



## Ditches for people and wildlife

A ditch is a narrow channel dug at the side of a road or field, to hold or carry away flood water. Lots of animals live in ditches, such as birds, fish, insects and, if you are really lucky, water voles!

Ditches are in bad condition when...

- They become <u>overgrown</u> with plants, because this can block the flow of water and cause a <u>flood</u>.
- Overgrown plants stop <u>sunlight</u> reaching the water, so it becomes <u>stagnant</u> (smelly) and wildlife cannot drink it.
- People throw <u>litter</u> which harms animals and <u>pollutes</u> the water.

Ditches are in good condition when... they get lots of **sunlight** and are not **polluted** with **litter**, so it is safe for wildlife and the water can **flow** easily.

**Take a look at the next two photos.** Use the **key words** in the text above to help you answer the questions in the boxes below.



Is this ditch in good or bad condition?

Give two reasons why.

1.

2.









## **Clever Camouflage**

Some animals use **camouflage** to hide or 'disguise' themselves from being eaten by predators.

Let's look at some magnificent moths. Moths are experts at camouflage. Take a look at the examples below. Can you answer the following three questions?



I am a buff-tip moth. I am really good at camouflaging when I rest on tree branches.

1. What do you think the buff-tip moth looks like?



I am a pale brindled beauty moth. I am really good at pretending to be a splodge of lichen.

2. Where do you normally see lichen growing?



I am a dark arches moth. I can look like a dead leaf falling from a tree or lying on the ground.

3. In what season do you see lots of dead leaves on the ground?

# Colouring activity

This moth has lost its camouflage!

Colour it in using colours that will help it to blend into the background!



Did you know, there are over 2,500 types of moth in the UK?









## Lifecycles — Page 1

All living things grow and change, including you! The journey from birth to death is called a **lifecycle**.

Humans grow from babies to children, to adolescents, and finally to adults. Then they **reproduce** (make babies) and the lifecycle starts again!

But lifecycles for other animals can look very different because, unlike humans, their young do not look like their parents. They must go through huge changes as they grow into adults. This is called **metamorphosis**.

Let's look at a frog's lifecycle as it goes through metamorphosis.

Frogs are amphibians, and you can find them in ponds and other wetlands. They must go through a few different stages before becoming adult frogs...

Adult frogs lay <u>frogspawn</u> (eggs) that float on water. They will soon hatch into tadpoles.



Tadpoles look like fish and they can breathe underwater using gills.





The froglets lose their tail and grow bigger into adult frogs.





Tadpoles turn into froglets as they grow legs and develop lungs so they can breathe on land.









## Lifecycles — Page 2

Most **insects** go through **metamorphosis** because they have *four* life stages. These stages are: **egg, larva, pupa and adult**.

Let's look at a ladybird's lifecycle...

Adult females lay yellow eggs that will hatch into larvae after one week





The larva feed on aphids (small bugs) for three weeks before turning into pupa







Adult ladybirds appear and their colourful patterns emerge after a few hours



The pupa are in a sleepy state for about two weeks.
Underneath, they are changing into adults!

# **Lifecycle questions:**

1.	What does	metamorp	hosis	mean?
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2. Circle the following words that are part of an animal's lifecycle:

Sleeping Reproduction Feeding Death









## Lifecycles — Activity

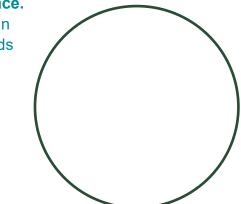
Now it's time for you to put together the lifecycle of a **coot**. Coots are familiar **wetland birds** that you may see on ponds, canals, lakes and rivers. They eat snails, insects, plants and berries!

Cut and stick the photos on the next page into the lifecycle stages below. Or draw and colour in your own versions by copying the photos.

Egg

Adult coots are all black with a white beak and face.

They are territorial and can be very aggressive towards others.

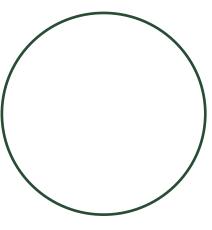


Coot eggs are pale white with dark brown spots.

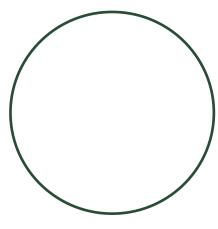
Both mum and dad will take turns to sit on, or 'incubate', the eggs.



**Adult coot** 



Chick

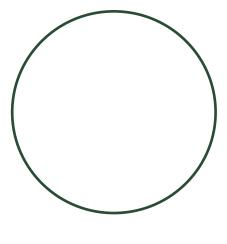


**Juvenile** 



Juvenile coots quickly lose the red head hair and become grey, with a white chest and neck.

They are becoming independent and can now hunt for their own food.



V

Coot chicks have red and yellow heads and scrawny black hair.
They must rely on their

parents to bring them lots of food everyday.







# Lifecycles — Activity

**Option 1:** Cut out the four images and stick them onto the correct lifecycle on the activity page.

**Option 2:** Draw and colour in your own pictures on the activity page by copying the photos below! Remember to use the correct colours as shown in the photographs.















# Differences between rats and water voles



### Brown rat (Rattus norvegicus)

# Pale grey-brown fur Prominent pink ears Pointed nose Pink scaly tail, longer than half its body length

Long and lean body with pale greybrown fur which is grey-white on the flanks and belly. Pink, prominent ears, a pointed nose and a pink and scaly tail.

Size: 21-29cm long

Weight: 500g

### What to look for in water?

Rats swim low in the water with a clear hip sway movement and only their head and hips are visible. They will not dive if alarmed.

# Other field signs

- Smelly, oval black droppings with a pointy end, singularly or in pairs.
- Five-toed footprints, larger than a water vole's. Star-shaped if in soft mud but tend to be more forwardfacing. Rear footprints have a long heel and the tail sometimes leaves a trail behind.
- Burrow entrances are usually connected by rat runs and have piles of excavated soil outside.

# Water vole (Arvicola amphibius)



Chunky body with dark chocolate brown fur that is reddish on the back and greyer on the stomach area. Small, brown ears and a rounded nose, and a short brown tail that is covered in fur.

**Size:** 24-33cm long **Weight:** 240g-330G

### What to look for in water?

Water voles swim well and are very buoyant. Their bodies float high above the water and do not sway. They dive and make a 'plop' sound if alarmed.

# Other field signs

- Piles of odourless, oval, greenbrown droppings with blunt ends.
- Star-shaped five-toed footprints that are similar to a rat's but smaller and more splayed with no tail trail.
- Burrows in the riverbank that may be above or below water level, often with a nibbled lawn of grass nearby.
- Small piles of vegetation stems cut at a 45-degree angle.
- Runs along the riverbank (not the same as rat runs between burrows)









# Differences between rats and water voles - Activity sheet

Using the 'Differences between rats and water voles' guide, can you identify the animals below by their special features and explain why?



This is a... (circle your answer)
 Water vole Brown rat

Because...

This is a...
 Water vole Brown rat

Because...



3. This is a...

Water vole Brown rat

Because...

4. This is a...

Water vole Brown rat

Because...





