MARVELLOUS MINIBEASTS

AGES 5-7

Curriculum resource pack

WWT is one of the UK's leading providers of outdoor learning. We welcome over 50,000 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. To find out more about our school visits programme please visit **learningzone.wwt.org.uk.**

Why wetlands?

WWT works across the UK to save, restore 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 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. This pack covers a wide range of science curriculum themes. You may want to use it to structure a longer term scheme of work. Alternatively, you may want to choose to complete only those activities that are relevant to your topic.

CURRICULUM LINKS

England

KS1: Science

- Identify and name a variety of common animals
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- Identify and name a variety of plants and animals in their habitats, including microhabitats
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food
- Notice that animals, including humans, have offspring which grow into adults

Northern Ireland

KS1: Around the world

- How plants and animals rely on each other within the natural world
- Interdependence of people, plants, animals and place
- How place influences plant and animal life
- Ways in which living things depend on and adapt to their environment
- How and why people and animals move

Curriculum links continued...

Wales

Foundation Phase: Science and Technology

- I can explore the environment, make observations and communicate my ideas
- I can recognise that plants and animals are living things which grow
- I can explore relationships between living things, their habitats and their life cycles

Foundation Phase: Humanities

- I have first-hand experience of the natural world and am beginning to recognise places which are familiar to me
- I am beginning to appreciate and care for living things and my own environment

Scotland

First: Sciences

- By exploring a natural environment different from my own, I can discover how the physical features influence the variety of living things
- I can distinguish between living and non living things. I can sort living things into groups and explain my decisions
- I can explore examples of food chains and show an appreciation of how animals and plants depend on each other for food
- By comparing generations of families of humans, plants and animals, I can begin to understand how characteristics are inherited
- By comparing generations of families of humans, plants and animals, I can begin to understand how characteristics are inherited

First: Social Issues

- By exploring a natural environment different from my own, I can discover how the physical features influence the variety of living things
- By exploring climate zones around the world, I can compare and describe how climate affects living things
- Through activities in my local area, I have developed my mental map and sense of place. I can create and use maps of the area

INDOOR ACTIVITIES

YOU WILL NEED:

Minibeast cards (one set per group)
Food chain cards (one set per group)
Butterfly life cycle cards (one set per group)
(For all accompanying resources see the end of this pack)
Minibeast key (one copy per group)
Migration map (one copy per group)
Garden habitat sheet (one per group)

Other relevant resources

Activities:

- Make your own bug hotel
- Garden bug hunt spotter sheet

School visits:

- We have a wide range of relevant sessions available for KS1. 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

Activity 1: Classification

- Hand out a set of minibeast cards to each group. Explain that these animals are often called minibeasts because they are quite small. The true name for them is invertebrates - these are animals that don't have a backbone.
- Get the children to feel their own backbones.
- Explain that the animals on the cards can be split into the following groups (talk through each in turn):

Activity 1 continued...

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

- Give each group a copy of the minibeast key.
- Explain that scientists often use keys to help them to identify the different groups animals belong to. You have to answer each question and follow the lines to the correct answer.
- Go through how to identify the ladybird as an example.
- Get each group to use the key to split the animals on the cards into the four groups.
- Ask groups to feed back one animal at a time and check if they have correctly identified which group it belonged to.

Insect	Arachnid	Mollusc	Worm (Annelid)
- Butterfly - Ladybird - Aphid - Bee - Ant	- Garden spider - Harvestman	- Snail - Slug	- Earthworm

- Get pupils to play 'guess the animal' in their groups. You might want to play it as a whole class first with you choosing one of the animals and the class trying to guess.

    1. Lay out all of the cards picture side up.
    2. Children should take it turns to to choose one of the animals on the cards without telling the rest of the group (they shouldn't pick it up – leave it with the other cards).
    3. The rest of the pupils should ask yes / no questions about their animal (e.g. Does it have six legs? Can it fly?).
    4. Once they have answered, they should remove all of the animals that are now ruled out (e.g. if they asked has it got six legs and they say no, they can remove all of the insects).
    5. Keep asking questions and removing cards until there is only only have one card left.
    6. Is this the animal that was chosen?

Activity 2: Habitats

Q **Do you know 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 what we mean be 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).

