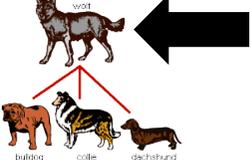
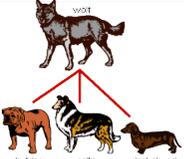
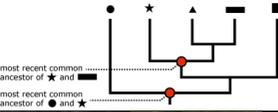
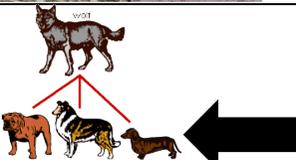
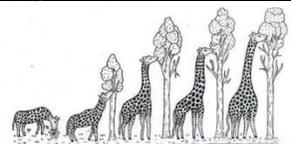
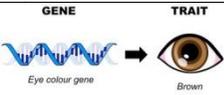
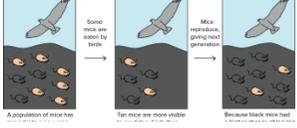


Knowledge Organiser: Evolution

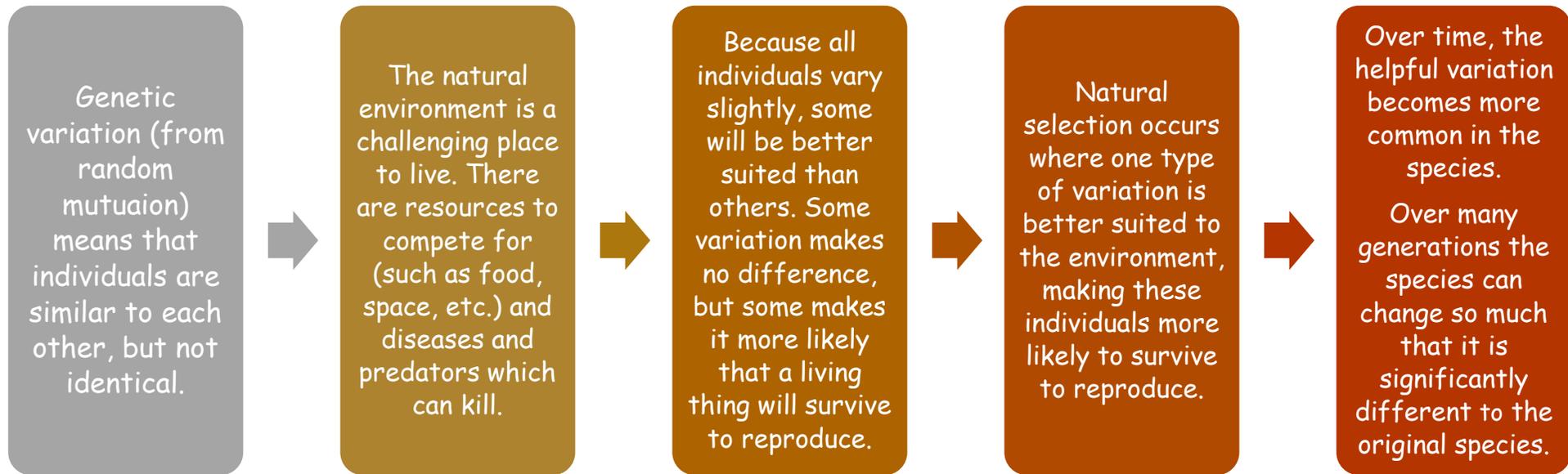
Key Vocabulary

adaptation	a special feature or way of behaving that helps a living thing survive	
ancestor	an early type of animal or plant from which others have evolved	
artificial selection	when people deliberately select for certain characteristics and choose these individuals to breed from	
biodiversity	The variety of living things on Earth	
common ancestor	an early type of animal or plant from which different species have evolved.	
convergent evolution	when two (or more) species, which are not related, evolve similar adaptations.	
descendent	a person, plant or animal that is descended from a particular ancestor	
evolve	To change or develop gradually over time	
gene	a section of DNA which controls or influences the way a living thing grows, or looks etc.	

generation	a group of living things living at the same time.	
invasive species	a type of plant or animal that starts to live in a new place and often causes harm to the species already there	
organism	a living thing	
mutation	A mistake in the copying of DNA which changes the code. This can lead to genetic variation.	
natural selection	When challenges in the natural environment, combined with variation between individuals, cause some individuals to have a better chance of surviving to reproduce.	
population	a group of a particular species living together in a particular place	
reproduce	to produce offspring	
species	a group of animals or plants that are similar and can produce offspring	
variation	when similar things (such as members of a population) vary from each other in some ways	

Knowledge Organiser: Evolution.

How does evolution happen?



