

Lesson 4 of 4: Life Cycles



EYFS, Ks1&2 Science, Literacy SEN: May need extra adult support

Learning objectives:

- Notice that animals, including humans, have offspring which grow into adults
- Identifying differences, similarities or changes related to simple scientific ideas and processes
- Describe the differences in the life cycles of an amphibian and a bird

Learning Outcomes:

- To know that animals have offspring
- To identify life cycle changes in birds
- To describe the differences between the life cycle of curlew compared to a different animal.

Key Vocabulary:

- Curlew
- Nest
- Incubation
- Life cycle
- Chick
- Fledgling
- Map
- Countries

Key Questions:

- How do curlew have young?
- What is the life cycle of birds?
- What is a chick?
- What is a fledgling?
- Are all life cycles the same? Why/ why not?

Equipment

Printed photos for matching activity, drawing and writing equipment, Venn diagram templates.

National curriculum links

Science, English, Maths, art

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Introduction (10mins)

On Curlew Cam we are lucky to see a Curlew nest, has anybody spotted the eggs inside the nest? How many are there? Curlews usually lay 4 eggs, what do the eggs look like, why do you think they look this way? How would you describe the nest from Curlew Cam?

Each living thing goes through a series of different life stages, we call this its life cycle. The Curlew starts off life as an egg, after 29 days, the egg will hatch to reveal a chick. The chick will gradually grow bigger, growing its feathers and after 6 weeks it should be able to fly! Once it is able to fly, we call it a 'fledgling', it will travel to the coast where it can spend up to two years as a juvenile (a bit like a teenager) before it can return as an adult to lay its own eggs - starting the cycle again.

Video: www.curlewcountry.org/curlew-cam/

Main Activity (30mins)

Children to work in small groups to discuss and order the different species life stages cards and discuss how they are similar or different to the curlew. Then think of other life cycle examples, children to describe, draw a diagram or write their ideas and discuss these with the class during plenary.

KS2: Choose 2 different species to compare using a Venn Diagram! Write in parts of their life cycles that are unique to them in the circles, if any are shared by both species, write them in the overlapping section between the circles.

Additional activities

Curlew Poetry!

Curlews (and many other birds!) have been a source of inspiration for many writers and poets over the years. Show the class pictures, videos, and sound clips of Curlews, and then ask them to create their own short poem or story featuring them and some of their different life stages. There is a list of Curlew related words, ask them to try and include some of these. They could also draw pictures to illustrate their story or poem. It could be about an encounter with a Curlew, something it reminds them of or even from the Curlew's point of view!

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Students will: Know the different life stages of curlew.

Teacher will: Prepare resources, guide lesson and support.

Less able students will: Know that a curlew is a bird and hatches from an egg.

Most students will: Be able to identify and name curlew and frog life cycle stages.

More able students will: Be able to identify and describe curlew and frog life cycle stages.

Adaptions for less able students: Provide one to one support and encouragement

Extensions:

Shropshire Bird Trump Cards

Plenary (10mins):

Peer review children's work, discuss life cycle of curlew and children's work on life cycles of other animals.

Assessment criteria:

Children understand the different life stages of curlew and other animals.

Assessment Methods:

Questioning

Group discussion

Discussion with peers

Labelled and coloured drawings and diagrams.

Ex: Written work.

Curlew Lifecycle: Egg



Typically curlews lay 4 eggs in a clutch but it can range from 3-5.

Curlew eggs are green with brown speckles which allows them to camouflage in the grassland they are laid.

Once incubation has started eggs take approximately 29 days to hatch.

Curlew Lifecycle: Chick



Curlew chicks are precocial meaning when they hatch they are able to feed themselves.

It usually only takes 48 hours for the chicks to have left the nest site.

Curlew chicks can't fly until they are 6 weeks old.

Their bills are shorter than their parents.

Curlew Lifecycle: Fledgling



Fledging means that a juvenile bird has feathers long enough to fly and can take flight.

Fledging usually occurs 6 weeks after hatching, in curlew.

Once fledged, they will fly to the coast where they will spend 2 years before the return as an adult.

