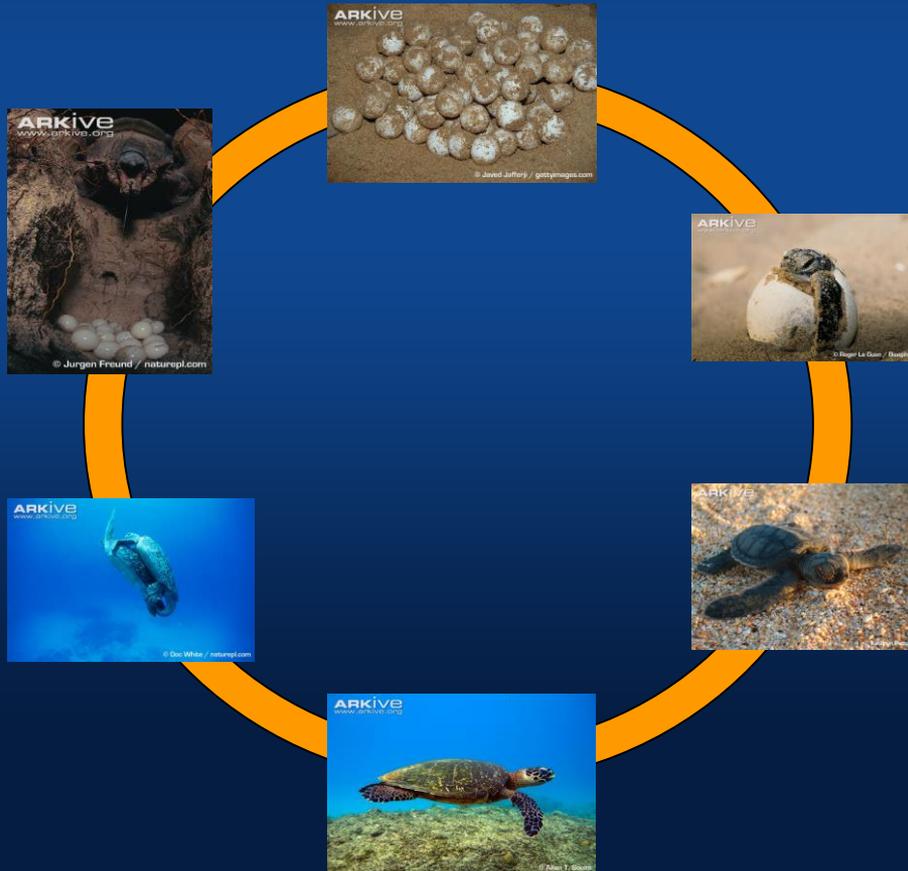


Turtle Life Cycle



What is a life cycle?

- The different stages an animal or plant goes through during its life.
- What stages might this include?
 - Birth or germination
 - Development
 - Reproduction



Species groups

- There are many different species on the planet, and they belong to different groups.
- Can you name some groups of species?

MAMMALS

INVERTEBRATES

AMPHIBIANS

PLANTS

FISH

FUNGI

BIRDS

REPTILES

Species groups

- These are the groups we will be looking at today in more detail:

MAMMALS

AMPHIBIANS

PLANTS

REPTILES

Mammals

Most mammals have very similar life cycles, with the individuals going through similar stages of development:

- Female gives birth to young
- Young looks like a miniature version of the adult
- Female provides milk for the young to grow and develop
- Adults take care of the young
- Reproduce through sexual reproduction, involving sperm and eggs



Reptiles

What do you think might be different about the life cycle of reptiles, when compared with the life cycle of mammals?
What might be the same?

- Most reptiles lay eggs
- Young looks like a miniature version of the adult

Generally, no parental care is given – the eggs/young are left to look after themselves

- Most reptiles reproduce through internal sexual reproduction, involving sperm and eggs



Amphibians

What do you know about the life cycle of amphibians?

