

Who eats who?

Food chain activities for children aged 7–11 years

WWT has a well-established and well-loved education programme that we run across the UK at our ten wetland sites. We've designed these short activities based on one of our school activities. We've made it to connect you and your family to the natural world and help you to work with your children to feel great about nature and understand some of the things that WWT love and care about.

Why wetlands?

WWT works across the UK to save, conserve and build wetlands for wildlife and people. Wetlands are one of the most important habitats on earth – storing huge amounts of CO₂, providing a natural way of stopping flooding and serving as a home for huge numbers of different creatures.

This activity will help you and your children to discover how all life on earth is interlinked through food chains and webs.

These activities link to the National Curricula for science in England, Northern Ireland, Scotland and Wales.

Stuff you need:

- Set of 27 wetland wildlife cards
- Set of food chain cards
(see final pages of this document)

Note: Where you see a  this indicates a question to ask your child

Indoor activities

(30 minutes)

What do different animals eat?

Just like us, all animals need to eat to survive.

Why do animals need to eat?

- Animals need food to give them energy, to grow and to stay healthy.
- Take the wetland wildlife cards and lay them out picture side up.
- Ask your child to sort them according to what they eat (there is no right and wrong answer at this stage, it's just to start them thinking about how we can group animals according to what they eat).

Q Do you know what we mean by herbivores, carnivores and omnivores?

- If your child is unsure, read through the following information together, explaining the difference between carnivores, herbivores and omnivores.

Key word: **CARNIVORE**

An animal that eats other animals.

Key word: **HERBIVORE**

An animal that eats plants.

Key word: **OMNIVORE**

An animal that eats both animals and plants.

- Get your child to sort the animals into the above three groups. Turn each card over and look at what it eats. Were they correct?
- There is also a group of animals called detritivores.

Key word: **DETRITIVORE**

An animals that feeds on dead plants and animals.

- Get your child to look again at what each animal eats.

Q Are any of these animals detritivores?

Q What would happen to all of the dead plants and animals if we didn't have these detritivores?

- If we didn't have detritivores, the dead stuff would just stay there and would start to pile up. Detritivores are vital to a healthy natural world.

Food chains

Q Do you know what we mean by a food chain?

Key word: **FOOD CHAIN**

A food chain shows how each living thing gets food and how energy is passed from creature to creature. They are displayed using arrows. To get the arrows the right way round you can think of the arrow as meaning 'is eaten by'.

e.g. **POND WEED > POND SNAIL > FROG > HERON**

The pond weed is eaten by the pond snail. The pond snail is eaten by the frog. The frog is eaten by the heron.

- Use the wetland wildlife cards, along with the food chain cards, to produce a food chain that starts with pond weed.
- What is the largest number of animals your child can include in a single food chain? Use the labels to show whether each animal is a herbivore, carnivore or omnivore.
- Explain that plants and animals can be producers, consumers, predators or prey:

Key word: **PRODUCER**

A living thing that makes its own food. The main producers are plants. They make their food from the sun.

Key word: **CONSUMER**

A living thing that eats other plants or animals.

Key word: **PREDATOR**

An animal that catches and eats other animals.

Key word: **PREY**

An animal that is caught and eaten by other animals.

Note: Animals can be both predator and prey.

Q Why do you think the producers are so important?

What would happen if the producers suddenly disappeared?
(imagine weed killer made its way into a pond for example).

- Because producers are the only living things able to make their own food, without them all life on earth would die out.
- Get your child to use the food chain cards to label each animal in their food chain showing whether it is a producer or a consumer and whether it is predator or prey (or both).
- If your child enjoyed this activity, you can do it more than once, using different animals each time.
- You can even extend the activity by having more than one animal eating or being eaten by another animal. This will make a food web.

Q What would happen if different plants or animals died out and were removed from the food chain / web?

Which has the biggest impact;

If the producers die out?

If animals near the bottom of the food chain die out?

If animals near the top of the food chain die out? Why?

- Explain that plastic pollution is becoming a huge problem. Many small wetland animals such as water fleas or sludge worms accidentally eat very small bits of plastic called microplastics. These microplastics can be passed down the food chain. Because the bigger animals eat lots of the smaller animals, they end up eating more of the plastic. This is called bioaccumulation.