- Give out a garden habitat sheet to each group.
- Explain that the habitat shown is a garden and ask if anyone can see any micro-habitats. Take a few examples to make sure that pupils have got the idea.
- Challenge each group to identify and label as many micro-habitats as they can.
- Get each group to feed back giving one micro-habitat at a time. Allow groups to label any that they didn't have on their list.

Micro-habitats include:

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

- Give out a copy of the minibeast cards to each group if they don't already have them.
- Get each group to use pieces of wool or string to connect each creature to the micro-habitat where it might live.
- They can turn over each card afterwards and look at the micro-habitats listed under 'where to find them' to check if they were correct. If not, they can always move the wool or string.
- Get each group to feed back one creature and where it lives. Ask them to explain why this is a good place for this creature to live.

Activity 3: What do animals eat?

Q **Do you know what we mean by a herbivore? What about a carnivore? An omnivore?**

- Explain the meaning of each term:

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.

- Give a set of the minibeast cards to each group if they don't already have them.
- Ask each group to turn the cards over and look at what each animal eats.
- Challenge them to group the animals into herbivores, carnivores and omnivores.
- Go over each animal in turn, checking pupils' understanding.

Herbivores	Carnivores	Omnivores
- Butterfly - Snail - Aphid - Bee	- Centipede - Spider - Ladybird	- Harvestman - Ant

Activity 3 continued...

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.

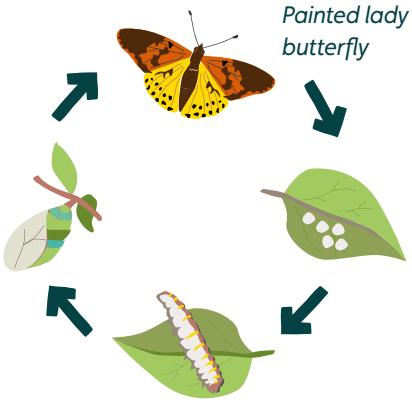
- Ask each group to look again at what each creature on the minibeast cards eats.
- Challenge them to construct a food chain using two creatures and the plant card.
- They can then use the labels to show whether each creature is a herbivore, carnivore or omnivore.
- Get each group to present their food chain to the rest of the class.
- Explain that the plant is special because it can make it's own food. Plants are called producers because they produce their own food.

Activity 4: Life cycle of a butterfly

Q **Do you know what we mean be 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.
- Give a set of butterfly life cycle cards to each group. This shows the four stages of a butterfly life cycle.
- Challenge each group to cut out the pictures and arrows and stick them onto a separate piece of paper in the correct order to show the life cycle.
- See below for the correct answer.

Answer



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!

Activity 5: Migration

Q **Do you know what we mean by migration?**

Key word
MIGRATION

When an animal travels to find food or better living conditions, usually as the seasons change.

- Explain that lots of different animals migrate and that although it's hard to believe, because they are so small and delicate, this includes some butterflies. One of these is the painted lady.
- 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 a 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!
- Give out a copy of the Migration Map to each group along with an atlas / world map.
- Ask each group to label the seven continents and five oceans.
- Use the atlas or online map to find the border where Mali and Burkina Faso meet together as a class.
- Ask each group to mark this with a dot on their Migration Map. This is the starting point for the butterfly's migration.
- Now get them to add a second dot where they live (painted lady butterflies migrate to all areas of the UK).
- They should then join the two dots with a straight line to show the butterfly's migration journey.
- Ask each group to answer the following questions.

Q **What countries might the butterfly fly over?**
Which sea do they fly over? Which desert do they fly over? Which direction do they fly?

- Get each group to feed back their answer to one of the questions and use to check pupils' understanding.
- Ask pupils to imagine they are a painted lady butterfly flying all that way. Get them to discuss in their groups how they might feel and what challenges and obstacles they might face on the way.
- Get each group to feed back to the rest of the class.

Activity 6: Adaptations

- Give out a set of minibeast cards to each group if they don't already have them.
- 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?**

- Ask each group to make a group of all the animals they think might use camouflage to protect themselves.
- Get each group to feed back one animal at a time.

Possible answers:

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

- Snails retreat into their shell when they feel threatened.
- Get each group to design and draw an imaginary minibeast, showing how it would protect itself from predators.

OUTDOOR ACTIVITY

Activity 7: Minibeast hunt

- Get the children to go on a minibeast hunt in their groups. They should list each creature they found and where they found it.
- Get each group to choose one animal they found and answer the following questions about it...

