## Living and Non-Living Things: Invertebrate Hunt

### **Australian Curriculum**

This lesson plan could be used to support the teaching and learning of the following content descriptions from the Australian Curriculum.

### Year 3: Science: Science Understanding, Biological Sciences

Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (AC9S3U01)

### Year 3: Science: Science as a Human Endeavour, Nature and Development of Science

Examine how people use data to develop scientific explanations (AC9S3H01)

### Year 3: Science: Science Inquiry Skills, Communicating

Write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate (AC9S3I06)

To use a classification key and resources to identify invertebrates.

### **Key/New Words:**

Abdomen, annelids, antenna, arachnids, arthropods, crustaceans, echinoderms, insects, invertebrate, mandible, molluscs, myriapods, proboscis, prolegs, segmented, specimen, thorax, wing case.

### **Success Criteria:**

I can answer the questions in a key by looking closely at invertebrates.

I can use a key to name the invertebrates I have found.

I can identify invertebrates by looking at their characteristics.

invertehrates

### Preparation:

**Invertebrates Classification Key - one** per pair

**Invertebrate Hunt Activity Sheet - one** per child

**Invertebrate Identification Activity** Sheet - one per child

**Invertebrates Classification Word Mat** - as required

Make preparations for a visit to a suitable natural environment in the school grounds or a suitable

### Resources: **Lesson Pack**

Tablet, laptops or computers

Invertebrate information books

Magnifying glasses

Clipboards

Items for capturing and carrying invertebrates e.g. paint brushes, plastic spoons, plastic pots with lids

Hand sanitiser

Prior Learning: Children may have completed lessons 1-3 of the Year 3 Living and Non-Living Things unit.

### Learning Sequence



Classifying Invertebrates: Read the information on the Lesson Presentation to explain the different classifications of invertebrates. Explore some examples of different invertebrate groups such as arthropods, which include: insects, myriapods, crustaceans and arachnids. Children will also explore annelids, protozoa, molluscs and echinoderms.



Invertebrates in the Local Environment: With a partner, children consider the kinds of invertebrates that they may find in the local habitat, where they might be found, and how to handle them if appropriate.



Can children name some types of invertebrates they may find in their local environment?



Invertebrate Hunt: Children work in pairs in the local environment to find, identify and name invertebrates using the Invertebrates Classification Key. Each child records the invertebrates they have found on the Invertebrates Hunt Activity Sheet. Support each pair to carefully capture an invertebrate specimen to take back to class for further study. Ensure children follow safety measures when working outside and with





**Identifying Invertebrates**: After carefully examining their invertebrate, children individually complete the **Invertebrate Identification Activity Sheet** by drawing a labelled diagram, writing the invertebrate's name, and describing the characteristics that they have used in identification.



Can children identify invertebrates by looking at their characteristics?



Children name their invertebrate, then draw and label their invertebrate using the Invertebrates Classification Word Mat for support.



Children draw a labelled diagram of the invertebrate they have found. They include the invertebrate's name, characteristics and key features and the habitat in which it was found.



Children draw a labelled diagram of the invertebrate they have found. They include the invertebrate's name, characteristics and key features and the habitat in which it was found. Children then can research their invertebrate using a tablet or laptop and find out any interesting facts to add to their identification sheet.





**How Do You Know?** Children use their labelled diagram of an invertebrate and the **Invertebrate Classification Key** to demonstrate to a partner how they have identified their specimen by looking at its characteristics.



Factfileit: Did you find any invertebrates that were not on the key? Research what they were in information books or on the Internet and fill in the Invertebrate Fact File.

Sortitit: Use these Invertebrate Sorting Cards to sort common invertebrates into their groups.

## Living and Non-Living Things: Invertebrate Hunt

### **NSW Curriculum**

This lesson plan could be used to support the teaching and learning of the following outcomes from the NSW Curriculum.