Key word: **BIOACCUMULATION**

When pollutants build up - or accumulate - in a food chain. The animals at the top of the food chain are worst affected.

Q Which animals might be worst affected?

Which larger animals live in wetlands and our oceans?

How might microplastics affect them? How do you feel about this?

Q What do you think we could do to help?

Examples might include:

- Using a reusable cotton bag instead of a plastic bag for shopping
- Taking a reusable coffee cup when you go to a coffee shop
- Using a refillable water bottle instead of buying cold drinks in plastic bottles
- Recycling as much of your plastic waste as possible
- Buying loose fruit and veg instead of packaged (and use a string bag)
- Buying plain wrapping paper that can be recycled

Take it outside:

(30 minutes)

- Go to a place outdoors.

Q What animals can you see?

What are they eating / what do they eat?

Are they:

- Herbivores, carnivores or omnivores? (or detritivores?)
- Producers or consumers?
- Predators or prey? (or both?)

Q Can you create a food chain from some of the animals you have seen?

Q For each animal you see, think about the role it plays in the food chain.

What would happen if these animals disappeared from your area?

What could make this happen?

What would happen to the other animals and plants you can see?

How would this make you feel?

What do you think you could do to stop something like this happening?



@WWTWorldwide



Have fun and do share your work to our social media accounts –
we'd absolutely love to see it!

Wetland wildlife cards

- To make the cards, cut the line across the width of your paper then fold each half in half again so you end up with a picture on one side and the information on the other. Stick the two sides together with glue.



Grey heron

Diet: Fish, small birds such as ducklings, small mammals and amphibians

Wetland adaptations: Long neck allows it to get to its prey beneath the water

Classification: Vertebrate - Bird

Habitat: Ponds, lakes, rivers and estuaries

Additional information: Stands stock still quietly waiting for its prey

Cut



Kingfisher

Diet: Fish, invertebrates, amphibians

Wetland adaptations: Their eyes have adapted to make prey look closer to the surface and they have a special membrane to protect their eyes when they hit the water

Classification: Vertebrate - Bird

Habitat: Lakes, streams, rivers and canals

Additional information: They dig nest tunnels in vertical, sandy river banks



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Cut

Stickleback

Diet: Insects, crustaceans, tadpoles and smaller fish

Wetland adaptations: Some sticklebacks have adapted to be able to cope with both fresh and saltwater meaning they can live in both rivers and the sea

Classification: Vertebrate - Fish

Habitat: Ponds, lakes, ditches and rivers

Did you know? The male develops a bright red throat and belly and performs a courtship dance to attract a mate. The male also builds and protects the nest

Cut



Eel

Diet: Plants, dead animals, fish eggs, invertebrates and other fish

Wetland adaptations: Long, narrow body enables it to get into crevices

Classification: Vertebrate - Fish

Habitat: Rivers and ditches

Did you know? Adult eels migrate 3,000 miles (4,800 km) to the Sargasso Sea to spawn. It then takes the young eels two or three years to drift back to their homes here in the UK



Cut

Smooth newt

Diet: Insects, caterpillars, worms and slugs while on land; crustaceans, molluscs and tadpoles when in the water

Wetland adaptations: Can breathe through their skin

Classification: Vertebrate - Amphibian

Habitat: Ponds in spring; woodland, grassland, hedgerows and marshes in summer and autumn; hibernates underground, among tree roots and under rocks and logs over winter

Did you know? Their body gives out a poisonous fluid when they feel threatened

Cut



Common frog

Diet: Invertebrates and smaller amphibians

Wetland adaptations: Eyes are positioned on top of the head allowing the frog to see whilst its body is under the water

Classification: Vertebrate - Amphibian

Habitat: Ponds during the spring; woodland, gardens, hedgerows and grassland in summer and autumn; hibernate in pond mud or under log piles in winter

Did you know? Frogs hop whereas toads crawl



Cut

Common toad

Diet: Insects, spiders, slugs and worms

Wetland adaptations: Slightly webbed back feet help them to swim

Classification: Vertebrate - Amphibian

Habitat: Ponds in spring (prefer larger, deeper ponds than frogs); woodland, gardens, hedgerows and grassland in summer and autumn; hibernate under log piles, stones or in crevices over winter

