

Marvellous Minibeasts

Activities for children aged 5–7 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.

For those of you that have been completing the activities week by week, this final session will provide a review of much of the learning that has taken place over the last 12 weeks. For those of you coming fresh to this, it will provide a great overview of a range of topics connected to the natural world. You might want to look back at some of the previous sessions to look at each aspect in more detail.

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

Stuff you need:

- Minibeast cards
- Food chain cards
- Butterfly life cycle cards
- Migration map (see last pages)
- Pen or pencil
- Ruler

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

Indoor activities

(90 minutes – Can be broken down into 6 manageable chunks)

Section 1: Classification

- Those of you that completed it will remember that in the 'Wonderful Wetland Wildlife' session we grouped animals into amphibians, birds, fish, mammals and reptiles. All of these animals have a backbone and are called vertebrates. Today, we'll be looking at the animals that don't have a backbone. These are called invertebrates. Lorem these activities, you will need to carry out some preparation and then come back to the activities a few hours later.

Key word: VERTEBRATE

An animal that has a backbone.

Key word: INVERTEBRATE

An animal that doesn't have a backbone.

Invertebrates can be broken down into the following groups (among others):

Key word: INSECT

- Insects have six legs
- They have three main body parts (a head, a thorax, and an abdomen)
- They have a pair of antennae on top of their heads
- Insects have an exoskeleton - a hard, shell-like covering on the outside of their body

Key word: ARACHNID

- Arachnids have eight legs
- They don't have antennae
- They have two main body parts (a cephalothorax and an abdomen)

Key word: MOLLUSC

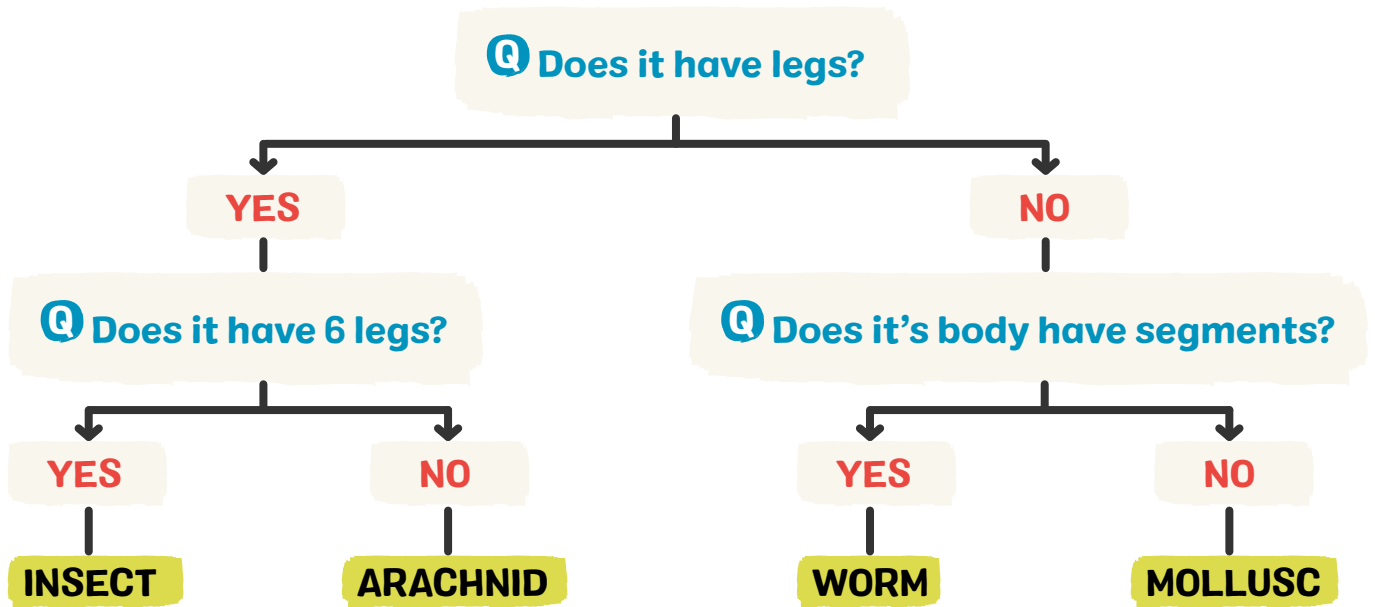
- Molluscs don't have legs
- They have a soft body without segments
- Many molluscs have a shell (sometimes this is hidden inside their body!)

Key word: WORM (ANNELID)

- Worms don't have legs
- They have long, narrow bodies
- They have a head and a tail end

- Scientists often use keys to help them to identify the different groups animals belong to. A key is a series of questions each with two possible answers. The answers lead you to the next question and eventually to the group of animals.
- Take a look at the Minibeast Cards.