Q

1. What do you think it is?

2. What group of animals do you think it belongs to? ***(insect, arachnid, mollusc, worm/annelid)***

3. Can you see any adaptations that might make it suited to this micro-habitat?

4. What do you think this creature might eat? Watch it carefully and you might find out!

5. Do you think it is a herbivore, carnivore or omnivore?

6. Can you think of a food chain that might include this creature?

- Each group should then choose their favourite animal they found and think about the following questions...

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

Q **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?**

RESOURCES

Mini-beast key: Invertebrates: p15

Food chain cards: p16

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

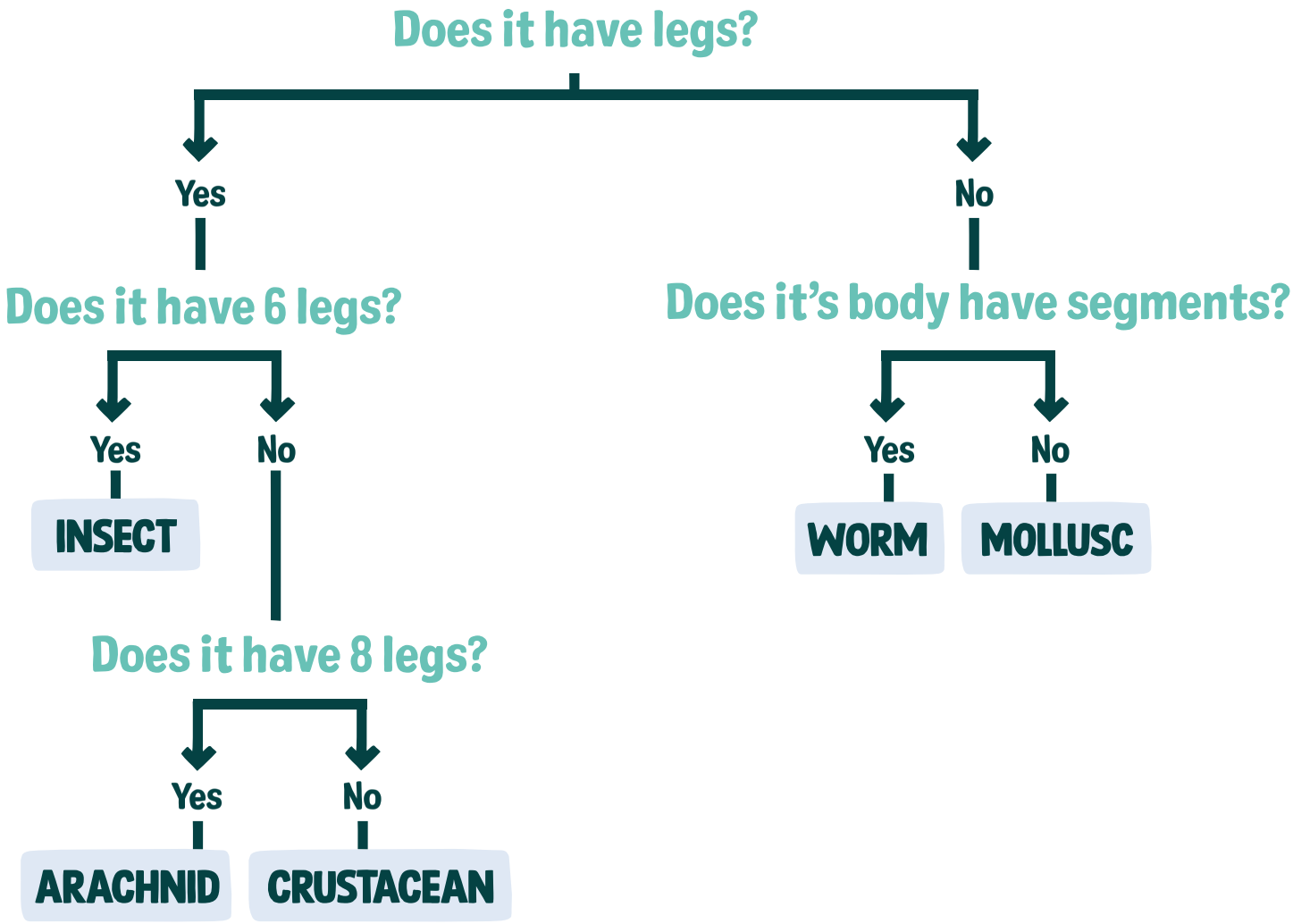