The combination of **random variation** (as a result of genetic mutation and sexual reproduction) combined **with natural selection** (which favours variation that helps in that environment) has created all the **biodiversity** on Earth.

Charles Darwin first proposed the idea of **evolution** through **natural selection** in his book *On the Origin of Species*.

All species are related. Initially, there was a single **organism**, which, through **variation** and **natural selection**, evolved into many separate species.

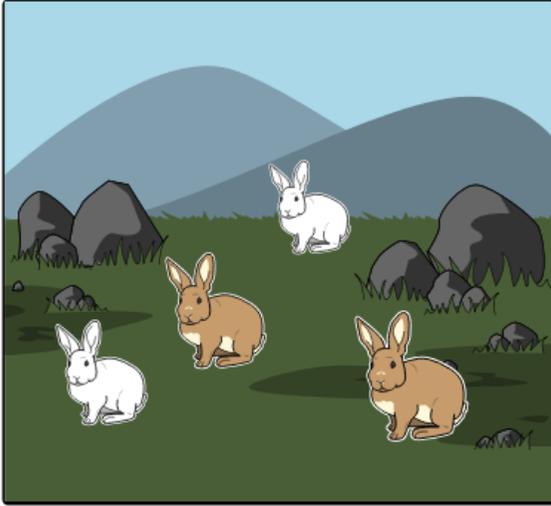
All species have a **common ancestor**. The more closely related the species, the more recently they shared a common ancestor.

Carl Linnaeus proposed the binomial system for naming all known species. Closely related species have the same genus. For example, *Panthera Leo* and *Panthera Tigris*.

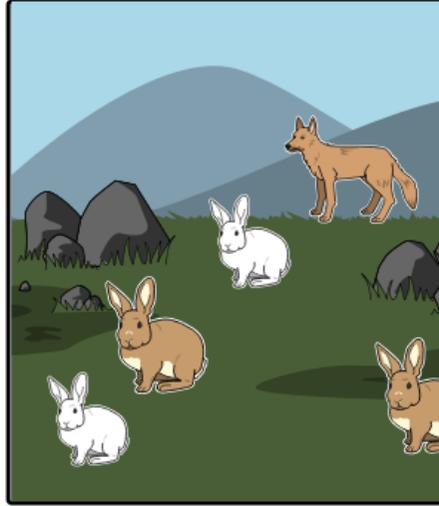
Each species demonstrates **adaptations** which help it survive in its natural environment. The camel has many adaptations.

Artificial selection occurs when people choose which individuals to breed from because they are selecting for certain traits. This is the reason we have many crops and farm animals.

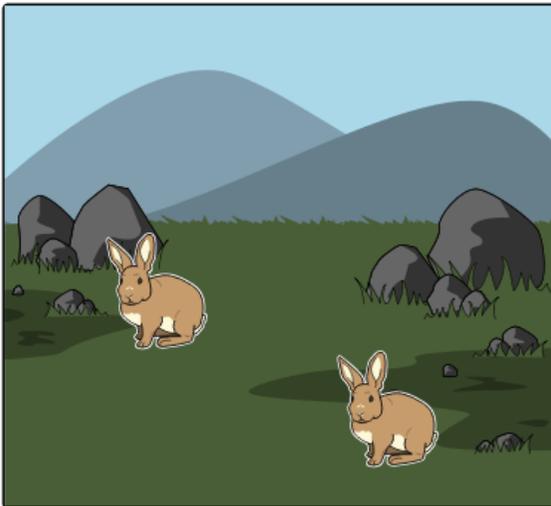
Sometimes artificial selection goes too far - many short-nosed dog breeds were chosen because of their looks, but these dogs often have breathing problems.



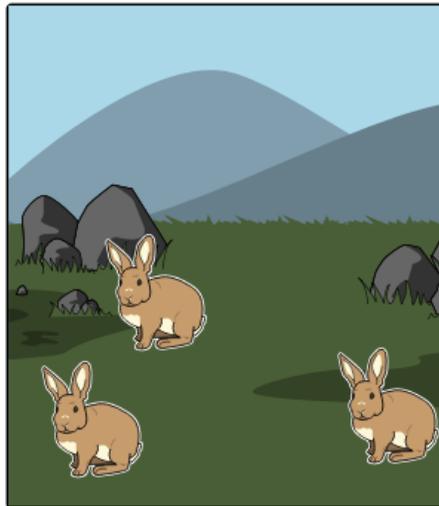
There are different genes within the rabbits but some can favor their environment.



When predators come they kill the rabbits that are easily seen as the other mutated rabbits are not easily.



Then the rabbits with the favored mutation are left to reproduce their genes.



Now all their offspring will have their mutations that fit their environment.