Life Cycles

Learning Objective:

To compare how different animals reproduce and grow.

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During sexual reproduction in mammals, egg cells are fertilised by ***internal fertilisation***.

Discuss your ideas.

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Internal fertilisation occurs when a male sex cell (usually called a sperm) combines with a female sex cell (unfertilised egg cell) inside the body of the female.

Did you get it right?

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The life cycle of most mammals is very similar, usually something like this:

The fully grown offspring finds a mate and reproduces.

The offspring reaches adulthood; it can feed itself and protect itself.

One or both of the adults feed and protect the offspring as it grows.

The female gives birth to its live offspring. It already has many of the features of an adult.

The egg cell grows inside the womb of the female; it is now called an embryo.

A male and a female mate; an egg cell is fertilised inside the female.

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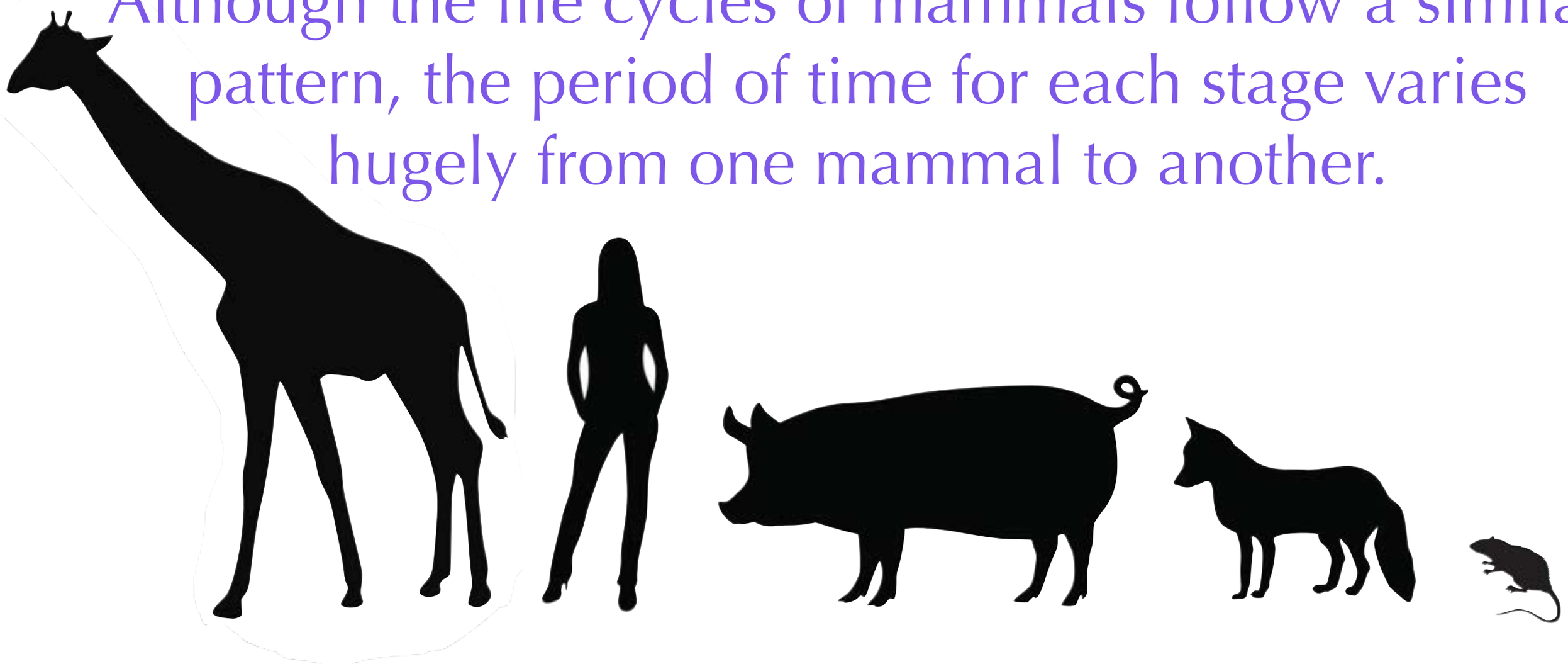
Although the life cycles of mammals follow a similar pattern, the period of time for each stage varies hugely from one mammal to another.



Giraffe	Human	Pig	Fox	Rat
420-450 days	259-280 days	112-115 days	52 days	21-23 days

Here are the gestation periods (amount of time spent pregnant) of some different mammals. What do you notice?

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Did you notice the relationship between the size of the mammal and the gestation period?

Larger animals usually have longer gestation periods.

There are many differences in life cycles between species of mammal. The time it takes to reach adulthood, life expectancy and the frequency with which mammals breed (to name just some) all vary hugely.

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The life cycles of insects and reptiles are quite different to mammals. Let's look at two species now...

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Common chameleons are a species of reptile. They are sometimes kept as pets. They are found in the wild across Europe.

The adult chameleons are ready to find mates and reproduce.

Some small chameleons are eaten by predators, but a few survive.

The baby chameleons are fully developed, but small. They must find their own food.

After ten to twelve months, the eggs hatch; baby chameleons are born.

The female lays eggs in the soil to **incubate**. She does not stay to look after them.

A male and a female mate; Eggs begin to form inside the female.

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The life cycle of butterflies and moths such as the privet hawk-moth are very different to other animals!

The adult moth is ready to find a mate and reproduce.

The moth emerges from the pupa and unfolds its wings.

The caterpillar becomes a moth in a process called **metamorphosis**.

The caterpillar makes a **pupa**; a protective case in which it can change form.

Caterpillars hatch from the eggs. They shed their skin several times as they grow.

A male and a female mate; the female lays fertilised eggs under a leaf.

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In what ways did the life cycles of those two animals differ from that of mammals?

Think, pair, share your ideas.

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Most fish reproduce via ***external fertilisation***.

Can you remember what 'external fertilisation' means?

Discuss your ideas.

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External fertilisation occurs when male sex cells (usually sperm) and female sex cells (usually eggs or egg cells) combine outside of the body.

Did you get it right?

Now let's find out about the life cycle of an animal that reproduces via external fertilisation...

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The northern pike is found in lakes and reservoirs as well as slow moving areas of streams and rivers around the U.K. and other parts of Europe and North America.

The adult pikes are ready to reproduce after around two years.

Around 5% of the baby pikes will survive to adulthood.

The baby pike must look after itself. It stays at the bottom, feeding and growing.

The eggs settle on the river/lake bed. Many are eaten by predators before they can hatch.

The male releases sperm and the female releases eggs. They flap their tails to mix them in the water.

Adult male and female pikes travel to their breeding grounds.

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Today we will be looking closely at the ways in which some animals reproduce, the way their offspring grow and develop and how their life cycles differ.

Plenary

Can you match the parents to their offspring?

parent

Give reasons for your ideas.

offspring

http://upload.wikimedia.org/wikipedia/commons/7/72/LarveKamsalamander.JPG

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