Q Can you use the key below to split the animals on the cards into the above six groups?



Insects	Arachnids	Molluscs	Worms (Annelids)
- Butterfly - Ladybird - Aphid - Bee - Ant	- Garden spider - Harvestman	- Snail - Slug	- Earth worm

- Play 'guess the animal' (if you have completed the Wonderful Wetland Wildlife session you will have played this before but with a different set of animals):
- 1 Lay out all of the cards picture side up.
 - 2 Get your child to choose one of the animals on the cards without telling you (they shouldn't pick it up - leave it with the other cards).
 - 3 Ask your child a yes / no question about their animal (e.g. Does it have six legs? Can it fly?).
 - 4 Once they have answered, remove all of the animals that are now ruled out (e.g. if you ask has it got six legs and they say no, you can remove all of the insects).
 - 5 Keep asking questions and removing cards until you only have one card left.
 - 6 Is this the animal your child chose?
 - 7 Now swap over so that you choose an animal and they have to guess which you have chosen.

Section 2: Habitats

Q Do you know / remember what we mean by a habitat?

- A habitat is simply a place (or type of natural environment) where plants and animals live.

Q Do you know / remember what we mean by a micro-habitat?

- A micro-habitat is a much smaller habitat that forms part of a larger habitat. For example, a log pile may be a micro-habitat in a garden (the main habitat).

Q Look at the habitats visual. How many different micro-habitats can you see?

Microhabitats shown include:

- Pile of stones
- Stone wall
- Log pile
- Compost heap
- Plants
- Bushes
- Flowers
- Leaves
- Grass / lawn

Q Look at each of the Minibeast Cards. For each minibeast, can you use a piece of wool or string to connect it to one of the micro-habitats where it might live?

- Turn over each card and look at the micro-habitats listed under 'where to find them'. Were you correct? If not, you can always move the wool or string.

Section 3: What do animals eat?

If you completed the 'Who eats who?' session you'll remember that we looked at food chains and what different animals eat. Your child learnt the difference between herbivores, carnivores and omnivores. If you didn't complete this session, or if your child has forgotten, talk through the key words below with your child:

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.

- Turn over the cards and look at what each animal eats.

Q Can you group the animals into carnivores, herbivores and omnivores?

Herbivores	Carnivores	Omnivores
<ul style="list-style-type: none"> - Butterfly - Snail - Aphid - Bee - Earthworm 	<ul style="list-style-type: none"> - Garden spider - Ladybird 	<ul style="list-style-type: none"> - Harvestman - Ant - Slug

Food chains

Q Do you know / remember 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. PLANT > APHID > GARDEN SPIDER

The plant is eaten by the aphid. The aphid is eaten by the garden spider.

- Look again at what each animal on the Minibeast Cards eats.

Q Can you construct a food chain from these animals using the Food Chain Cards and the picture of the plant?

- Remember, think of the arrows as meaning 'is eaten by' to help you to get them the right way round.

Q Can you use the labels to show whether each animal is a herbivore, carnivore or omnivore?

Section 4: Life cycle of a butterfly

Q Do you know / remember what we mean by a life cycle?

- A life cycle shows how a living thing is born, grows into an adult and then has babies of its own. All living things have a life cycle, although they can be quite different.
- Look at the butterfly life cycle cards. This shows the four stages of a butterfly life cycle.

Q Can you cut out the pictures and arrows and stick them onto a separate piece of paper in the correct order to show the life cycle?

Answer

The butterfly in the life cycle is a painted lady butterfly.

The egg stage:

- The female lays many pale-green eggs in a row on a leaf.
- After seven days the baby caterpillars start to hatch.
- They eat their way out of the egg and then eat the shell.

The caterpillar stage:

- Caterpillars are examples of larvae.
- The Caterpillar spends its life eating; as it grows bigger it sheds its old skin and emerges with its new body.
- After two weeks of being a caterpillar, it attaches itself with silk and hangs upside down on a leaf.
- Then the caterpillar's skin splits exposing the chrysalis.

The chrysalis stage:

- A chrysalis (or pupa) hangs on the leaf for one week.
- Inside the chrysalis the caterpillar is changing its body into a butterfly.

The butterfly stage:

- After one week the chrysalis splits open and the butterfly emerges.
- The creature has changed from egg to caterpillar to chrysalis to butterfly in just four weeks - what an amazing transformation!



Section 5: Migration

In the Migration Challenge session we looked at the migration of wetland birds. Although it's hard to believe, some insects also migrate. One of these is the painted lady butterfly.

