Who lives where?

Curriculum resource pack for habitats

AGES 7-11

WWT is one of the UK's leading providers of outdoor, nature-based learning. We welcome over 40,000 learners per year to our Wetland Centres where we provide unique opportunities for learners of all ages and abilities to interact with wetland wildlife from the UK and across the world.

We are open all year round with sessions for every season. Whether you're looking for curriculum-linked learning or simply a fun day out, there really is something for everyone. We also host a wide selection of resources on our website which are free for teachers to use, whether you're visiting us or not. To view our resources and find out more about our school visits programme, visit **learningzone.wwt.org.uk**

In addition , we run a free nature connection programme called Generation Wild for schools in disadvantaged areas. This includes a free visit to one of our wetland centres (including free transport) and access to a range of activities to encourage children to connect with nature at school and at home. To find out more and see if your school is eligible, visit **generationwild.org.uk.**

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 CO_2, providing a natural way of stopping flooding and serving as a home for huge numbers of different creatures. Spending time in wetlands is also proven to improve mental health and wellbeing!

Using this resource pack

This resource pack contains a session plan outlining classroom activities designed to cover key curriculum content as well as outdoor activities designed to promote nature connection and a love of the natural world. This is accompanied by supporting resources that can be printed or used on screen with your pupils. At the end of the pack you will find a short quiz that can be used to reinforce and assess pupils' learning. You may want to complete all activities or select those that most effectively meet your needs.

Curriculum links

England

KS2: Science

- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

Wales

KS2: Science

- The environmental factors that affect what grows and lives in... environments

KS2: ESDGC

- The needs of living things

Northern Ireland

KS2: The world around us

- Ways in which people, plants and animals depend on the features and materials in places and how they adapt to their environment

Scotland

Second: Social issues

- By comparing my local area with a contrasting area, I can investigate the main features of weather and climate, discussing the impact on living things.

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You will need:

- **Paper**
- **Colouring pens and pencils**
- **Rulers and scissors**
- **Wetland Wildlife Cards (one set per group – see final pages of this document)**
- **String or wool**
- **'Habitats' visual sheets (one copy per group – see final pages of this document)**

Other relevant resources

Activities:

- Make your own mini pond
- Make your own frog and toad hall

School visits:

We have a wide range of relevant sessions available for KS2. Visit our Learning Zone to find out more **learningzone.wwt.org.uk**

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

Indoor activities (40 minutes)

Activity 1: Habitats and micro-habitats

- Look at the 'Habitats' visual sheet with your pupils and explain that this is a wetland.
- Explain that a wetland is a type of habitat. A habitat is a place where an animal or plant lives.
- Within a habitat there can be a number of micro-habitats.
- The best way to think of it is to think of a garden. The habitat is the garden. Micro-habitats in the garden would include things like the lawn, a pond, under a rock, under a log, in a tree etc.

Key word: **WETLAND**

A wetland is land which is wet most or all of the time.

Key word: **HABITAT**

A type of natural environment where plants and animals live.

Key word: **MICRO-HABITAT**

A small-scale environment that forms part of a larger habitat.

- Can pupils think of other examples of habitats and the micro-habitats within them? (you might want to provide groups with one of the habitats from the table below if they find this difficult).

Examples of habitats	Garden	Woodland	Desert	Beach
Examples of micro-habitats	- Lawn - Pond - Under a rock - Under a log - On a tree	- Under a log - Hole in a tree - Under leaves - In rotting wood - In the soil	- Under a rock - Beneath the sand - Oasis	- Rockpool - Beneath the sand - Under a rock - Under seaweed

Activity 2: Animals in their micro-habitats

- Look again at the 'Habitats' visual with your pupils.

Q Which micro-habitats can you see? (e.g. a tree, a pile of rocks, a bush, grass, a pond, a hole in the ground, a rotting log, a bird nest box)

- Get your pupils to label each of the micro-habitats.
- Go through each micro-habitat:

Q What do you think might live in each?

Q What makes this a good place for this particular animal to live?

Micro- habitats	Bird nest box	Hole in the ground	Log	Pond	Rock pile	Bushes	Trees	Under the ground
Examples of animal that might live there	Blue tit Great tit Sparrow	Rabbit Fox Badger	Spider Woodlouse Beetle	Ducks Fish Frog	Lizard Snake Toad	Ladybird Butterfly	Birds Squirrel Bat	Earthworm Centipede Millipede

- Give out the wetland wildlife cards to pairs or small groups.
- Get each group to place some of the cards around the visual and use string or wool to show where each of these animals might live (using the string / wool to connect the animal card to its habitat).
- Discuss how each animal is adapted to that particular micro-habitat.