Minibeast cards: p18

- 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 cycle cards: p24

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

MINIBEAST KEY: INVERTEBRATES



CARNIVORE

CARNIVORE

CARNIVORE

CARNIVORE

CARNIVORE

CARNIVORE

OMNIVORE

OMNIVORE

OMNIVORE

OMNIVORE

OMNIVORE

HERBIVORE

HERBIVORE

HERBIVORE

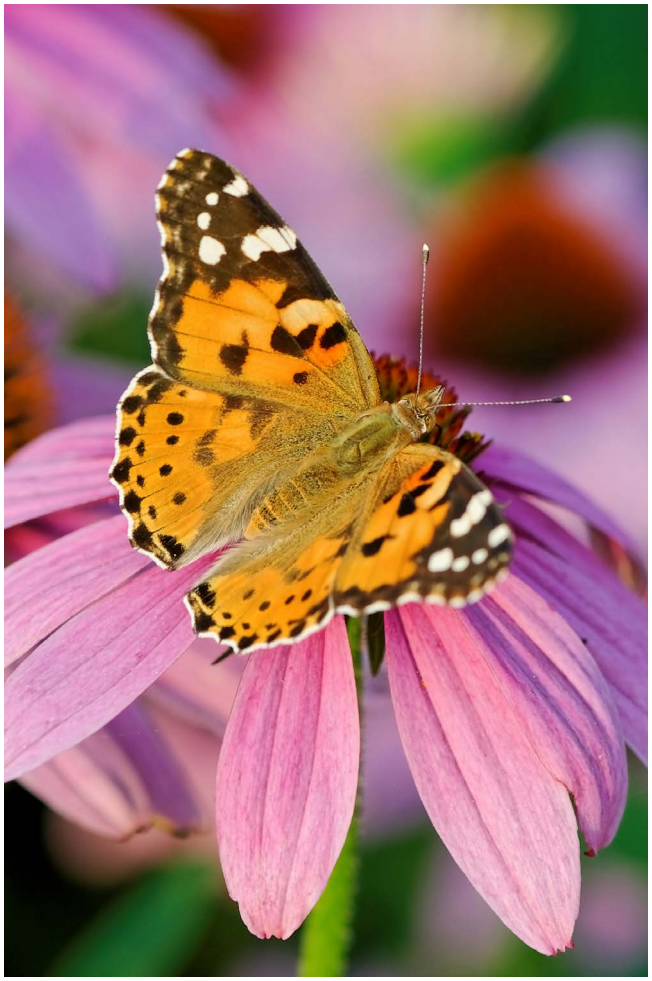
HERBIVORE

HERBIVORE

FOOD CHAIN CARDS

Cut

Cut



Fold

Cut

PAINTED LADY 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

Fold

GARDEN SPIDER

Classification: Arachnid

No. of legs: 8

Diet: Insects and woodlice

Where to find them: On buses and plants

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

Cut

Cut

Fold

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.

Fold

Cut

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!

