

Add labels to show:

- where the fruit was attached to the plant,
- the position of the seed.

- (b) (i) Measure the length of the fruit in Fig. 2.1 and draw a straight line next to your drawing to show this length.

length of fruit in Fig. 2.1

length of fruit in your drawing [2]

- (ii) Calculate the magnification of your drawing.

Show your working.

magnification [2]

(c) Fig. 2.2 shows a fruit which has been kept in a **dry** environment for one day.

Fig. 2.3 shows a fruit which has been kept in a **damp** environment for one day.



Fig. 2.2



Fig. 2.3

(i) Complete the table below to show one visible difference between the two dandelion fruits.

feature	dry fruit shown in Fig. 2.2	damp fruit shown in Fig. 2.3
.....

[2]

2 Fig. 3.1 shows three cress seedlings grown under different conditions. The seeds came from the same plant and the seedlings have been grown for the same length of time.

The seedlings are drawn to scale.

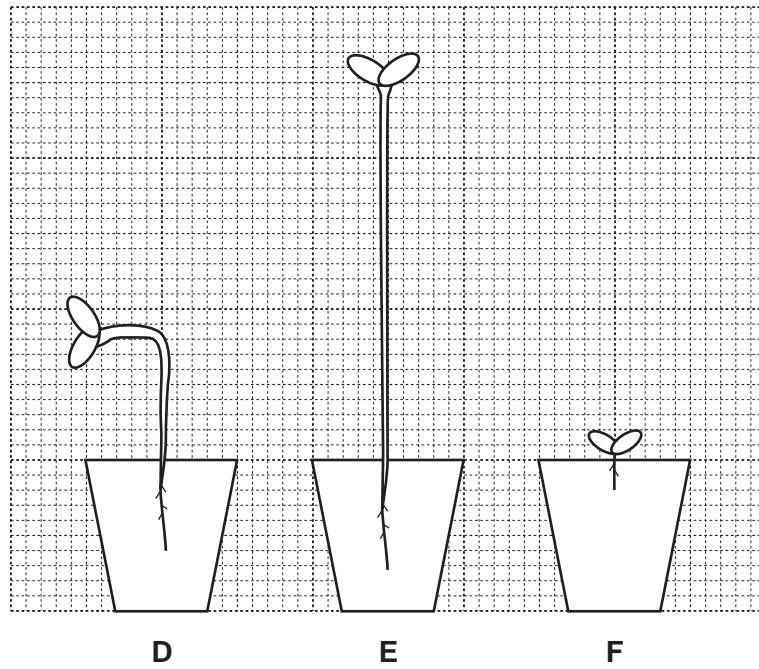


Fig. 3.1

(a) The cress seedlings, D, E and F differ in appearance. For each seedling state how it is different and suggest an explanation.

(i) seedling D

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.....

..... [3]

(ii) seedling E

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..... [3]

(iii) seedling F

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[3]

- (b) Seeds develop within the fruits of flowering plants.
 Fig. 3.2 shows two types of fruit, **G** and **H**, from species similar to cress.

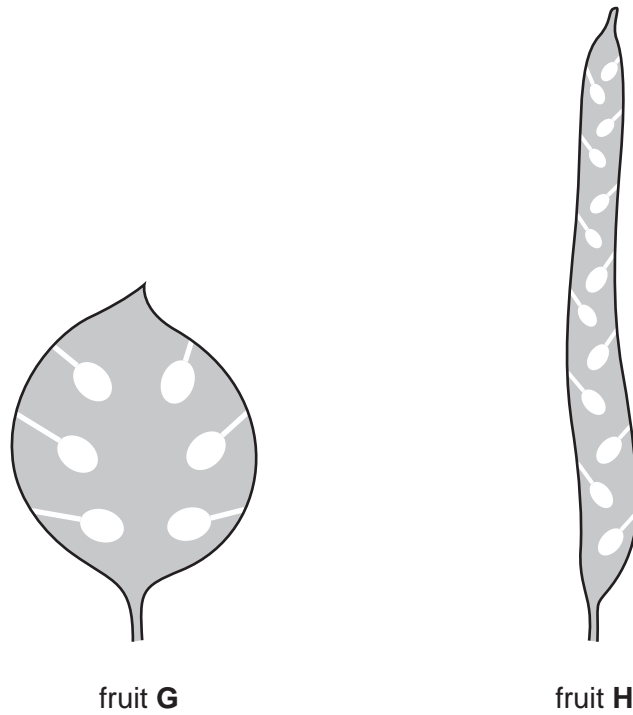


Fig. 3.2

- (i) Describe two similarities between fruit **G** and fruit **H**.

1

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2

..... [2]

- (ii) Complete Table 3.1 by recording two differences between fruit **G** and fruit **H**.

Table 3.1

fruit G	fruit H
1
.....
2
.....

[2]

(c) Suggest how the seeds may be dispersed from these two fruits.

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..... [1]

[Total: 14]

3 Tomato seeds of the same type and maturity were left to germinate in different solutions at 20°C.

In dish **A**, 20 seeds were left in water.

In dish **B**, 20 seeds were left in juice from a ripe tomato. The pH of the juice measured pH 6.

In dish **C**, 10 seeds were left in a solution which was at pH 6. There was no tomato juice in this solution.

Fig. 3.1 shows the seeds after 5 days. Some of the seeds have germinated and short radicles have developed.

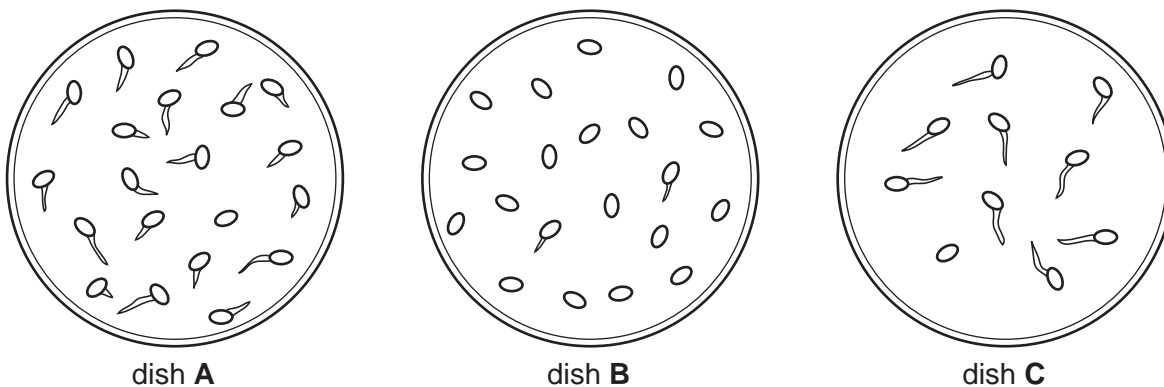


Fig. 3.1

(a) (i) Record the number of seeds that have germinated in each dish in Table 3.1.

Table 3.1

number of seeds germinating		
dish A	dish B	dish C

[2]

(ii) Calculate the percentage increase in the number of seeds that have germinated in dish **C** compared with dish **B**, if the **same** number of seeds had been left to germinate in dish **C**.

Show your working.

..... % [2]

(iii) Suggest a reason why a larger percentage of seeds have germinated in dish **C** compared with dish **B** even though both solutions were at pH 6.

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..... [2]

(iv) Explain the purpose of dish **A** in this investigation.

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

(b) Design an experiment to find out the effect of pH on seed germination.

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..... [6]

[Total: 13]