Take it outside:

- Go outside (ask groups to bring their wetland wildlife cards with them). Challenge each group to find as many micro-habitats as they can.

Q What would you call each micro-habitat?

Q Which types of animals do you think might live there?

Q Why does this micro-habitat make a good home for this type of animal?

- Call the name of an animal (you can use the wetland wildlife cards or some of the animals listed above). Can each group find an appropriate micro-habitat where this animal might live? If not, could they create one?
- Get each group to choose an animal that they really like that may be found in this area. Get them to use natural materials to create a micro-habitat / home for this animal.

Q What features does it have that help to provide for that animal's needs?

Q How do you think your animal would feel living here? Why?

- Get each group to go to each of the micro-habitats and record which animals and how many of each they see.

Q Which areas had the most living things?

Q Which areas had the least?

Q Why do you think that might be?

Q Which areas had the greatest diversity (lots of different types) of plants and animals?

Q What types of animals live in the grass?

- Now go to an area that has paving or tarmac.

Q Which animals live on the tarmac? (Many animals might travel across the tarmac or live beneath it, but very few animals live on it).

Q Why might this be a problem?

Q What if we tarmacked the whole area?

- Discuss how this might affect the number and types of plants and animals that live there.

Q Imagine you were one of the animals living there. How would you feel? Why?

Habitats

UK Wetland

WWT

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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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

Fold

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

Fold

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

Fold

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

Fold

Cut

Common toad

Diet: Insects, spiders, slugs and worms

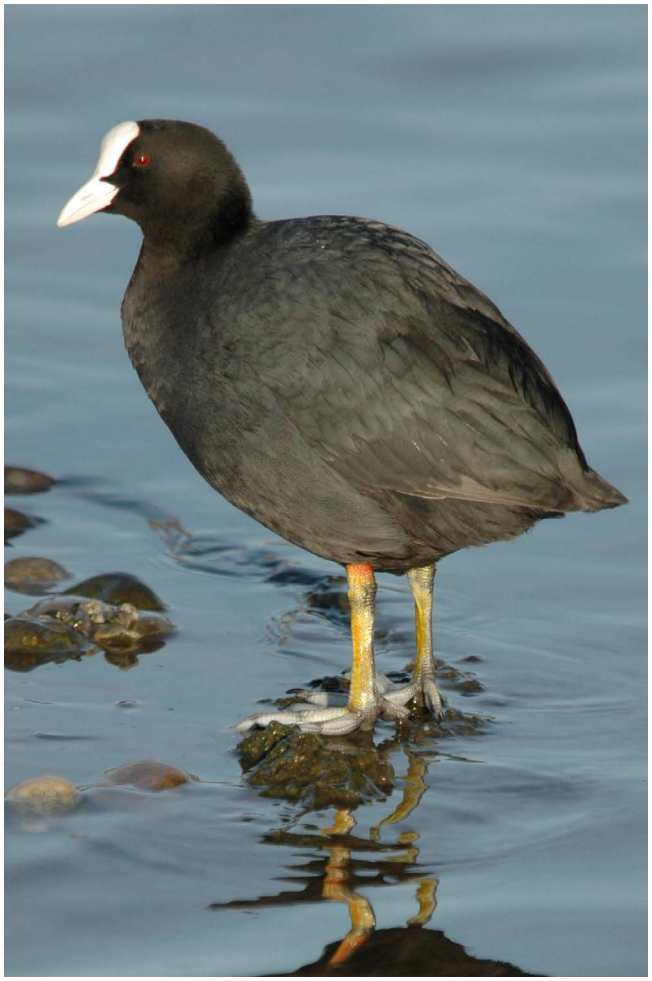
Wetland adaptations: Slightly webbed back feet help them to swim

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



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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”

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

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

Fold

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

Fold

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

Fold

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

Fold

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

Fold

Cut

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

Fold

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.

Fold

Cut

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.