### Year 3: Science: Living World

Compares features and characteristics of living and non-living things (ST2-4LW-S)

Questions, plans and conducts scientific investigations, collects and summarises data and communicates using scientific representations (ST2-1WS-S)

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### **Key/New Words:**

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Make preparations for a visit to a suitable natural environment in the school grounds or a suitable

### Resources:

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Invertebrate information books

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Items for capturing and carrying invertebrates e.g. paint brushes, plastic spoons, plastic pots with lids

Hand sanitiser

Prior Learning: Children may have completed lessons 1-3 of the Year 3 Living and Non-Living Things unit.

### Learning Sequence

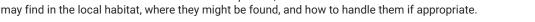


Classifying Invertebrates: Read the information on the Lesson Presentation to explain the different classifications of invertebrates. Explore some examples of different invertebrate groups such as arthropods, which include: insects, myriapods, crustaceans and arachnids. Children will also explore annelids, protozoa, molluscs and echinoderms.





Invertebrates in the Local Environment: With a partner, children consider the kinds of invertebrates that they





Can children name some types of invertebrates they may find in their local environment?



Invertebrate Hunt: Children work in pairs in the local environment to find, identify and name invertebrates using the Invertebrates Classification Key. Each child records the invertebrates they have found on the Invertebrates Hunt Activity Sheet. Support each pair to carefully capture an invertebrate specimen to take back to class for further study. Ensure children follow safety measures when working outside and with invertebrates.



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### **Explore**it

Factfileit: Did you find any invertebrates that were not on the key? Research what they were in information books or on the Internet and fill in the Invertebrate Fact File.

Sortit: Use these <u>Invertebrate Sorting Cards</u> to sort common invertebrates into their groups.

## Living and Non-Living Things: Invertebrate Hunt

### **VIC Curriculum**

This lesson plan could be used to support the teaching and learning of the following content description from the VIC Curriculum.

### Year 3: Science: Science Understanding, Biological Sciences

Living things can be grouped on the basis of observable features and can be distinguished from non-living things (VCSSU057)

### Year 3: Science: Science Inquiry Skills, Communicating

Represent and communicate observations, ideas and findings to show patterns and relationships using formal and informal scientific language (VCSIS072)

### Aim:

To use a classification key and resources to identify invertebrates.

### Key/New Words:

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### **Success Criteria:**

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### Resources:

**Lesson Pack** 

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Hand sanitiser

Prior Learning: Children may have completed lessons 1-3 of the Year 3 Living and Non-Living Things unit.

### **Learning Sequence**



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## Disclaimer/s

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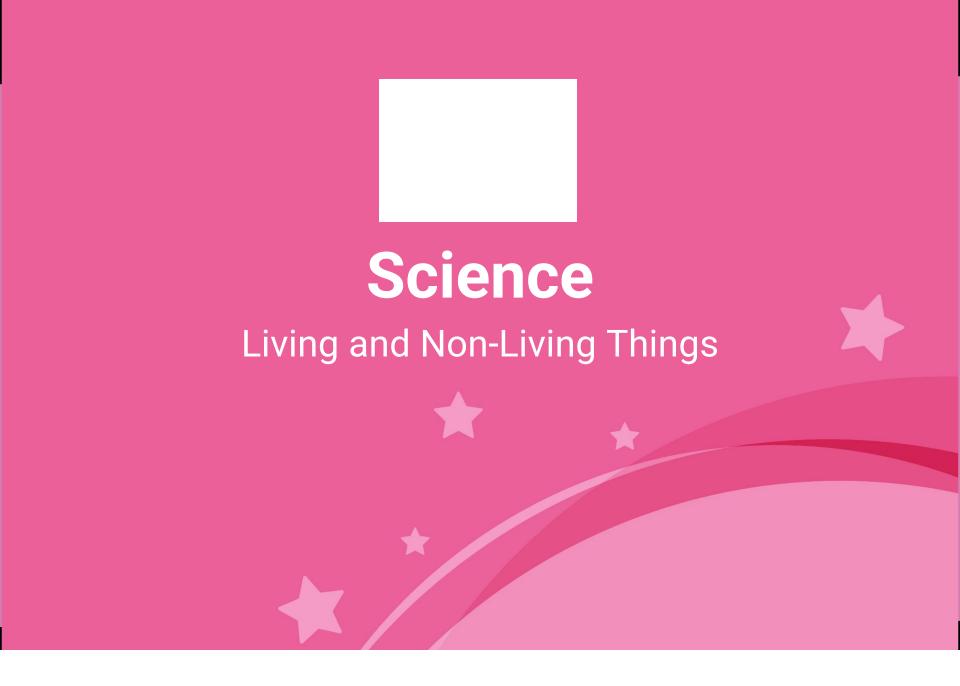
### **Animations**