Did you know? Toads usually have dry bumpy skin whilst frogs usually have moist slimy skin

Cut



Coot

Diet: Plants, seeds, snails and insects

Wetland adaptations: Flaps of skin on the toes act in the same way as webbed feet when swimming and stop them from sinking in mud

Classification: Vertebrate - Bird

Habitat: Lakes, ponds and rivers

Did you know? The white part on the front of its head gave rise to the phrase "as bald as a coot"



Cut

Grey heron

Diet: Fish, small birds such as ducklings, small mammals and amphibians

Wetland adaptations: Long neck allows it to get to its prey beneath the water

Classification: Vertebrate - Bird

Habitat: Ponds, lakes, rivers and estuaries

Did you know? Herons can stand absolutely still waiting for their prey

Cut



Kingfisher

Diet: Fish, invertebrates, amphibians

Wetland adaptations: Their eyes have adapted to make prey look closer to the surface and they have a special membrane to protect their eyes when they hit the water

Classification: Vertebrate - Bird

Habitat: Lakes, streams, rivers and canals

Did you know? They dig nest tunnels in vertical, sandy river banks



Cut

Daubenton's bat

Diet: Insects.

Wetland adaptations: Can use its feet and tail to scoop up insects from the water's surface

Classification: Vertebrate - Mammal

Habitat: Woodland close to ponds and lakes

Did you know? These bats are often called 'water bats' because they feed so often over water

Cut



Water vole

Diet: Plants

Wetland adaptations: Waterproof fur

Classification: Vertebrate - Mammal

Habitat: Rivers, streams, ditches, ponds, lakes, marshes, reedbeds

Did you know? Despite being sometimes referred to as a 'Water Rat', there is no such thing - there are brown rats, black rats and water voles



Cut

Otter

Diet: Fish, waterbirds, amphibians and crustaceans

Wetland adaptations: Webbed feet; dense fur to keep them warm; can close their ears and nose when underwater

Classification: Vertebrate - Mammal

Habitat: Lakes, rivers, streams, coasts

Did you know? After disappearing from large parts of the UK numbers are growing due to improved water quality

Cut



Grass snake

Diet: Amphibians, fish, small mammals and birds

Wetland adaptations: Have developed very strong swimming technique

Classification: Vertebrate - Reptile

Habitat: Ponds, lakes, grassland, woodland

Did you know? Grass snakes are Britain's largest reptile



Cut

Pond skater

Diet: Small insects

Wetland adaptations: Have water-repellent hairs on the bottom of their feet, enabling them to walk on the surface film of the water. They hunt by detecting vibrations in this film.

Classification: Invertebrate - Insect

Habitat: Ponds, lakes, ditches and slow-flowing rivers

Did you know? Pond skaters can actually skate, jump and fly

Cut



Daphnia (water flea)

Diet: Plants, bacteria

Wetland adaptations: Antennae have developed for use in swimming

Classification: Invertebrate - Crustacean

Habitat: Lakes and ponds

Did you know? They are transparent. You can even see their heart beating inside them.



Cut

Grayling

Diet: Insects, spiders, crustaceans, molluscs, and smaller fishes

Wetland adaptations: One of the most streamlined fish, enabling it to swim faster

Classification: Vertebrate - Fish

Habitat: Fast, clean rivers near the source

Did you know? Known as the 'lady of the stream' due to its brightly coloured dorsal fin.

Cut



Water hoglouse

Diet: Decaying animals and plants

Wetland adaptations: Its gills are at the back of its body, allowing it to breathe when its head is buried in mud.