Fold

Water hoglouse

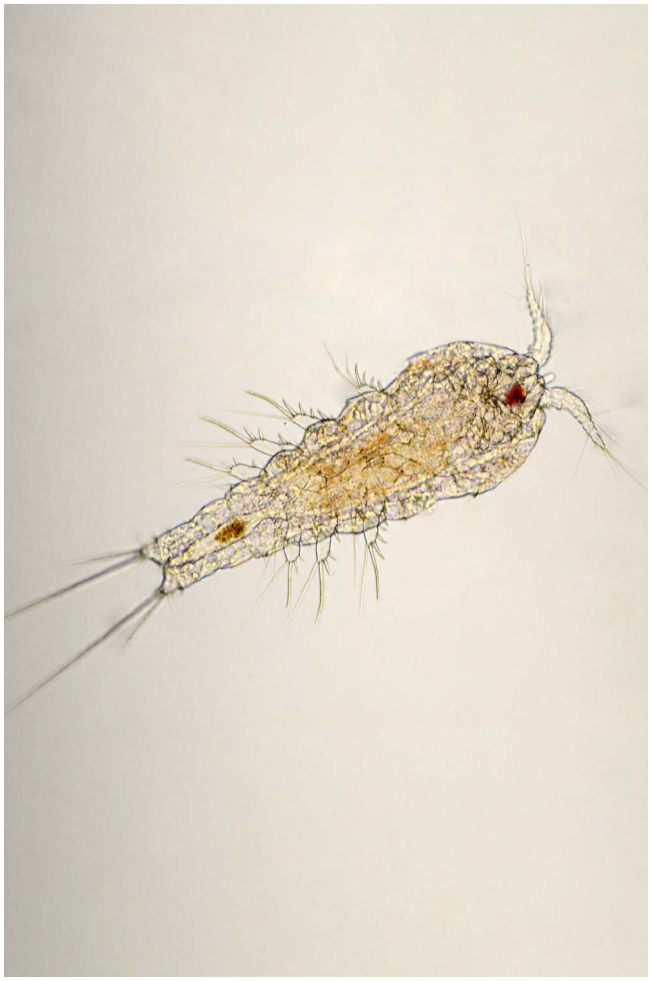
Diet: Decaying animals and plants

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



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Cut

Cut

Cyclops

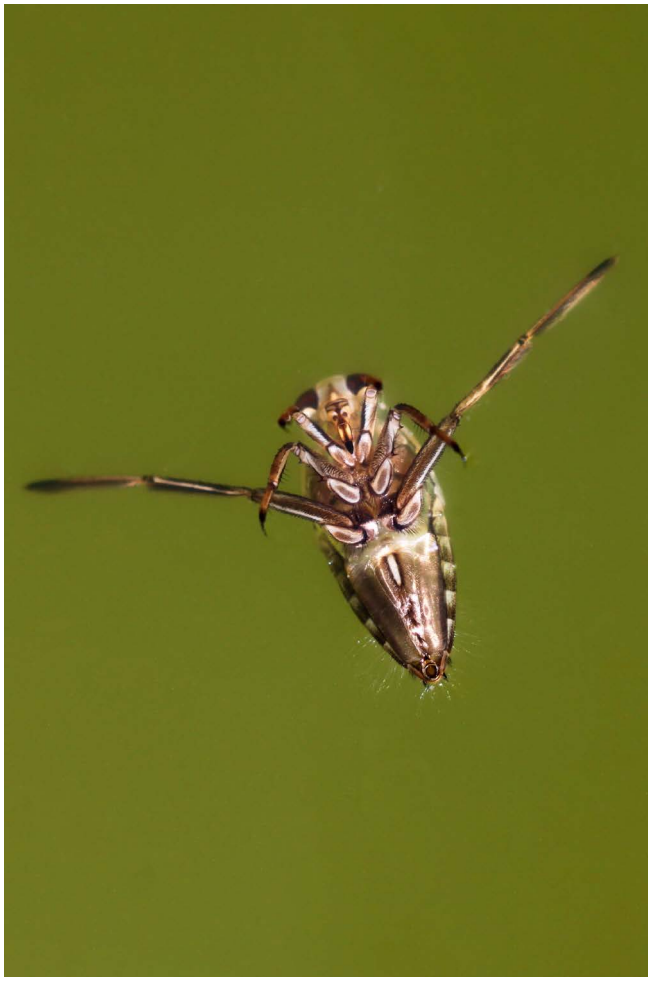
Diet: Algae, decaying animals

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



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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