- Painted lady butterflies migrate from the Sahal in Africa all the way to the UK and back again (they migrate in steps).
- These tiny butterflies that weigh less than gram and have a brain the size of a pinhead can travel up to 100 miles per day. They can fly at speeds of up to 30mph and at a height of over 500 metres. Nature really is amazing!

- If you completed the Migration Challenge session, you could use your Migration Map from that session. If not, print a new copy of the map (see final pages of this document).
- If you are starting with a new map, label the seven continents and five oceans.
- Use an atlas or online map to find the border where Mali and Burkina Faso meet.
- Mark this with a dot on your Migration Map. This is the starting point for the butterfly's migration.
- Now add a second dot where you live (painted lady butterflies migrate to all areas of the UK).
- Join the two dots with a straight line to show the butterfly's migration journey.

Q Which countries might the butterfly fly over?

Which sea do they fly over? Which desert do they fly over? Which direction do they fly?

- Imagine you are a painted lady butterfly flying all that way.

Q How would you feel?

What challenges or obstacles might you face on your journey?

Section 6: Adaptations

In the Amazing Adaptations session we looked at the adaptations different birds had developed to enable them to live in a wetland. The creatures on the Minibeast Cards have developed different adaptations to protect themselves from predators. Some have become camouflaged so that predators can't see them whilst others taste bad to put predators off. Some have developed venomous bites or stings while others have a shell to protect themselves.

Q Can you find an animal on the Minibeast Cards that you think might protect itself using camouflage?

Possible answers include:

- Harvestman
- Garden spider
- Slug
- Snail
- Aphid
- Ant

Q Which do you think might taste bad to predators?

CLUE: Many animals that taste bad are brightly coloured to warn predators of their bad taste.

- The ladybird is a good example. It is brightly coloured to warn off predators.
- The harvestman, earthworm and millipede also produce nasty tasting chemicals to put predators off eating them. Slugs produce a mucus (a slimy substance) that can taste horrible as well as making it more difficult for predators to pick them up.

Q Which do you think might have a venomous bite or sting?

- The spider has a venomous bite. Ants either have a venomous bite or spray an acid called formic acid to deter predators. Bees have a venomous sting.

Q How do you think snails protect themselves?

- Snails retreat into their shell when they feel threatened.

Q Imagine you were a minibeast. What defence mechanism would you use to protect yourself from predators?

Take it outside:

(15 minutes+)

- Go on a mini-beast hunt.

Q How many different micro-habitats can you find?

- Look in all of the different micro-habitats you can find. Good places to look include under stones and rocks, under logs and twigs, in the grass and on plants, bushes and flowers.

For each animal you find:

- What do you think it is?
- What group of animals do you think it belongs to?
(insect, arachnid, mollusc, worm / annelid)
- Can you see any adaptations that might make it suited to this micro-habitat?
- What do you think this creature might eat? Watch it carefully and you might find out!
- Do you think it is herbivore, carnivore or omnivore?
- Can you think of a food chain that might include this creature?

Q Imagine you are the animal you found. What might you be thinking and feeling?

Q What is your favourite animal you found? Why? What is it you love about this animal?

Q What could you do to help protect this animal or provide it with a home to live?



@WWTWorldwide



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

Food chain cards p10-11

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

Minibeast cards p12-16

- 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.
- Include the Plant picture at the bottom of this page.

butterfly life cycle cards p17

- These are not in order. Cut out the cards and rearrange in the correct order and tick onto another piece of paper.