This resource has been designed with animations to make it as fun and engaging as possible. To view the content in the correct formatting, please view the PowerPoint in 'slide show mode'. This takes you from desktop to presentation mode. If you view the slides out of 'slide show mode', you may find that some of the text and images overlap each other and/or are difficult to read.

To enter slide show mode, go to the **slide show menu tab** and select either **from beginning or from current slide**.

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# Invertebrate Hunt

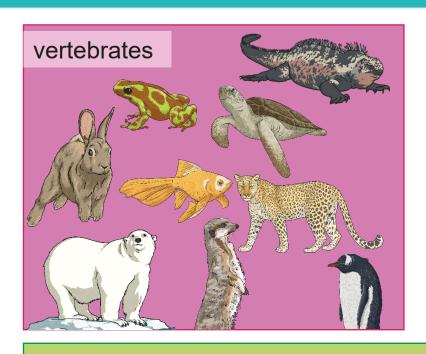
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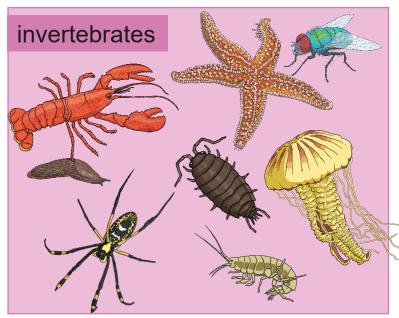
## Aim

To use a classification key and resources to identify invertebrates.

## **Success Criteria**

- I can answer the questions in a key by looking closely at invertebrates.
- I can use a key to name the invertebrates I have found.
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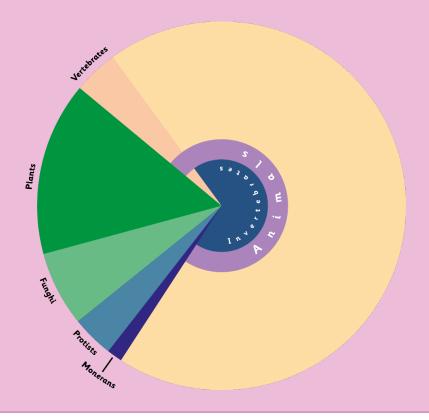


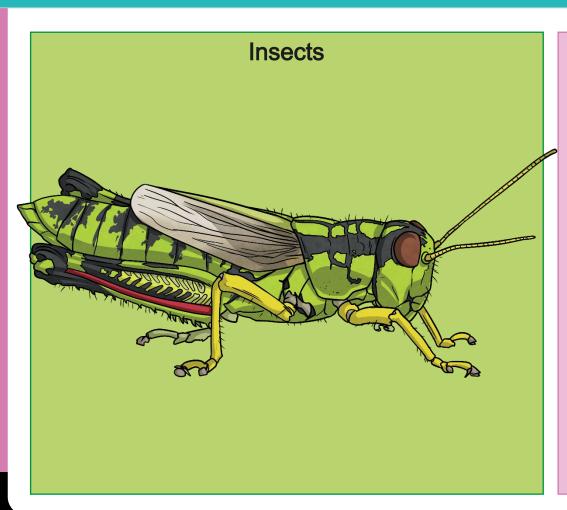
When looking at animals, scientists usually split them into two groups: vertebrates (animals with a backbone) and invertebrates (animals without a backbone).