- Most amphibians lay eggs
- After hatching, amphibians usually go through a very different physical form (tadpole) before looking like an adult
- Tadpoles and young frogs are not usually given any parental care
- Most amphibians reproduce through external sexual reproduction, involving sperm and eggs



Plants

Plant life cycles are very different to the other life cycles we have looked at so far. But how?

Let's take a look at flowering plants...

- Pollen is transferred from the stamen (male part) of one flower to the carpel (female part) of another flower – **pollination**
- This pollen then joins with the ovules to become seeds – **fertilisation**
- Seeds are then scattered – this can be through wind dispersal, or by animals
- Seeds then grow into plants



Summary

| | Eggs, live young or seeds | Miniature version of adult | Parental Care |
|------------------|---------------------------|----------------------------|---------------|
| Mammals | Live young | Yes | Yes |
| Reptiles | Eggs | Yes | No |
| Amphibians | Eggs | No | No |
| Flowering plants | Seeds | Yes | No |

Sea turtle life cycle

- Which group do sea turtles belong to?
- What does this tell us about their life cycle?

REPTILES

Sexual reproduction

No parental care

Lay eggs

Young are miniature versions of adults



Sea turtles

- There are seven different species of sea turtle

Can you name any?



Flatback turtle



Loggerhead turtle



Leatherback turtle



Hawksbill turtle



Olive ridley turtle



Kemp's ridley turtle

...and the GREEN TURTLE!



Green turtle

Why are they called green turtles?

→ Because their fat is green in colour!

Female green turtles can lay between 100 and 150 eggs per clutch, and usually lay several clutches per breeding season.



Some populations of green turtle migrate thousands of kilometres to feed and breed. Part of the Brazilian population migrates 2,250 kilometres to breed near Ascension Island in the South Atlantic!

Green turtles can live a very long time! Scientists are not sure exactly how long, but it is thought that it could be up to 100 years or more!



Green turtle life cycle



Starts off as an egg



Green turtle life cycle



Green turtle life cycle

Egg Stage

- Eggs are incubated in the nest for 45 to 70 days
- The temperature affects the sex of the young:
 - Lower temperatures produce males
 - Higher temperatures produce females
 - Middle temperatures produce males and females



Threats

- Eggs being taken by humans for food
- Feral/wild pigs and domestic dogs digging up the nest
- The nest getting flooded



Starts off as an egg



Hatchling
emerges
from egg

Green turtle life cycle



Hatchling
makes its
way to the
sea



Green turtle life cycle



Hatchling stage

- Hatchlings look like miniature adults
- Hatchlings get no parental care
- Hatchlings head towards the lighter horizon, which will be over the sea

Threats

- Predators – gulls and crabs on the beach, and fish and sharks once the hatchlings reach the sea
- Artificial lighting – hatchlings head towards that instead of the sea



Starts off as an egg



Hatchling
emerges
from egg

Green turtle life cycle



Hatchling
makes its
way to the
sea



Hatchling grows into a
juvenile and then into
an adult

Green turtle life cycle

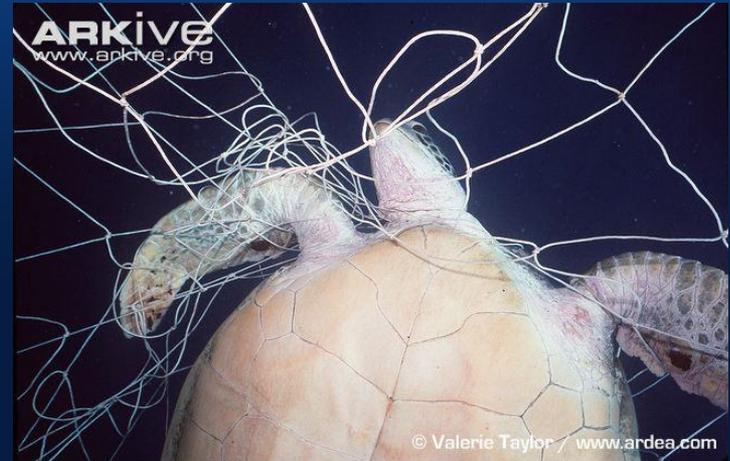
Juvenile stage

Where do juveniles go?

