

Adaptations

KS3 Biology · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

What are the three types of adaptation? Give an example of each.

Step 1 · Structural

A body feature, e.g. a polar bear's thick fur.

Step 2 · Behavioural

Something the organism does, e.g. a hedgehog hibernating.

Step 3 · Physiological

A process inside the body, e.g. a camel making very concentrated urine.

Answer: Structural, behavioural, physiological

Check: Ask: is it a body part, an action, or a body process?

2. Now try one with the steps

Explain how a cactus is adapted to the desert.

Step 1 · Problem

Step 2 · Adaptations

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. What is an adaptation? [1]

2. Name the three types of adaptation. [1]

3. Is hibernation a structural or behavioural adaptation? [1]

4. Why does a polar bear have thick fur and a layer of fat? [1]

5. Why do fennec foxes have large ears? [1]

6. Why do cacti have spines instead of leaves? [1]

7. Name ONE thing animals compete for. [1]

8. Name ONE thing plants compete for. [1]

9. Why do bluebells flower in early spring? [2]

10. A 2 cm cube has a surface area of 24 cm² and a volume of 8 cm³. What is its SA : V ratio, as ? : 1? [1]

11. Explain why small mammals like shrews must eat almost constantly. [2]

12. Explain why the bright colours of a poison dart frog help it survive. [2]

13. Suggest why animals that are well adapted to one habitat may struggle if it changes. [2]

14. Explain why oak trees drop their leaves in autumn. [2]

4. Before you hand it in

"A camel's hump stores water."

The hump stores fat. Keeping fat in one place lets heat escape from the rest of the body.

"Animals adapt to their environment when it gets cold."

Adaptations evolve over many generations by natural selection (see B35). An individual can only change behaviour, e.g. shelter.

Giving an adaptation without explaining it.

Feature + how it helps: 'thick fur traps air, insulating it so less heat is lost'.