Invertebrates do not have a backbone, or a skeleton made of bones. Many have a hard shell outside their bodies to protect them. Others have soft, flexible bodies.



Of all the living organisms on earth, scientists estimate that 97% of animals are invertebrates.





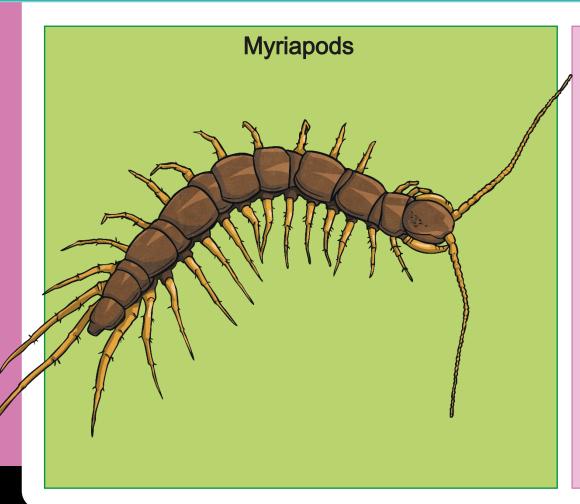
There are over 900 000 different types of insects.

They have an exoskeleton covering their body.

The body consists of three parts: the head, thorax and abdomen.

They must shed their exoskeleton in order to grow.

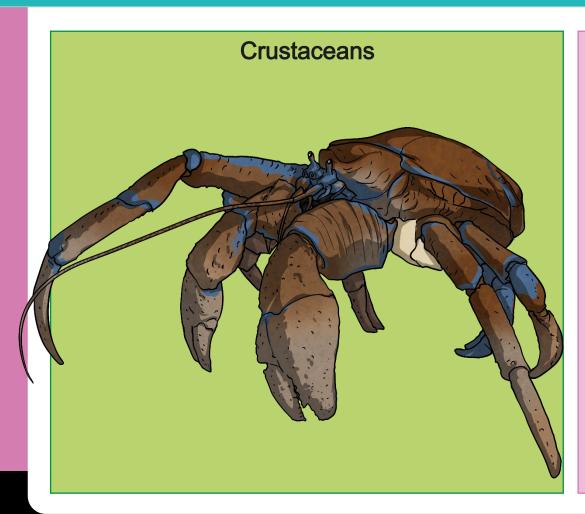
They have a pair of antennae on their head.



Myriapods are a type of arthropod. They have two body sections: the head and trunk.

They have many legs and one pair of antennae.

The most common myriapods are centipedes and millipedes.

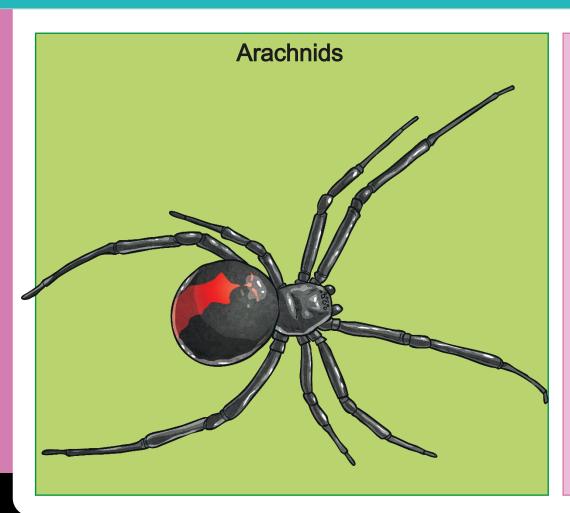


Crustaceans have a hard, external shell that protects their body.

