

9Ae NATURAL SELECTION

1 What causes inherited variation? **Genes**

2 Many times a year, a certain river suddenly floods. Over many years, a species of lizard living by the river evolved longer legs. Darwin might have explained this using the sentences below. Number them in their correct order.

- 4** In the next generation, more of the lizards have longer legs.
- 3** The surviving lizards produce offspring that also have longer legs.
- 2** The lizards with slightly longer legs are more likely to survive the flood.
- 5** This process of natural selection repeats over and over again.
- 1** When the river floods, the lizards with slightly longer legs run faster.

3 Charles Darwin and Jean-Baptiste Lamarck developed theories of evolution. The diagram shows the evolution of long legs in some birds over many years.



Lamarck would say: Birds that could wade into deeper water could get more fish. When there were fewer fish in the lake, the birds stretched their legs a bit. This allowed them to go deeper. They passed their longer legs onto their offspring. Their offspring also stretched their legs a bit. Over time, the birds' legs got longer and longer.

Discuss in your groups how Darwin would explain this. Then write down your agreed explanation.

Darwin would say:

- 1. Some birds naturally have longer legs**
- 2. When there are fewer fish in the lake, those birds get more of the fish and so are more likely to survive**
- 3. Their offspring also have longer legs**
- 4. So, in the next generation, more of the birds have longer legs.**
- 5. This process of natural selection repeats over and over again.**