Classification: Invertebrate - Crustacean

Habitat: Ponds and ditches

Did you know? The water hoglouse is closely related to the woodlouse



Cut

Cyclops

Diet: Algae, decaying animals

Wetland adaptations: Bullet-shaped body allows fast change of direction

Classification: Invertebrate - Crustacean

Habitat: Ponds, lakes and slow-flowing rivers and streams

Did you know? They only have one eye

Cut



Greater water boatman

Diet: Invertebrates, tadpoles and small fish

Wetland adaptations: Hind legs have developed into paddle shapes to aid swimming

Classification: Invertebrate - Insect

Habitat: Ponds, ditches and canals

Did you know? The greater water boatman can trap air underneath its wing cases so it can breathe under water



Cut

Dragonfly

Diet: Small insects

Wetland adaptations: Bullet-shaped body allows fast change of direction

Classification: Invertebrate - Insect

Habitat: Ponds, lakes, canals and ditches

Did you know? Dragonflies have been around for 300 million years

Cut



Ramshorn snail

Diet: Plants

Wetland adaptations: Can trap and store air inside their shells

Classification: Invertebrate - Mollusc

Habitat: Ponds

Did you know? Their name comes from the shape of their shell which resembles a ram's horn



Cut

Pond snail

Diet: Plants

Wetland adaptations: Have a respiratory tube that acts like a snorkel so they can breathe without coming to the surface

Classification: Invertebrate - Mollusc

Habitat: Rivers, lakes and ponds

Did you know? It is thought to have brilliant learning abilities and the snail's memory has been widely studied by scientists

Cut



Freshwater limpet

Diet: Plants

Wetland adaptations: Can cling on to rocks so doesn't get taken by the current

Classification: Invertebrate - Mollusc

Habitat: Rivers, ponds, lakes

Did you know? Although called limpets, they are actually in the same family as ramshorn snails



Cut

Sludge worm

Diet: Bacteria

Wetland adaptations: Can breathe through their skin.

Classification: Invertebrate - Worm

Habitat: Ponds, lakes, rivers

Did you know? They can survive in heavily polluted water

Cut



Leech

Diet: Fish, freshwater snails, tadpoles, worms

Wetland adaptations: Can breathe through their bodies

Classification: Invertebrate - Worm

Habitat: Ponds and streams

Did you know? Many leeches feed on the blood of other animals (without killing them)

Fold



Cut

Flatworm

Diet: Daphnia, dead animals

Wetland adaptations: Breathe through their skin

Classification: Invertebrate - Worm

Habitat: Ponds

Did you know? If cut in two, they grow into two separate worms

Cut



Fold

Water spider

Diet: Insects, crustaceans, tadpoles and smaller fish

Wetland adaptations: Traps air in the hairs on its body, which it takes down to fill a 'diving bell' web

Classification: Invertebrate - Arachnid

Habitat: Ponds, lakes, very slow-flowing streams

Did you know? The water spider is the only spider in the world that spends its life under water

Fold



Fold

Great raft spider

Diet: Invertebrates, small fish, water spiders

Wetland adaptations: Hairy legs enable them to walk on the surface of the water

Classification: Invertebrate - Arachnid

Habitat: Ponds, ditches, bogs

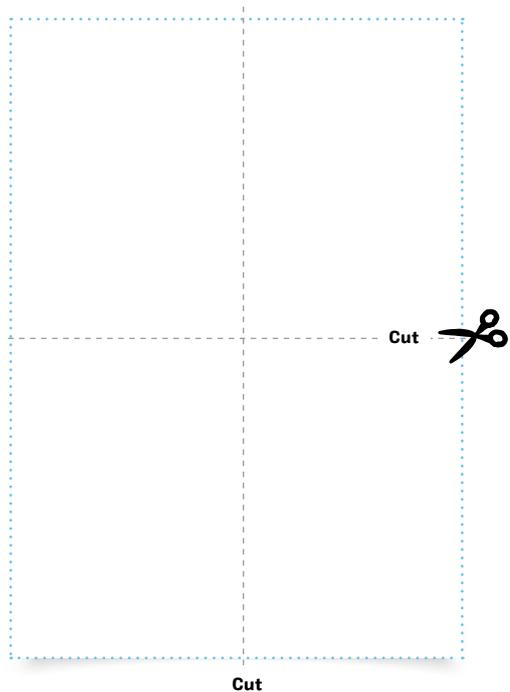
Did you know? Great raft spiders have been known to hunt underwater by running down the stems of plants to reach their prey

Cut

Cut

Food chain cards

- To make the cards, cut along the dotted lines.