Curlew Lifecycle: Adult



Adults live for approximately 11 years and start to breed at 2 years.

Curlews are currently classified as red listed meaning they are endangered and could go extinct.

Frog Lifecycle: Frogspawn



Frog Lifecycle: Frogspawn



Frogs lay hundreds of eggs in early spring, known as frogspawn.

These eggs are usually laid in water around vegetation (plants) or just below the surface to them from predators.

They spend approximately 1-3 weeks eating the yolk of their egg.

Frog Lifecycle: Tadpole



Frog Lifecycle: Tadpole



Once free of their egg they are known as tadpoles.

Tadpoles have a mouth, gills and a long tail for swimming.

Unlike frogs, tadpoles have to remain in water and can't go on land.

They eat small bits of plants floating in the water.

Frog Lifecycle: Tadpole with Legs



Frog Lifecycle: Tadpole with Legs



Tadpoles metamorphize (change) over 14 weeks, from their small legless forms into frogs.



This means between tadpole and frog stages they are constantly changing. First they grow their back legs, then their front legs and over time their tail shrinks away.

When they are more developed tadpoles they start to eat insects.



Frog Lifecycle: Froglet



Frog Lifecycle: Froglet



In the last few days of the 14 weeks between tadpole and frog their skin grows over their gills and they grow lungs and eardrums.

This makes sure they can survive and breathe on land.