Fold

SNAIL

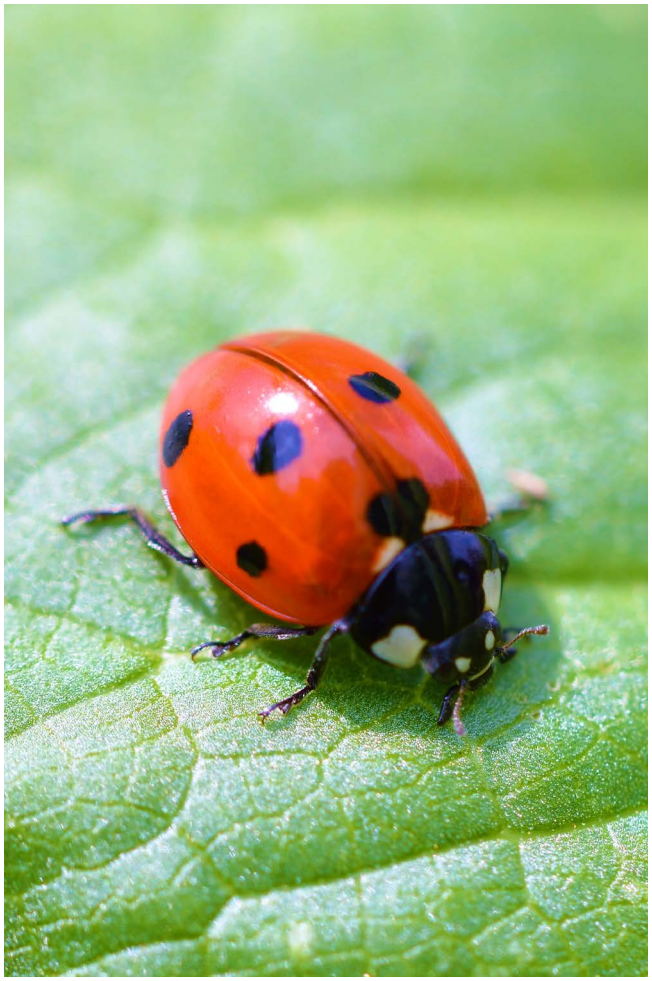
Classification: Mollusc

No. of legs: 0

Diet: Leaves and fungi

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

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



Fold

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

Fold

APHID

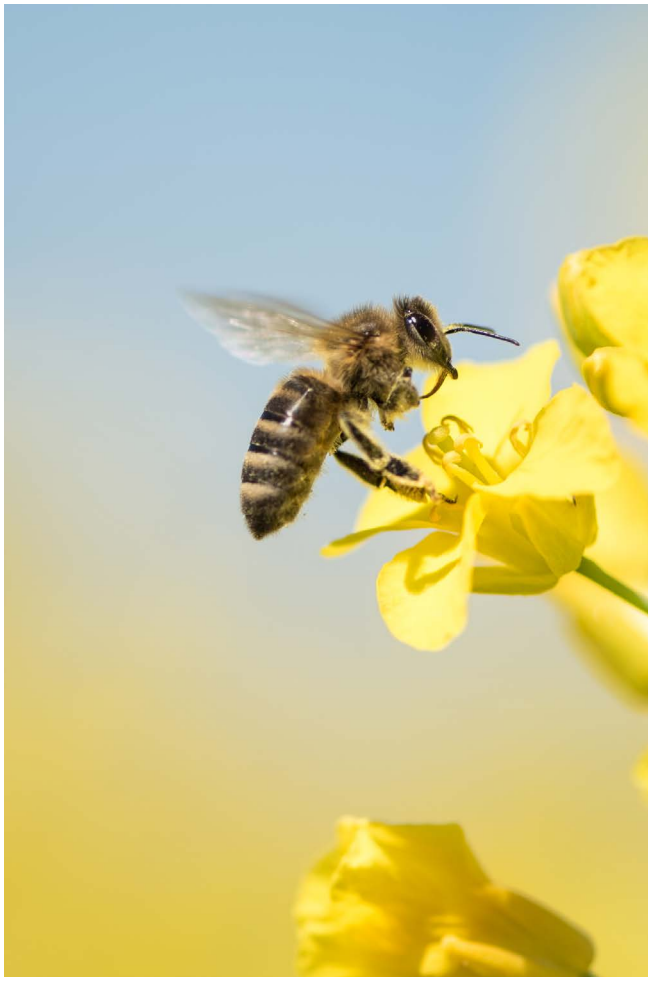
Classification: Insect

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

BEE

Classification: Insect

No. of legs: 6

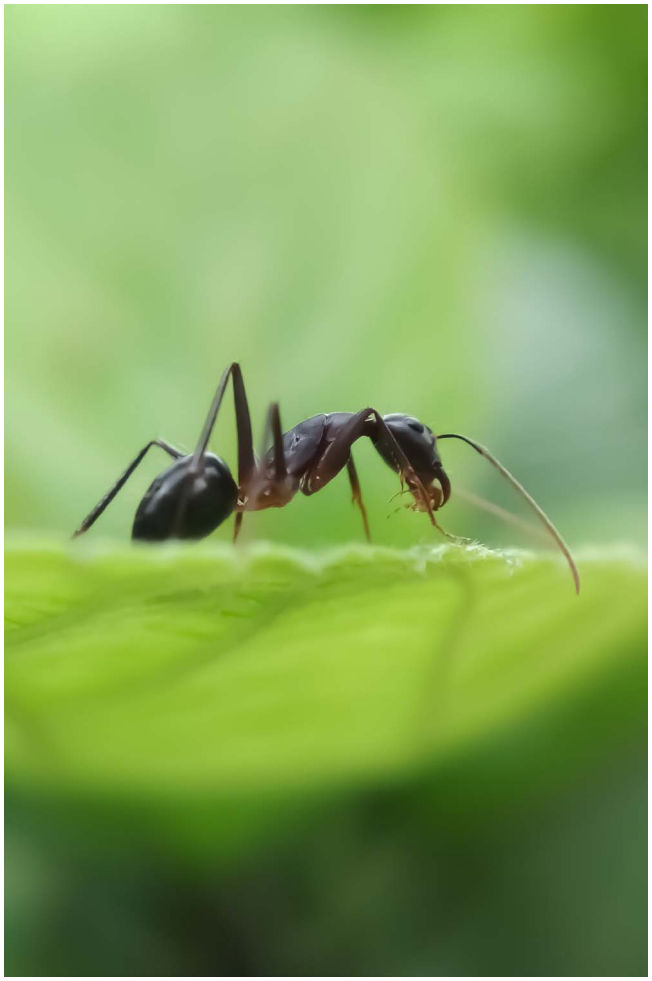