Cut

Carnivore

Cut

Omnivore

Cut

Cut

Carnivore

Cut

Cut

Omnivore

Carnivore

Cut

Cut

Omnivore

Carnivore

Cut

Cut

Omnivore

Carnivore

Cut

Omnivore

Herbivore



Herbivore



Herbivore



Herbivore



Herbivore



Cut

Producer

Cut

Predator

Cut

Cut

Producer

Cut

Cut

Producer

Cut

Cut

Producer

Cut

Cut

Producer

Cut

Predator

Prey

Detritivore

Prey

Detritivore

Prey

Detritivore

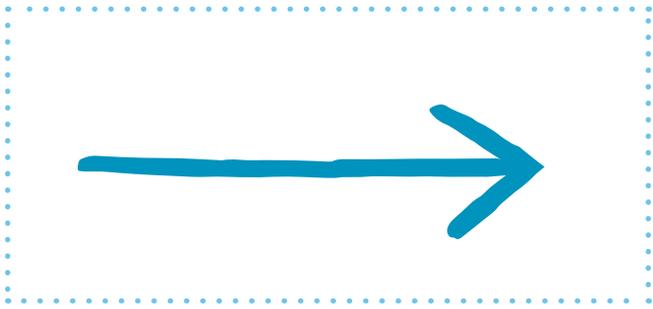
Prey

Detritivore

Prey

Detritivore

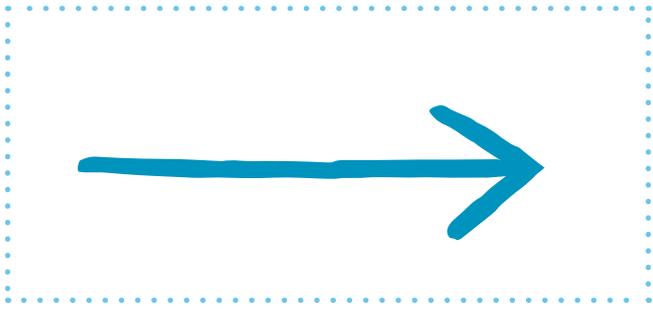
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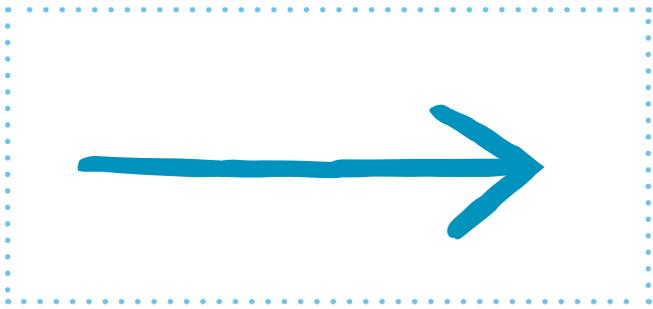
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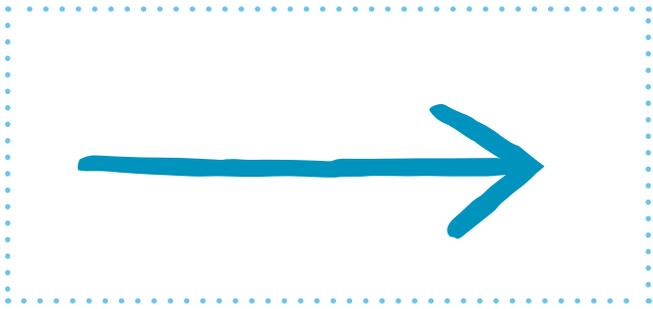
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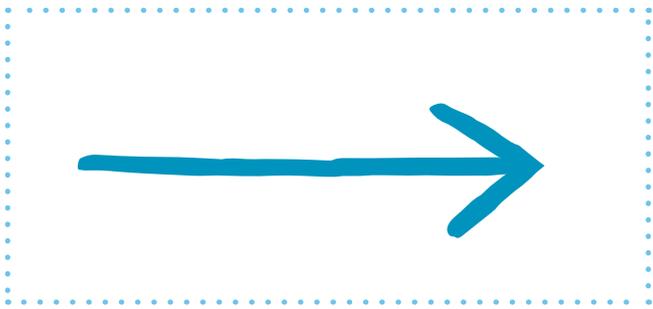
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