Frog Lifecycle: Adult



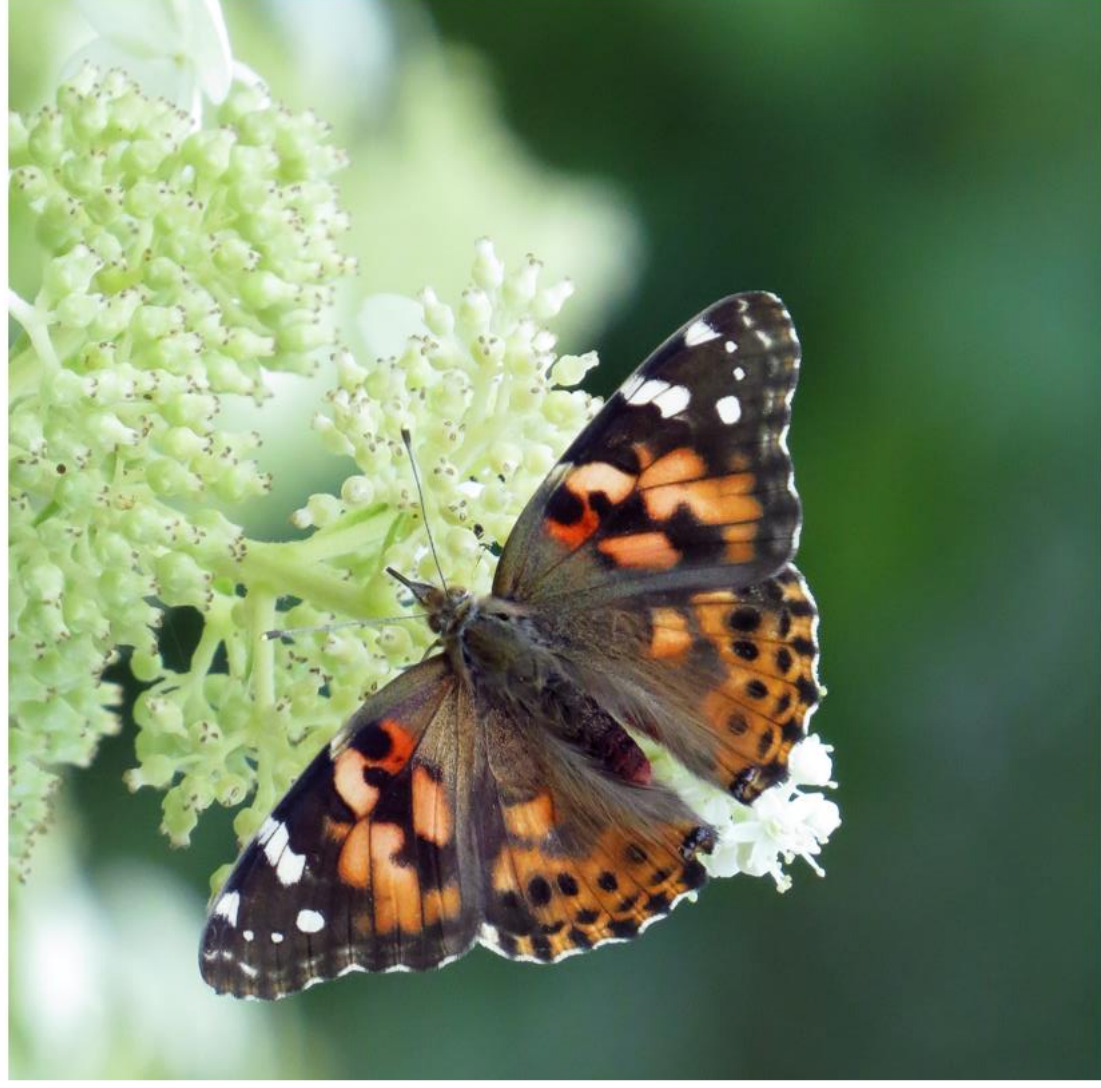
Frog Lifecycle: Adult



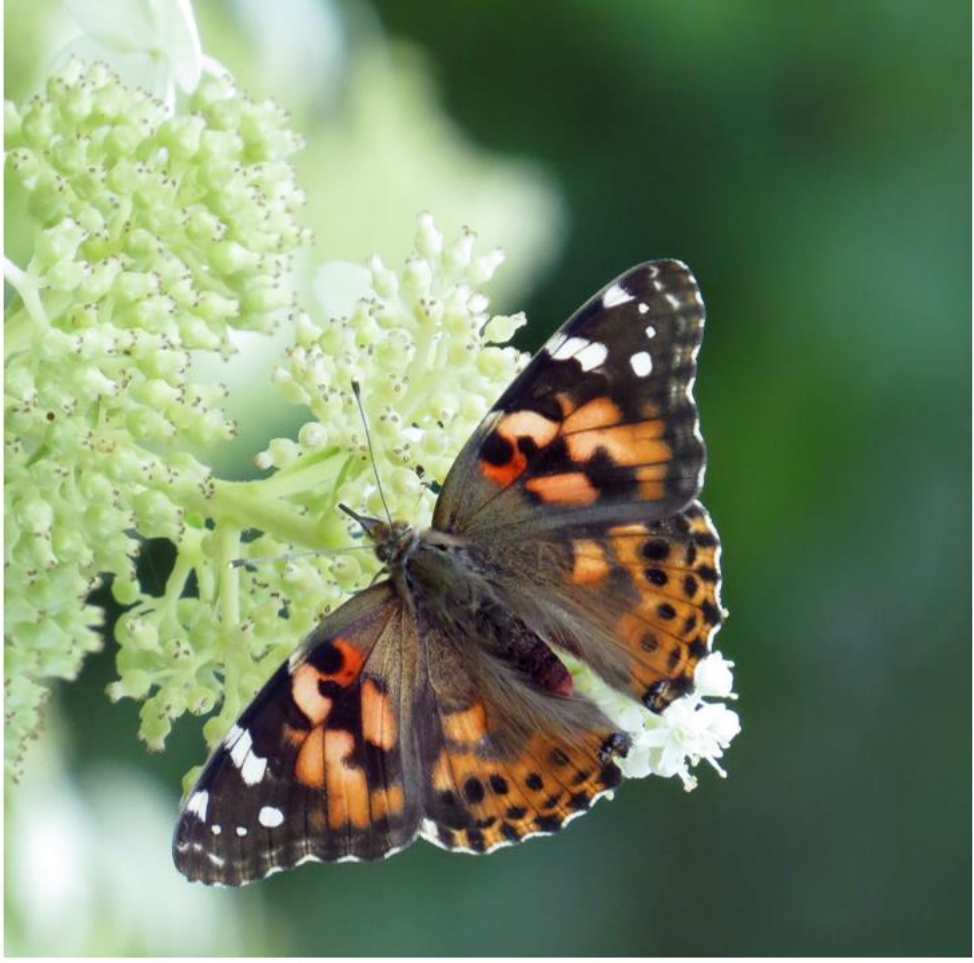
The UK common frog has a 5-10 year lifespan and is most active at night. It hibernates during winter and can breathe through not only its lungs but its skin.

