

How to Teach Natural Selection to Children

Natural selection can be hard to understand because it doesn't match human expectations of how things work. These notes are designed to help a layperson, especially a parent, explain natural selection to a child. Elaborate each point at your child's level, and explain it a little at a time. A version of these guidelines will appear in *Grandmother Fish* (shipping March 2015).

Descent With Modification

You might also be able to point out examples in your family of heredity and diversity.

Baby animals grow up to be a lot like their moms and dads.

A puppy grows up to be a dog, not a cat or a fish.

Babies grow up to be a little different from their parents.

Some differences make life easier, some make life harder, and some don't matter. Differences just happen.

Over time, the differences add up, so animals today look very different from the mom animals and dad animals from a long time ago.

Artificial Selection

You can also use other examples besides dogs

Dogs look different from how dogs used to look a long time ago.

People who wanted big dogs picked big dogs to have puppies.

After a long time, their dogs were bigger than before.

Other people did the same thing to different kinds of dogs, like small dogs or fluffy dogs.

All the different kinds of dogs come from one kind of dog that lived a long time ago.

Natural Selection

Natural selection works because some individuals leave many more surviving offspring than others do, who may die before reproducing or have few descendants for other reasons. These guidelines hint at death but don't mention it. Address the topic in ways suitable to your children.

Living in nature is dangerous for animals.

Animals have ways to keep themselves safe.

Baby animals are born with differences, and some differences make them safer.

Animals that keep themselves safer have more babies.

A long time ago, one group of animals climbed trees to be safer, and the best climbers were the safest.

The best climbers had the most babies, who were also good climbers.

After a long time, these animals had evolved into animals that were really good at climbing trees.

In different parts of the world, animals found different ways to be safe, so they evolved into different kinds of animals.

For example, one sort of animal from a long time ago evolved into the lions, tigers, wolves, foxes and bears that are alive today.