Adaptation to evolution: answers

What your child practised: how variation, survival and inheritance can change a living thing over many generations (Year 6 science).

Page 1 · Warm up

variation · inherit · generations

Page 2 · Try it together

Results vary. On a dark cushion, more pale moths are usually found, so dark moths increase each generation. On a pale sheet, the opposite happens.

Page 2 · A. The story in order

1 Most moths were pale and hid on lichen.
2 Smoke killed the lichen and darkened bark.
3 Birds spotted pale moths more easily.
4 Dark moths survived and passed on their colour.
5 After many generations, most moths were dark.

(The boxes, top to bottom: **4, 1, 5, 2, 3**.)

Page 3 · B. Giraffes

Tick **2.** Explanation 1 is wrong: stretching during a giraffe's life can't be passed on to its young. Only inherited features are passed on.

Page 3 · C. Foxes

Foxes with thicker fur stayed warmer, so more survived and had young. The young inherited thick fur. Over many generations, thick fur became common.

Page 3 · D. Pale moths again

Some moths were still pale (variation). On paler, cleaner bark they were hidden, so more survived (survival). They passed on pale colouring (inheritance), and over many generations pale moths became common again.

Challenge: No. A moth can't change its colour during its life. A few dark moths already existed. On dark trees they were eaten less, so they had more young, which were dark too. The group changed over many generations.

Watch out for

- **The stretched neck.** Changes during an animal's life (stretched necks, big muscles, scars) aren't passed on to its young. Only inherited features are.
- **"The animal evolved."** One animal can't evolve. Ask: "Did one moth change, or did there end up being more dark moths?"

Going further (5 minutes, no paper)

- **Spot the variation:** look closely at a bowl of apples or a handful of leaves. No two are exactly alike. Which difference might help one survive better?
- **In the game:** this is the last chapter. Replay any habitat chapter to see adaptations you now know how to explain.