Frogs catch insects using their tongue which is covered with sticky saliva.

Butterfly Lifecycle: Adult



Butterfly Lifecycle: Adult



Most butterflies, are short lived and live for just 2-4 weeks. But some of the longest lived butterflies live between 9 months and a year.

The painted lady (in picture) is the most widely distributed butterfly on the world. Living on every continent except Australia and Antarctica.

Butterfly Lifecycle: Egg



Butterfly Lifecycle: Egg



Eggs are usually laid on the plant that the hatched caterpillars will eat.

Eggs can be laid in all seasons apart from winter. Females lay many eggs to ensure at least some survive.

Butterfly Lifecycle: Larvae



Butterfly Lifecycle: Larvae



Caterpillar are the larvae of a butterfly and is also known as the feeding stage is.

As caterpillars grow they split their skin and shed it 4-5 times.

Caterpillars can grow to 100x their original size within this stage.

Butterfly Lifecycle: Pupa



Butterfly Lifecycle: Pupa



When a caterpillar is full grown it becomes a chrysalis.

Depending on the type of butterfly chrysalises can be found in varying locations and in varying forms.

This stage can vary between a week a month or even longer.

Oak Lifecycle: Acorn



Oak Lifecycle: Acorn



Each acorns contain a singular oak seed.

Acorns can't travel very far so they take advantage of animals like jay and squirrel who collect and store them. This allows them to travel further and be ready planted.



Oak Lifecycle: Germination



Oak Lifecycle: Germination



Acorns produce their first root known as a taproot. This root anchors it to the ground and takes up water and nutrients for growth.

Once an acorn has germinated it becomes less nutritious by converting seed tissue to lignin that later become roots.

Oak Lifecycle: Seedling



Oak Lifecycle: Seedling



A shoot is a seedling once it is above the ground.

Seedlings are usually in high competition to grow quicker than other seedlings so they can survive.

Oak Lifecycle: Sapling



Oak Lifecycle: Sapling



A seedling becomes a sapling once it is 3ft.

The sapling stage usually last between 6 months and a few years depending on the species of oak.

Sapling characteristics include; smooth bark, flexible trunk and no fruit or flowers.

Oak Lifecycle: Adult



Oak Lifecycle: Adult



A mature tree can grow up to 45 metres tall and can spread almost as wide.

At 700 years old the oak has reached old age.

At 1000 years old, the oak is nearing the end of its life. Parts of the tree start to die.

Over its lifespan an oak tree can produce as many as 10 million acorns.

