

Discover the fascinating world of minibeasts

Discover the fascinating world of mini-beasts and make records of what you and your class find.

There are many different types of mini-beasts; crustaceans, arachnids, insects and molluscs. This section will look at each group and find specific examples. These can then be discussed once the children find them out on the field.

The following information is for teacher reference and can be adapted to whatever stage of learning the class is at.

Crustaceans e.g. Woodlice

- They are relatives of crabs and lobsters!
- They have a tough exoskeleton. Ensure children understand this term. It is hard and tough to protect the softer parts of the creature. Explain to the children that we as humans have our bones on the inside – internal, but mini-beasts such as woodlice have their ‘bones’ on the outside - external.
- They have 14 jointed limbs
- Their bodies are segmented.
- Ensure the pupils understand that woodlice need to live in damp, dark conditions. This is essential as they breathe using gills! For this reason, they prefer to stay under leaves in amongst the soil and under log piles.
- Discuss what part of the food chain the woodlice are found. They are known as detritivores. This means they eat dead organic matter, which includes decomposing leaves and rotting wood. YUM!

Arachnids e.g. Spiders and harvestmen

- Ask the children to explain the shape of the spiders they have found – how many body parts can they see? Explain to them that arachnids have two body parts – the head and the thorax which are joined together, and the abdomen.
- Ask the children to look carefully and find out how many legs the mini-beast has. They may need to use the magnifying glass to do this. Ensure that they realise there are 8 legs – or 4pairs of legs. This is the easiest way to differentiate arachnids from insects!
- Arachnids do not have any antennae or wings. This is another difference when comparing them to insects.

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- Ensure the children understand the importance of webs. As well as providing a home for the creature, it also is essential in catching prey. The arachnids are carnivores, meaning they eat meat.

Insects e.g. Beetles, earwigs, bees, wasps, butterflies, ladybirds.

- This is the largest group of animals known to live on earth, representing over 90% of all life forms! There are over 2 million different species of insects, so it would be impossible to teach children all of them – just the ones most commonly found.
- Ask the children to describe the shape of the insects – how many body parts do they have? They will hopefully find that there are 3 parts – the head, thorax and abdomen.
- The head will have a pair of sensory antennae and two compound eyes.
- The wings and the legs are attached to the thorax. Insects have four wings (two pairs) and six legs.
- Similar to crustaceans, insects have their skeleton on the outside to protect the softer inner parts of their body. Ensure the children understand the term 'exoskeleton'.
- Insects lay eggs.
- Insects are carnivorous. They eat other insects and invertebrates.
- Ladybirds come in many different colours, although many children assume that there are only red ladybirds with black spots. Keep your eyes open, especially during the tree tapping session, you may be lucky to find orange ladybirds, or possible even a yellow ladybird. Each type will have a different number of spots. This does not reflect their age, but signifies that they are different species.
- Ladybirds are often referred to as the 'gardener's friend'. They eat tiny green insects known as aphids. Without this help, the aphids would be left to their own devices and would eat plants such as roses that gardeners spend so long maintaining.

Molluscs e.g. Snails and slugs

- These are the two most commonly found molluscs pupils will find during their search and can be easily identified from each other: one has a shell, the other does not! The shell will grow with the snail. A snail does not outgrow its shell and then go looking for a new, larger one.
- Snails have a large muscular foot which they use to move along in a wave like fashion. They use mucus to help them get about, reducing the friction between their foot and the surface. Mucus is also important as it protects the foot from damage which could be caused when traveling over sharp objects.
- Snails and slugs usually have two pairs of antennae. Their eyes can be found on the upper pair and the sensory organs on the lower pair. Both pairs are retractable, meaning they can be brought in towards the body of the creature if deemed necessary.

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- Both are herbivores, eating dead leaves, stems, helping to break the old leaves into new soil.
- The shell protects the snail from both draught and predators. This is not to say though that once inside the shell, it is safe. A few birds, such as the mistle thrush will pick the snail up with their beak and smash it against a hard object or surface, and eat the soft snail inside. Some humans regard the snail as a delicacy, especially in French cuisine. This is referred to as 'Escargot'
- Snails and slugs are hermaphrodites. This means they have both male and female reproductive organs. Two snails / slugs still need to be present though in order to make eggs which will eventually hatch into young snails / slugs.
- Snails and slugs cannot hear.

Myriapods e.g. Centipedes, millipedes

Although these belong to the same family, and look vaguely similar, they are quite different in characteristics. Therefore, they will be explained using a table to show how they compare and contrast.

Millipede	Centipede
Segmented	Segmented
Colour: black	Colour: light brown
2 pairs of legs per each body segment under body	1 pair of legs per each body segment outside body
Herbivore	Carnivore – they will even eat other centipedes!
They are the prey of birds and other mini-beasts	They are the prey of birds and other mini-beasts
Prefer dark, damp conditions in amongst the leaf litter	Prefer dark, damp conditions in amongst the leaf litter

Annelids e.g. Worms

- They have long segmented bodies
- No legs and soft bodies
- They live in amongst the soil and wriggle through it. As they do so, they churn it all up, adding oxygen to it.
- As they eat the soil, it passes through their digestive system, and once out the other end, it is a better quality as it has been broken down.
- Lived during the age of the dinosaurs!
- They do not have a brain, but can feel things using nerve centres
- They have no eyes, but can sense light
- They are hermaphrodites, similar to snails and slugs.