Evolution and Inheritance

Learning Objective:

To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

What is 'inheritance'?

What does it mean if you inherit something?

Discuss your ideas.

In science, *inheritance* has a special meaning:

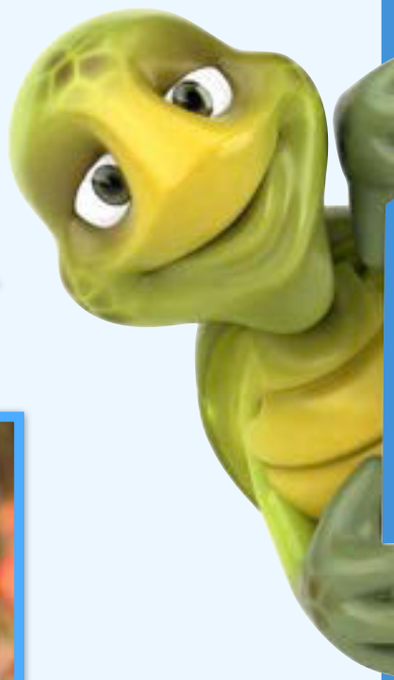
Inheritance is the name for the passing of traits, or **characteristics**, from parents to offspring.

This foal has inherited a very distinctive characteristic from its mother. Can you see what it is?

Did you see it?

The foal has **inherited** a distinctive white facial marking from its mother.

Which traits, or characteristics, do you think you have inherited from your parents?



Discuss your ideas.

Did you think of any of these?

hair colour

eye colour

build

nose shape

knobbly knees

mouth shape

Some inherited characteristics are weird!

rolling your tongue

second toe longer than big toe

earlobe joined to side of head

All of these are inherited characteristics.

What does variation mean?

Discuss your ideas.

When we are talking about inheritance, the word variation has a special meaning:

Variation occurs in a species from generation to generation. Although an offspring will have some similar characteristics to its parents, it will also have many different characteristics. This is called **variation.**

This is a normal process that occurs in the life cycles of all plants and animals.

Here are just a few ways in which offspring may vary from their parents:

Corn from the same parent plant can have very different colours.

Sheep with white wool may occasionally produce offspring with black wool.

Occasionally, parents produce offspring with *albinism*, a disorder which is recognisable due to the lack of pigment in the skin.

Other variations are less visible. For example, offspring may have greater resistance to a disease than their parents.

Variation can be clearly seen when plants and animals cross-breed.

poodle

labrador

labradoodle

Which characteristics has the offspring inherited from its parents?

Variation can be clearly seen when plants and animals cross-breed.

zebra

zonkey

donkey

Which characteristics has the offspring inherited from its parents?

Today we will be looking closely at the characteristics that offspring inherit from their parents as well as how they vary from their parents.

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