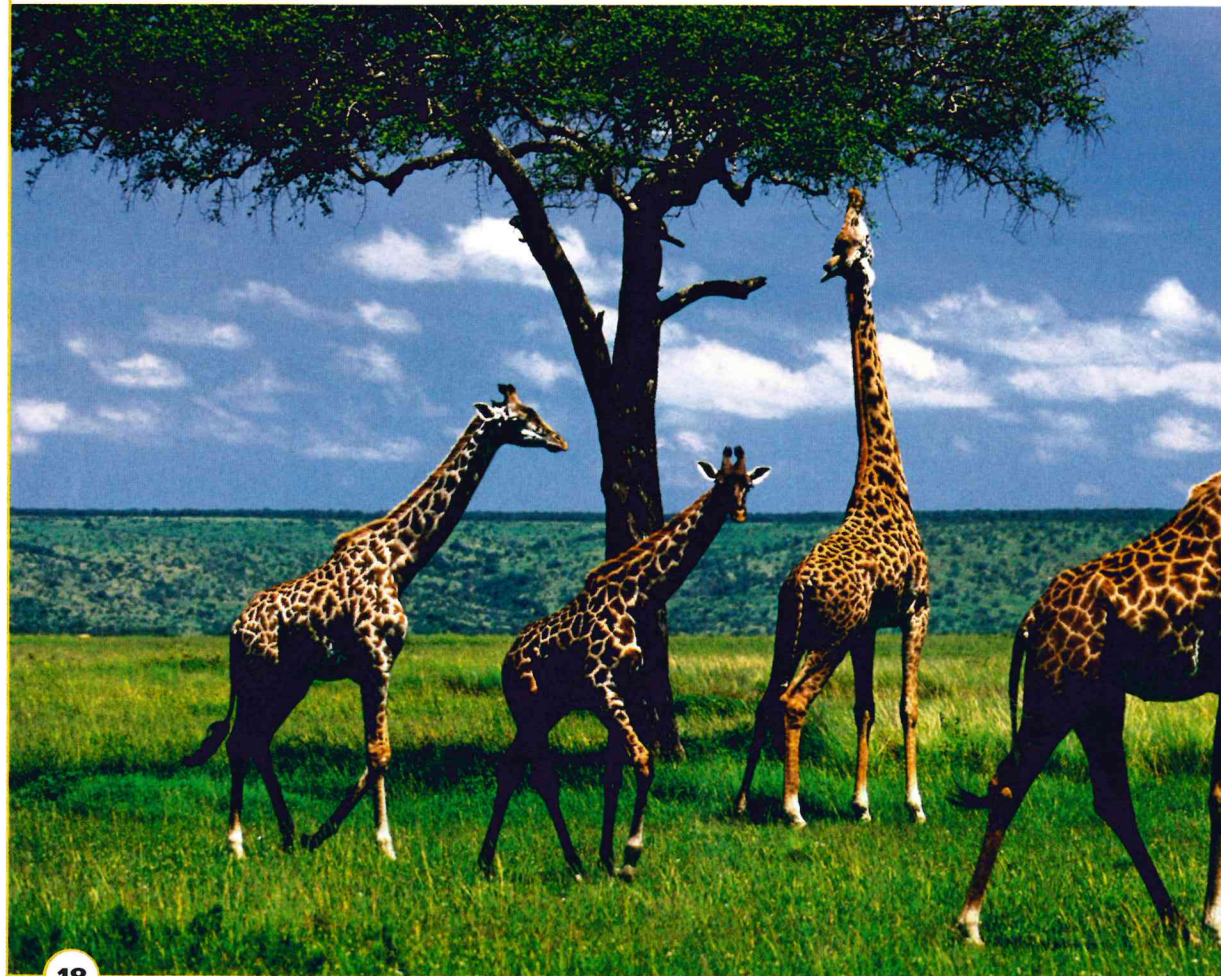


The Secret of Survival

Animals that survived, Wallace realized, were more likely to reproduce. They would pass their useful traits on to offspring.

Need an example? Think about giraffes. Once upon a time, their necks were much, much shorter. That meant giraffes had to compete for food with many other plant-eaters.



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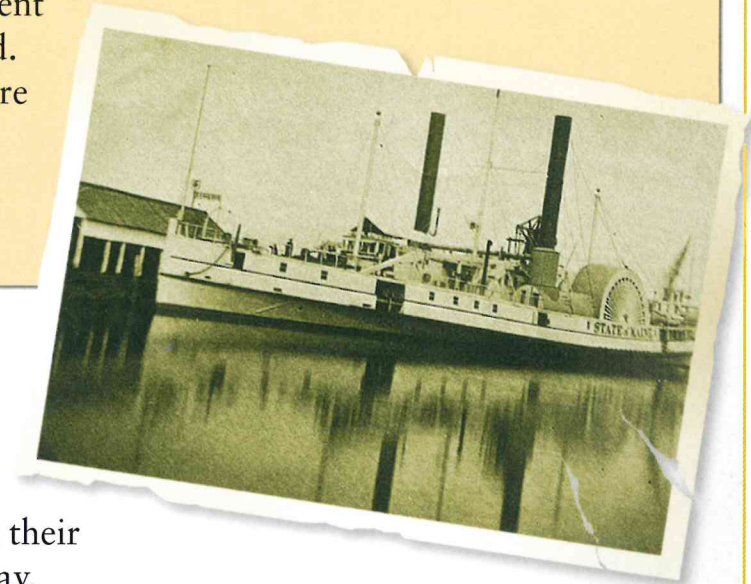
Of course, each giraffe was slightly different from the rest. These differences are called **variations**. Giraffes with longer necks were able to eat food that other animals couldn't reach.

Those long-necked giraffes had a good chance of living and mating. In contrast, short-necked giraffes found it harder to survive. Over millions of years, more long-necked

Thinking Like a Scientist: Communicating

Communication among scientists is extremely important. It's a way of sharing, rethinking, and refining ideas. Today scientists around the world have many ways of communicating their ideas quickly. In Wallace's time, it took a bit longer.

Alfred Russel Wallace wrote his theory by hand, then sent it by steamship to England. Three months passed before fellow scientist Charles Darwin received it.



Mail steamers, such as *The State of Maine*, carried letters around the world in the 1800s.

giraffes survived, passing on their traits to their offspring. Today, giraffes are the tallest animals on Earth. (Some are taller than a two-story building.)

For animal after animal, the pattern is the same. Each generation has its own variations. Those that help the **species** survive

- What tools allow scientists to communicate more rapidly today?
- Think of five ways that you communicate with people in your life. Which of those forms of communication were available to Wallace and Darwin?

in its environment sometimes become adaptations. Eventually the adaptation may appear throughout the species. Scientists call this process **natural selection**.

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