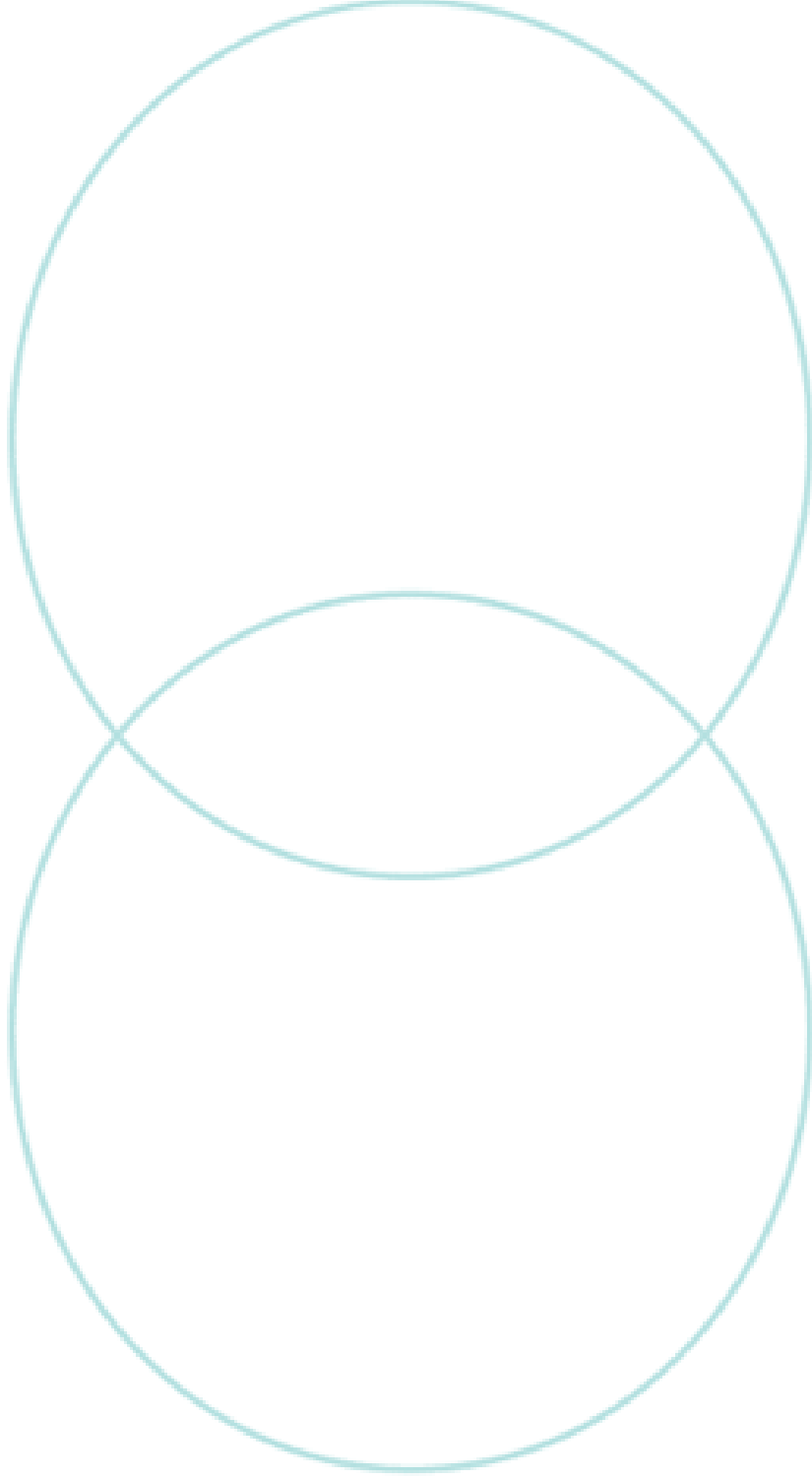


Create a Venn Diagram



Above is an example of a Venn diagram, which is a way to show features that are similar or different between two (or more!) things. Here we are comparing the life cycles and features of a Curlew and a Snake. If you can think of any more, add them in. Now it's your turn to try!

Create a Venn Diagram



Choose two species whose life cycles you have studied. Put one of their names next to each of the circles. Think of different features they have and write them in the middle (the overlap) if they happen to both species, or in the rest of the circle if they only happen to one of them.

Curlew Creative Writing or Poetry



Now that you have learned all about the Curlew and it's life cycle, see if you can write a short story or poem featuring one! Think about the story you want to tell, are you writing from your perspective? Or as if you were a Curlew? There is a list of some interesting Curlew related words below, see if you can include some of these in your writing!

Bill

Feathers

Cur-lee

Half
Moon

Curved

Beak

Spring

Bubbling

Nest

Strut

Soft

Meadow

Speckled

Wading

Flowers

Mottled

Brown

Whistle

Egg

Leggy

Flying

CURLEW'S CALL FOR HELP

BUBBLING HEARD FROM YONDER HILL
IT'S THE LEGGY BIRD WITH THE HALF MOON BILL

A CALL THAT HAILS THE START OF SPRING
IN THE ROLLING DALES, WHERE THE PIPITS SING

BUT CURLEWS ARE SET TO DISAPPEAR
BEFORE THE CHILDREN GET TO HEAR

ALL THOSE AROUND MUST HELP THIS BIRD
SO THAT THIS SOUND MAY LONG BE HEARD



Poem by Jake Harvey