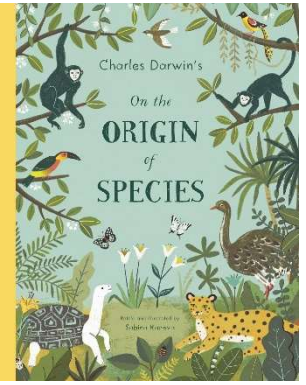
Science: Evolution, Adaptation and Inheritance

Lesson 3 – Characteristics: Advantages and Disadvantages



Lead-in Questions

1. Why do you think some animals go extinct?
2. What do animals compete for in the wild? What do they need?
3. What does "survival of the fittest" mean?

Page 7

1. Which variation or difference is identified here as "not helpful at all"? Why do you think this is?
2. What did Darwin identify as being a useful variation for Galápagos finches?
3. Which four different beaks are described here?

Page 8

1. Which **species** is the **predator** on this page?
2. What **adaptations** does this **species** have to help it survive? Try to think of at least two. (Remember adaptations can be both visible traits like body parts and invisible traits like abilities.)
3. Which species is the **prey**?
4. What adaptations does this species have to help it survive? Try to think of at least two.

Page 9

1. Make a list of all the **animal species** you can find on this page.
2. Are any of these species **competing**? Try to find at least two examples.
3. Read the quote from Darwin at the top. Go outside and see how many examples of "beautiful adaptations" you can find in the plants and animals living around you.

Species change in the wild too. Even without human influence of any kind, plants sprout and young animals in the wild are born, all with slight differences. Some differences don't matter. Some are not helpful at all…

… but some differences are very useful.

Darwin noted that Galapagos finches have developed beaks in all sorts of shapes and sizes. These differences help them to pick up their favourite snacks. Different beaks are good for different nibbles.

Large beak for crushing tough seeds

Small beak for feeding on soft seeds

Beak that can hold roots to probe and find insects

Long and sharp beak helps to tear cactus flowers


Struggle for Existence
Nature may be beautiful and abundant, but living in the wilderness is not easy for any species. Many can't escape their predators or find the right conditions to survive.

Natural Selection

Animals compete for food and shelter – things they must have if they are to survive and have babies. It's a struggle to live in the wild and only the best adapted will succeed.

"We see beautiful adaptations everywhere and in every part of the organic world."

Some differences help animals survive in the wild. Some help them to hide, to hunt, to live longer or have lots of babies. Those babies will then grow to benefit from the helpful differences that have been passed down from their parents. The species is adapting to the world around it.