- Nobody really knows! Scientists have yet to figure out exactly where they go between the hatchling and juvenile stages – it's a mystery!
- End up in feeding areas – exact location not known

Threats

- Eating plastic bags – the turtles think the bags are jellyfish
- Fishing nets and lines



Starts off as an egg



Hatchling emerges from egg



Hatchling makes its way to the sea



Hatchling grows into a juvenile and then into an adult



Green turtle life cycle

When the turtles reach sexual maturity they mate and reproduce



Green turtle life cycle

Adult stage

- Reach sexual maturity between 26 and 40 years old
- Migrate from feeding grounds to breeding grounds
- Breeding ground is the beach where they hatched
- Males and females mate just offshore
- Males return to feeding grounds

Threats

- Getting caught in fishing lines and drowning
- Sharks



Starts off as an egg



Hatchling
emerges
from egg



Hatchling
travels to
the sea



Hatchling grows into a
juvenile and then into
an adult

Green turtle life cycle



When the turtles reach
sexual maturity they
mate and reproduce



Female
turtles
crawl onto
the beach
to lay their
own eggs



Green turtle life cycle

Egg laying

- Female crawls onto the beach at night to lay eggs
- Female uses its back flippers to dig a nest
- Lays eggs in nest
- Female may come up onto the beach up to nine times per nesting season to lay eggs
- Once several clutches of eggs have been laid, female returns to feeding grounds



Threats

- Beach pollution
- Noise and lights

Starts off as an egg



Female turtles crawl onto the beach to lay their own eggs



Hatchling emerges from egg



Green turtle life cycle

Hatchling travels to the sea



When the turtles reach sexual maturity they mate and reproduce



Hatchling grows into a juvenile and then into an adult



Helping the turtles!

It is not all doom and gloom!

What is being done to help green turtles complete their life cycle?

- Hatcheries
- Beach patrols



A green turtle hatchery



- Turtle Excluder Devices (known as 'TEDs')
- TEDs are special 'trap doors' in fishing nets that enable turtles and other large marine animals such as sharks to escape safely.
- Target fish and shrimps go through a grid at the neck of the main net and into a catch net on the other side, but larger animals such as turtles can't fit through the barriers, and so escape by swimming out through a special opening in the main net.

Helping the turtles!

What can you do?

- Try to reduce the amount of plastic products you use (e.g. water bottles and plastic bags)
- Try to reuse any plastic items you have
- Recycle your rubbish where possible



REDUCE...REUSE...RECYCLE!!

Summary



Start off as eggs

Hatchlings hatch and head into the sea

Do not really know where juveniles go – lost years!

Migrate to feeding grounds

Reach sexual maturity

Migrate back to the area where they hatched, and mate offshore

Males return to feeding grounds

Females go onto beach to lay their own eggs

Turtles face a lot of threats during their life cycle, which is why only 1 in 1,000 survive to adulthood!!!



- **Turtle Life Cycle Game**

- You are going to complete a turtle's life cycle!
- Starting as an egg, you have to journey through the different stages of a turtle's life cycle, finishing when you lay your own eggs
- Along the way you will encounter some of the real threats that green turtles face, and see how hard it is for a turtle to survive to produce its own young!
- Split into groups of four, collect one board game set per group, and begin... **GOOD LUCK!!**

Recap...

| Stage | Threats |
|---|---|
| Egg | <ul style="list-style-type: none">• Humans• Dogs and Pigs• Flooding |
| Hatchling | <ul style="list-style-type: none">• Artificial light• Predators |
| Juvenile | <ul style="list-style-type: none">• Plastic bags• Fishing lines |
| Adult | <ul style="list-style-type: none">• Fishing lines• Hunting/poaching |
| Mating Female – lays eggs Male – returns to feeding grounds | <ul style="list-style-type: none">• Polluted beaches• Hunting/poaching• Noise and light |