Diet: Nectar and pollen

Where to find them: On plants

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

Cut

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

BUTTERFLY
Life cycle cards

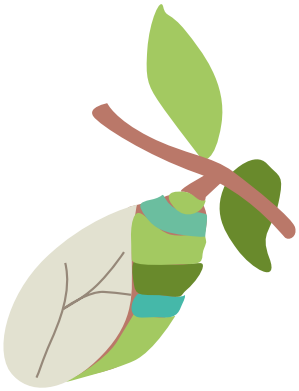
Cut

BUTTERFLY

Cut

Cut

CHRYSALIS (PUPA)



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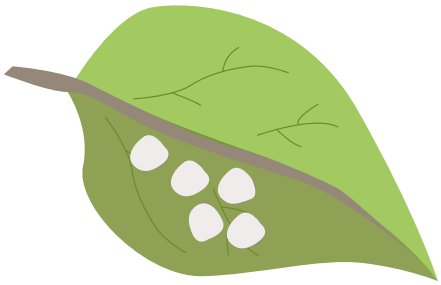
EGGS



Cut

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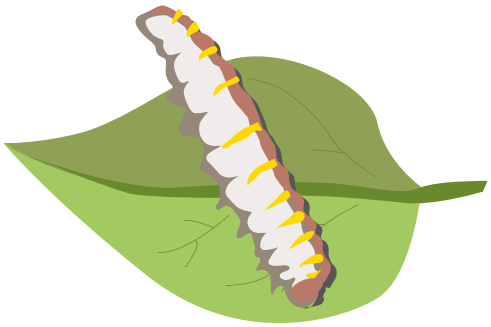
CATERPILLAR (LARVA)