Fold

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

Fold

Ramshorn snail

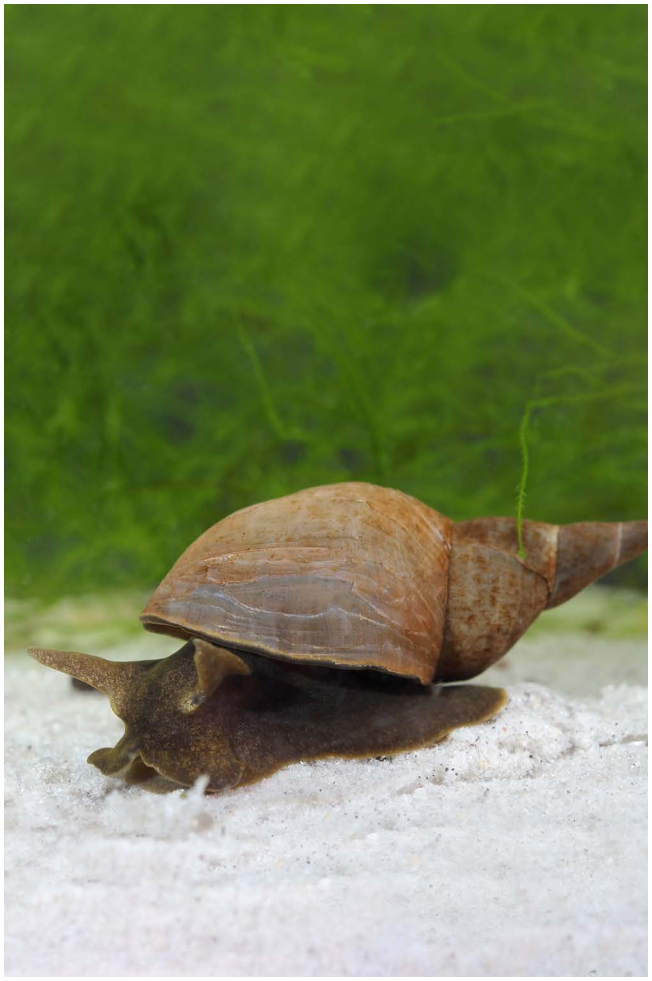
Diet: Plants

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



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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

Fold

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

Fold

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

Fold

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

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

Fold

Water spider

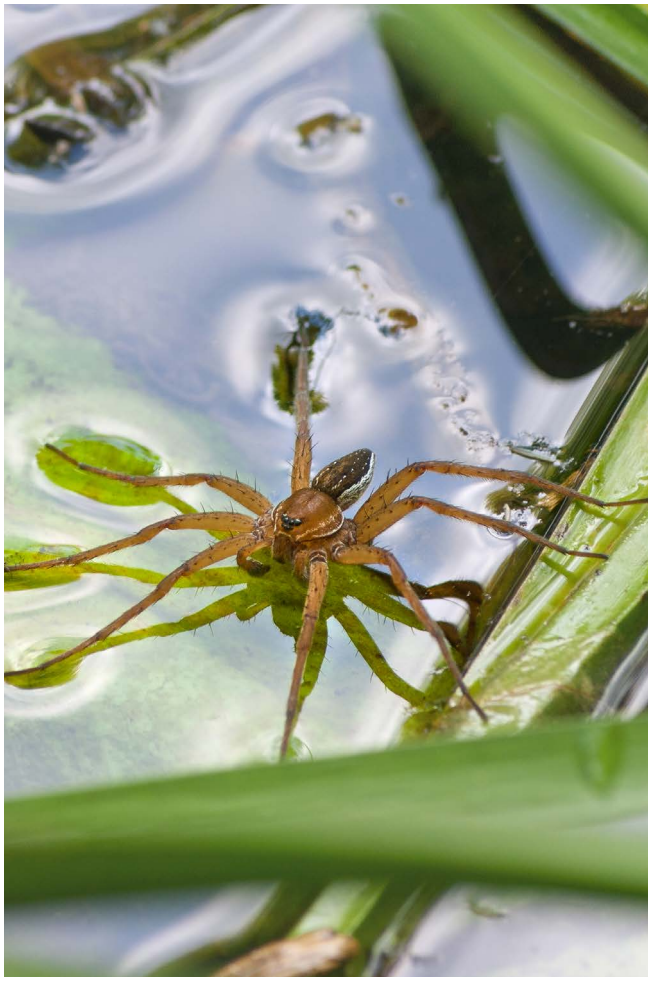
Diet: Insects, crustaceans, tadpoles and smaller fish

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



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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

Fold

Quiz: Who Lives Where?

For children aged 7–11 years

Round 1: Picture round

Q Can you name the following animals?

