

## Definition

A minibeast is a small animal without a spine. The scientific name for an animal without a spine is invertebrate. To protect their soft bodies, some minibeasts have developed a hard, outer shell. This is called an exoskeleton.

## Habitats

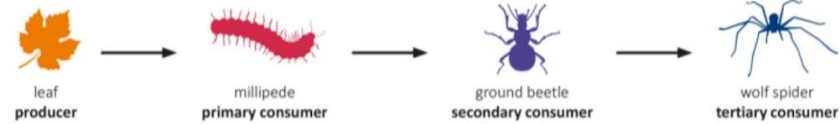
Minibeasts live in different habitats all over the world. Many minibeasts live in microhabitats, such as rock pools, bushes, under logs and among leaf litter. These microhabitats provide food, shelter and protection. Some minibeasts create their own homes. Bees create a honeycomb to store food and raise young. Wasps make nests from chewed wood and saliva.

## Protection

Many minibeasts have developed ways to protect themselves from predators. Some use warning colours, camouflage, mimicry or play dead. Others have developed stings, bites, sprays or give off an odour as a form of defence.

## Food chains and food webs

Food chains show where living things get their energy. Food chains start with a producer that makes its own food. Anything that eats another living thing is a consumer. A food web shows how several different food chains are interconnected.



## Monarch butterfly life cycle

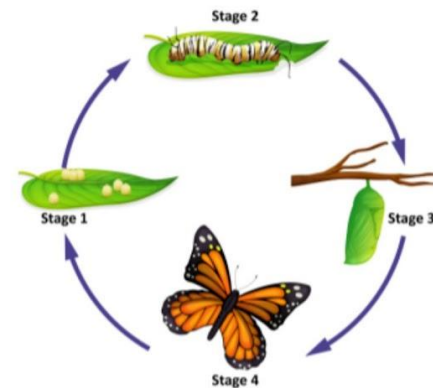
All living things have a life cycle. Some minibeasts have a life cycle called metamorphosis and experience complete transformations as they move from one stage to the next.

**Stage 1** The female butterfly lays hundreds of **eggs** at one time and uses a special 'glue' to stick them to a leaf. This takes around 3–5 days.

**Stage 2** Small **caterpillars** hatch from the eggs. Over the next 9–14 days, they eat an enormous amount of food, grow rapidly and shed their skin through a process called moulting.

**Stage 3** The caterpillar transforms into a **pupa** called a chrysalis. The pupa is covered in a hard case. Over the next 8–15 days, the caterpillar's body transforms into a butterfly inside the pupa.

**Stage 4** The **butterfly** emerges from the pupa and allows its wings to dry. After a few hours, the butterfly is ready to fly. It lives for between two and five weeks.

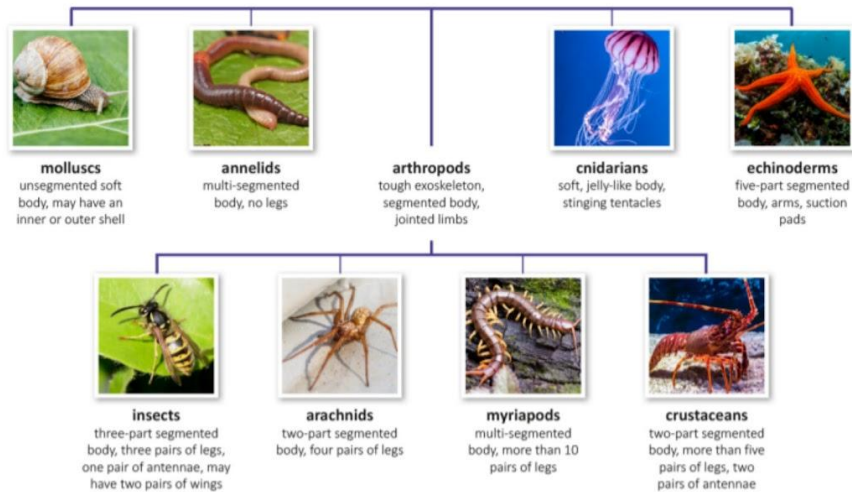


## Key Vocabulary

<b>antennae</b>	A pair of long, thin sensors attached to the head of an arthropod.
<b>camouflage</b>	Ability to blend in with surroundings.
<b>consumer</b>	A person or animal that eats something in a food chain.
<b>exoskeleton</b>	A hard outer layer that supports and protects an animal's body.
<b>habitat</b>	The environment where an animal lives.
<b>invertebrate</b>	An animal with no spine.
<b>metamorphosis</b>	A process by which an animal's body changes structure.
<b>mandible</b>	A mouth part that grasps and cuts.
<b>microhabitat</b>	A smaller place or environment where a living thing lives.
<b>mimicry</b>	The ability to copy something else.
<b>moult</b>	To lose skin, feathers or hair as part of a natural change or growth.
<b>organism</b>	A living thing such as a plant, animal, bacteria or virus.
<b>predator</b>	An animal that kills and eats other animals.
<b>producer</b>	A living thing that can make its own food using energy from the Sun.
<b>segment</b>	A part of an insect's body.
<b>venom</b>	A poisonous substance that animals use to injure, paralyse or kill their prey.

## Classifying invertebrates

There are thousands of invertebrate species all over the world that come in a variety of shapes, sizes and colours.



The **ladybird** is harmless but its colours act as a warning to predators.



The **peppered moth** uses camouflage to blend into the background.



The spots on a **peacock butterfly** mimic the eyes of a larger animal.