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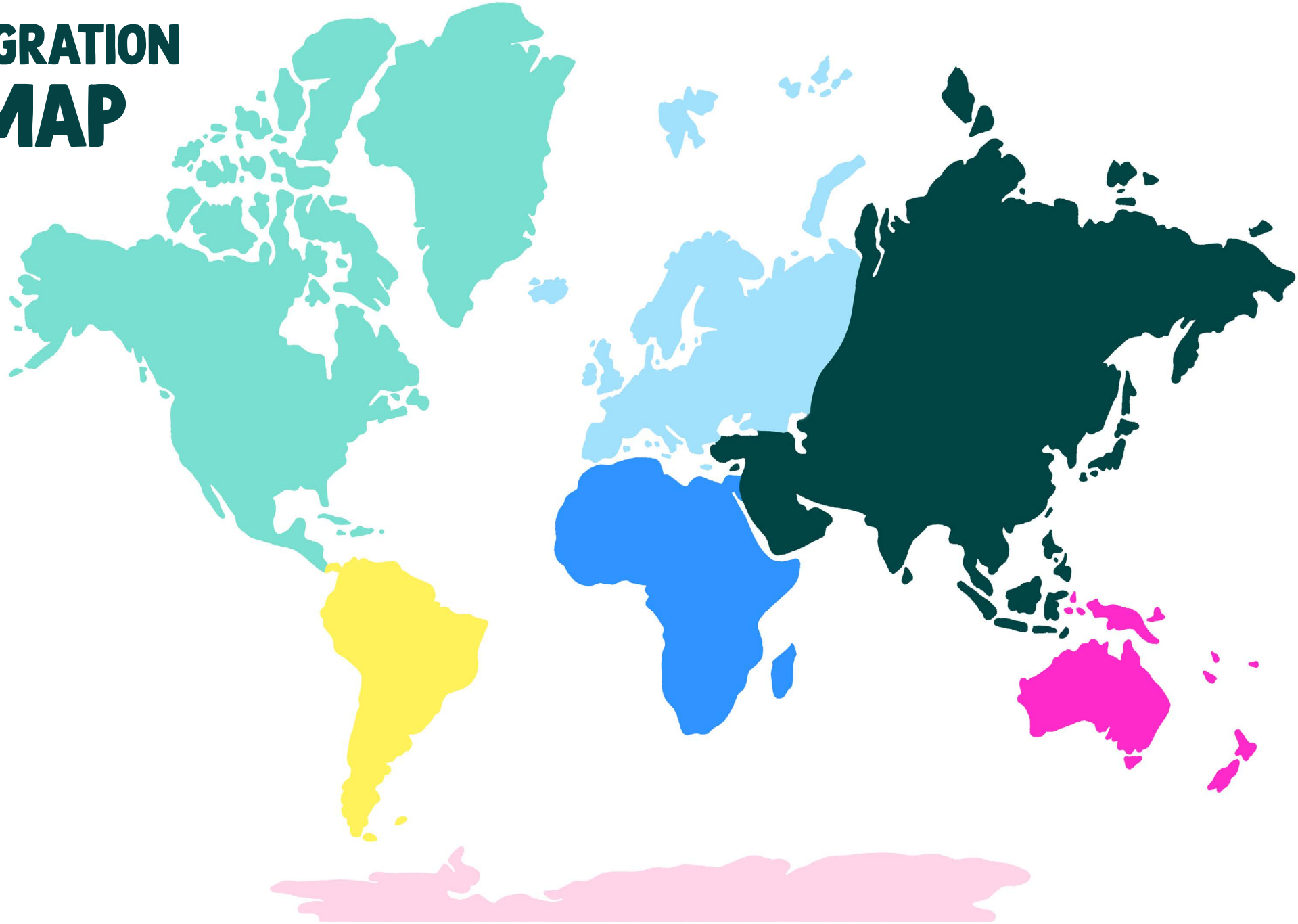
MIGRATION MAP



A GARDEN HABITAT

QUIZ: MARVELLOUS MINIBEASTS

Round 1: Picture round

All of the following animals are included in the Minibeast Cards.

Q Can you name them?

1 .....

2 .....

3 .....

4 .....

5 .....

Round 2: Classification round

For each animal below, say whether it is an **Insect**, an **Arachnid**, a **Mollusc** or an **Annelid**.

Ladybird

6 .....

Garden spider

7 .....

Earthworm

8 .....

Ant

9 .....

Snail

10 .....

Round 3: Herbivore, carnivore or omnivore?

For each animal below say whether it is a **Herivore, Carnivore** or **Omnivore.**

Use the minibeast cards to help you.

Snail

11 .....

Garden spider

12 .....

Slug

13 .....

Bee

14 .....

Ladybird

15 .....

WWT
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Have fun and do share your score to our social media accounts

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

ANSWERS: MARVELLOUS MINIBEASTS

Round 1: Picture round

All of the following animals are included in the Minibeast Cards.

Q Can you name them?

1 (Painted lady) butterfly

2 Harvestman

3 Bee

4 Slug

5 Aphid

Round 2: Classification round

For each animal below, say whether it is an **Insect**, an **Arachnid**, a **Mollusc** or an **Annelid**.

Ladybird

6 Insect

Garden spider

7 Arachnid

Earthworm

8 Annelid

Ant

9 Insect

Snail

10 Mollusc

Round 3: Herbivore, carnivore or omnivore?

For each animal below say whether it is a **Herivore, Carnivore** or **Omnivore.**

Use the minibeast cards to help you.

Snail

11 Herbivore

Garden spider

12 Carnivore

Slug

13 Omnivore

Bee

14 Herbivore

Ladybird

15 Carnivore

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