Name:

IGCSE Biology: **w25 22**

34 What are features of hydrophytes which have leaves that float?

A long root system

B many stomata on upper surface of leaves

C hairy leaves

D small air spaces in the spongy mesophyll

IGCSE Biology: **w25 23**

34 Which term is used to describe a characteristic that helps an organism to survive and reproduce in its environment?

A adaptive feature

B competition

C observable feature

D phenotype

IGCSE Biology: **s25 21**

32 The table shows some features of leaves.

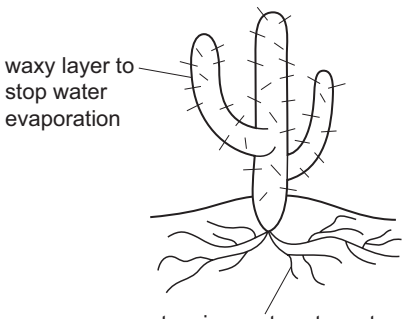
Which leaf is adapted to survive in hot, dry habitats?

	number of stomata	thickness of waxy cuticle	surface area of leaf
A	many	thick	small
B	many	thin	large
C	few	thick	small
D	few	thin	large

IGCSE Biology: **s25 22**

34 Which diagram of a xerophyte is labelled correctly?

A



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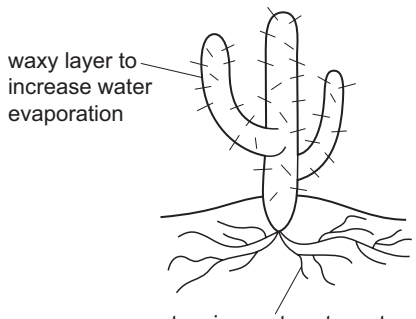
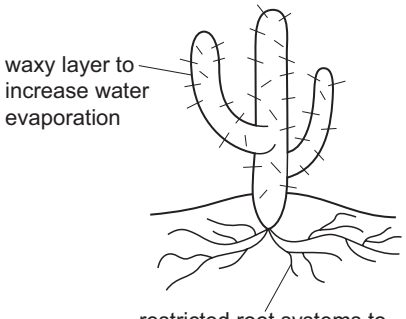
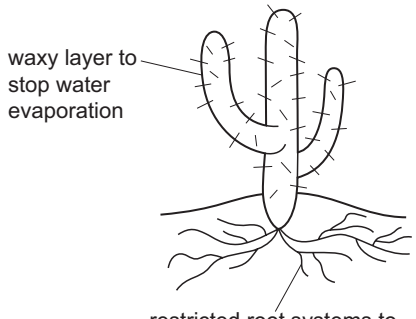


C



D



IGCSE Biology: **s25 23**

34 Which statements describe an adaptive feature in an organism?

1 It helps an organism to survive and reproduce in its environment.

2 It always shows continuous variation.

3 It is inherited.

A 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only

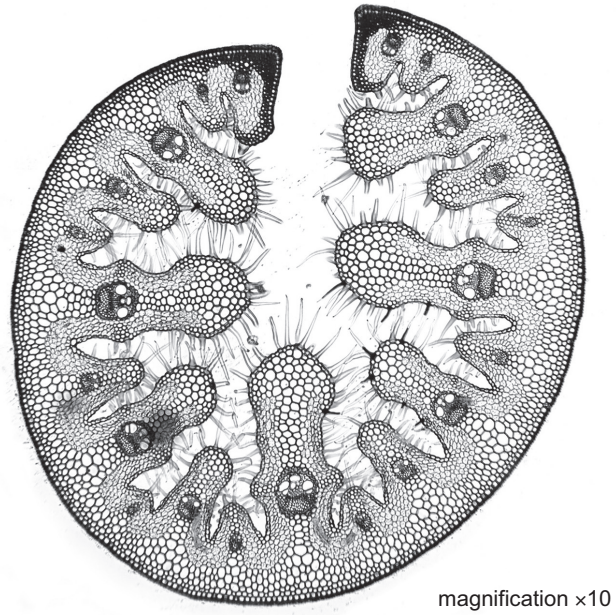
4 Xerophytes are plants that show adaptive features for dry habitats.

(a) Complete the sentence to define the term adaptive feature.

An adaptive feature is an ..... feature that helps an organism to ..... and ..... in its environment. [2]

(b) Marram grass is a xerophytic plant.

Fig. 4.1 is a photomicrograph of a cross-section of a marram grass leaf.



magnification ×10

Fig. 4.1

Using Fig. 4.1, describe the visible features that identify this as a xerophyte leaf.

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.....

..... [2]

(c) **(i)** The mean cell wall thickness of an epidermal cell from one species of xerophyte is 1.276 μm.

Convert 1.276 μm to mm.

..... mm [1]

(ii) State the name of the carbohydrate molecule used to build cell walls in xerophytes.

..... [1]

(iii) Suggest **one** way the stem of a xerophyte is adapted for dry habitats.

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..... [1]

(d) Fig. 4.2 is a diagram showing the root systems of two different species of xerophyte.

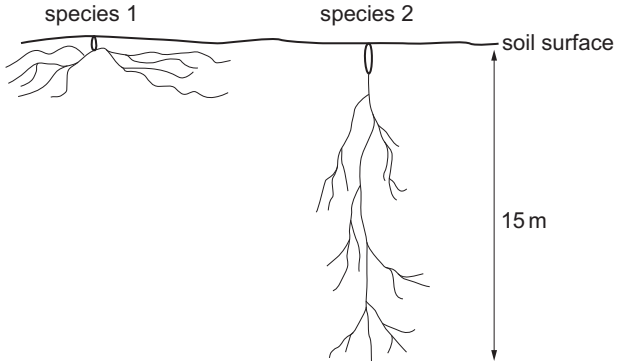

Fig. 4.2

Describe the **two** root systems shown in Fig. 4.2 **and** suggest how each one is an adaptation for living in a dry environment.

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..... [3]

[Total: 10]