© WWT

1 .....

© Avinash Bhat @ flickr

2 .....

© WWT

3 .....

© Will George @ flickr

4 .....

© Renee Grayson @ flickr

5 .....

Round 2: Habitats and micro-habitats

Main habitats usually have smaller micro-habitats within them.

Q Circle the MAIN HABITAT in each of the lists below.

6	ROCKPOOL	SAND	COAST	SEAWEED
7	TREES	WOODLAND	LEAVES	ROTTING WOOD
8	AN OASIS	SAND DUNES	ROCKS	DESERT
9	LAWN	FLOWER BED	GARDEN	BUSHES
10	SNOW	ICE	TUNDRA	ROCKS

Round 3: Where do I live?

Q Draw lines to match each ANIMAL to the MICRO-HABITAT where it lives:

11 DRAGONFLY	A HOLE UNDER THE GROUND
12 STAG BEETLE	A POND
13 GREAT TIT	UNDER A LOG
14 BADGER	BIRD NEST BOX
15 COMMON LIZARD	ROCK PILE

Round 4: Challenge round

Now for something a bit trickier. You may not have learnt this yet so may need to do a bit of research!

16 **What is the name for the main group of animals that spend part of their time in water and part of their time on land?** (Clue: This group includes, frogs, toads and newts).

17 Being able to fly enables many animals to travel between lots of different habitats.
Can you name an animal, other than an insect or a bird, that can fly?

18 There's a type of habitat made up mainly of grassland with some small trees. Animals such as zebras, lions and cheetah's live there.
Can you name this habitat?

19 **Which habitat do you think covers the largest area of the earth?**

20 This type of habitat can be either very hot or very cold. This makes these habitats difficult places for animals to survive.
What is this habitat?

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@WWTWorldwide

Have fun and do share your score to our social media accounts –
We'd love to find out how you got on!

Quiz: Who Lives Where? – Answers

For children aged 7–11 years

Round 1: Picture round

Q Can you name the following animals?

© WWT

1 Blue tit

© Avinash Bhat @ flickr

2 Millipede

© WWT

3 Toad

© Will George @ flickr

4 Woodlouse

© Renee Grayson @ flickr

5 Grasshopper

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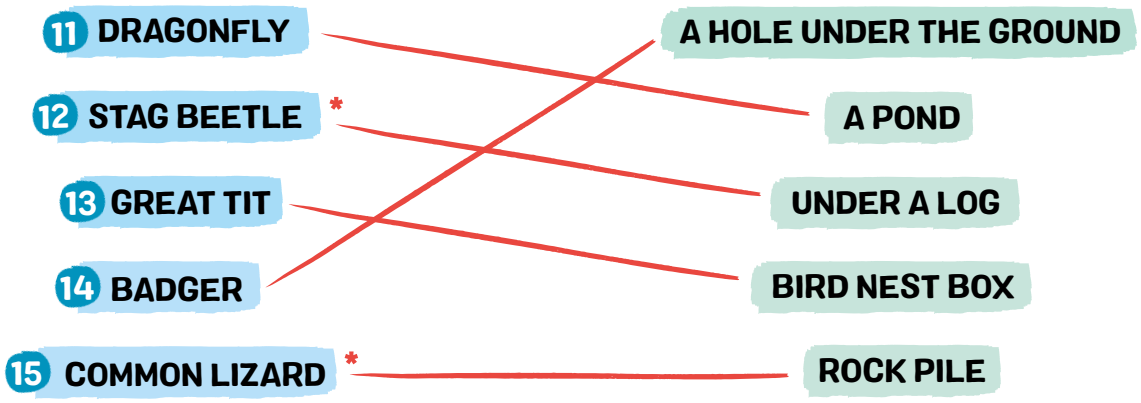

*Also allow stag beetle and common lizard swapped over

Round 4: Challenge round

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Amphibians

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Can you name an animal, other than an insect or a bird, that can fly?
Bats

18 There's a type of habitat made up mainly of grassland with some small trees. Animals such as zebras, lions and cheetah's live there.
Can you name this habitat?
Savanna (or savannah)

19 **Which habitat do you think covers the largest area of the earth?**
Ocean

20 This type of habitat can be either very hot or very cold. This makes these habitats difficult places for animals to survive.
What is this habitat?
Desert (Cold deserts are found in the Antarctic, Greenland, Iran, Turkestan, Northern and Western China).

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We'd love to find out how you got on!

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