Cut

Cut

Cut



Cut

Cut



Cut

Cut



Cut

Cut



Carnivore

Cut

Cut

Carnivore

Carnivore

Cut

Cut

Carnivore

Carnivore

Cut

Omnivore

Cut

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Cut

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Omnivore

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Herbivore

Herbivore

Cut

Cut

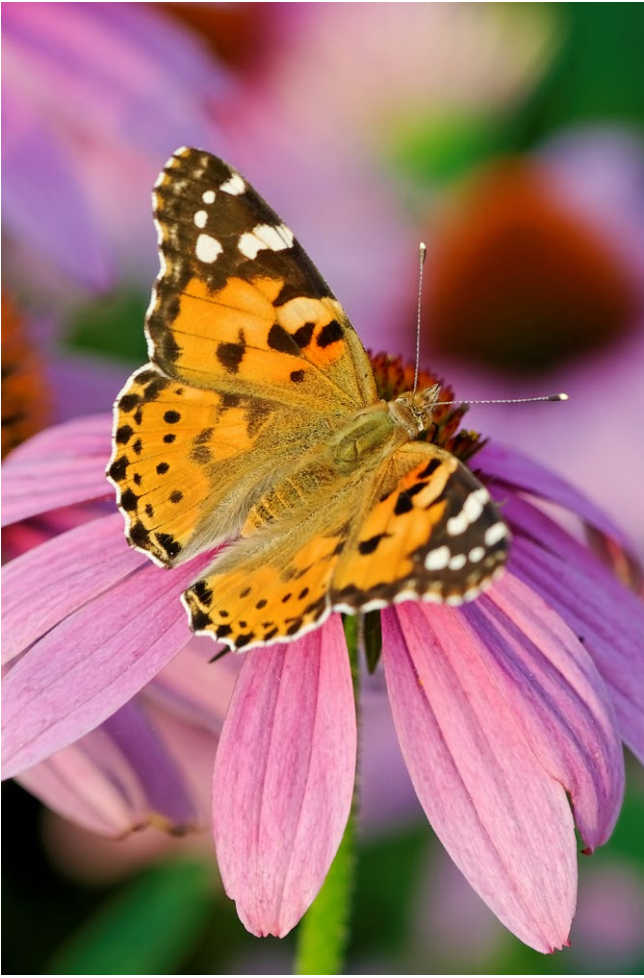
Herbivore

Herbivore

Cut

Herbivore

Fold



Cut

Butterfly

Classification: Insect

No. of legs: 6

Diet: Thistle plants as caterpillars; nectar as adults.

Where to find them: On plants as caterpillars; Anywhere there are flowers as adult butterflies.

Did you know? Painted ladies do not hibernate like most other butterflies. Instead they migrate.

Cut



Fold

Harvestman

Classification: Arachnid

No. of legs: 8

Diet: Smaller insects, snails, worms, plants and fruit

Where to find them: In leaf litter, among leaves and in grass

Did you know? Harvestmen aren't spiders but they are related to them. They don't spin webs and aren't venomous.



Cut

Garden spider

Classification: Arachnid

No. of legs: 8

Diet: Insects and woodlice

Where to find them: On bushes and plants

Did you know? Spider silk is as strong as the material used to make bulletproof vests.

Cut



Earthworm

Classification: Worm / Annelid

No. of legs: 0

Diet: Decaying plant matter

Where to find them: In soil

Did you know? It's not true that if you cut a worm in half it makes two new worms. Although they can regenerate to a small degree, usually both halves die.



Cut

Slug

Classification: Mollusc

No. of legs: 0

Diet: Plants, decaying animals and plants, fungi and earthworms

Where to find them: On plants

Did you know? Slugs can stretch their bodies to make them 20 times longer when they need to squeeze through tiny holes!

Cut



Snail

Classification: Mollusc

No. of legs: 0

Diet: Leaves and fungi

Where to find them: On plants, under rocks and logs

Did you know? The world's smallest land snail could fit through the eye of a needle.



Cut

Ladybird

Classification: Insect

No. of legs: 6

Diet: Aphids and small insects

Where to find them: On plants

Did you know? Ladybirds are brightly coloured, warning predators of their bitter taste.

Cut



Aphid

Classification: Insect

No. of legs: 6

Diet: Sap from plants

Where to find them: On plants

Did you know? Ants 'milk' aphids for the honeydew they produce!

Fold



Cut

Bee

Classification: Insect

No. of legs: 6

Diet: Nectar and pollen

Where to find them: On plants

Did you know? Bees are not aggressive and will only sting if they feel threatened.

Cut



Fold

Ant

Classification: Insect

No. of legs: 6

Diet: Small insects, spiders, fruit and honey

Where to find them: In soil, under stones

Did you know? Some species of ants can bring 100,000 insects a day back to their nest each day.

Cut

BUTTERFLY



Cut



Cut



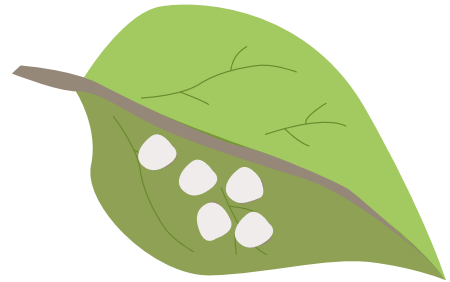
Cut

CHRYSALIS (pupa)



Cut

EGGS

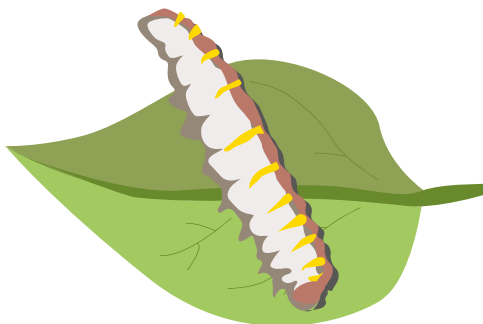


Cut



Cut

CATERPILLAR (larva)



Cut



Migration Map



A garden habitat