The most common crustaceans are the crab, lobster and barnacle. However, slaters are also crustaceans.

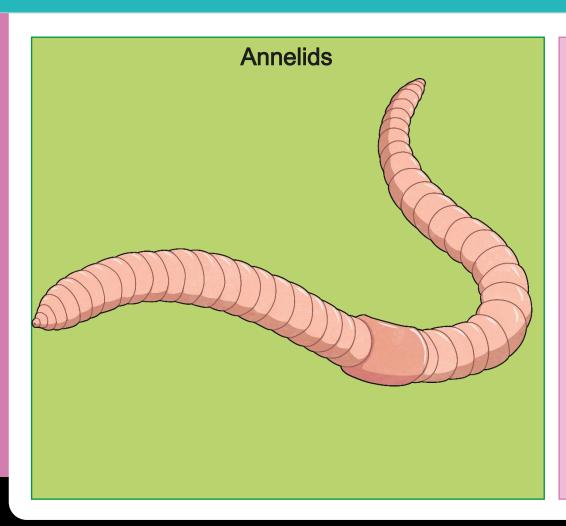
They live mostly in the ocean or other waters, but some live on the land.

They have a head and abdomen. Many have claws that help with crawling and eating.



Arachnids are another type of arthropod. Most arachnids have four pairs of legs. The first pair of legs may be used for holding their prey and feeding.

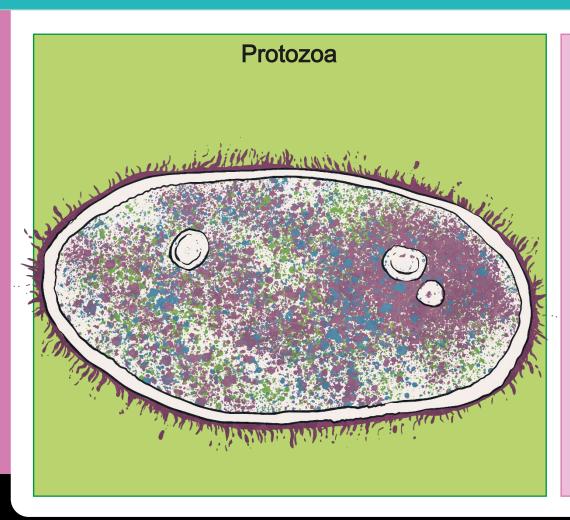
Common arachnids are spiders, scorpions, ticks and mites. They have a hard exoskeleton and jointed legs for walking. Arachnids do not have antennae.



Annelids have existed for over 120 million years.
There are over 9000 species, including worms and leeches.

They have bodies divided into segments and they don't have any limbs.

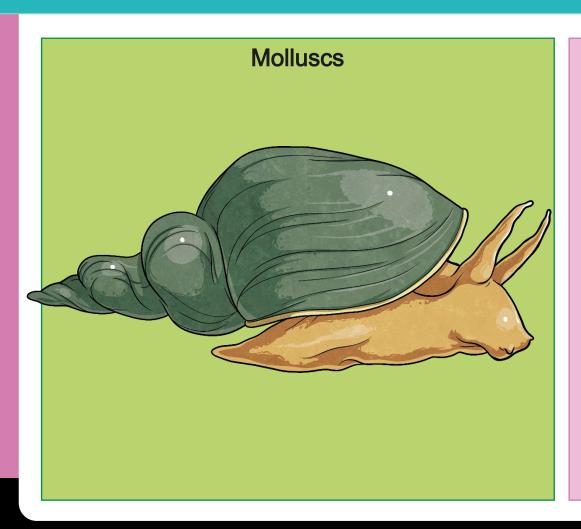
Some have long bristles; others have shorter bristles and seem smooth.



Protozoa are simple, single-celled animals that can only be seen under a microscope.

They eat tiny algae and bacteria and are a source of food for fish and other animals.

Protozoa reproduce by splitting in half.

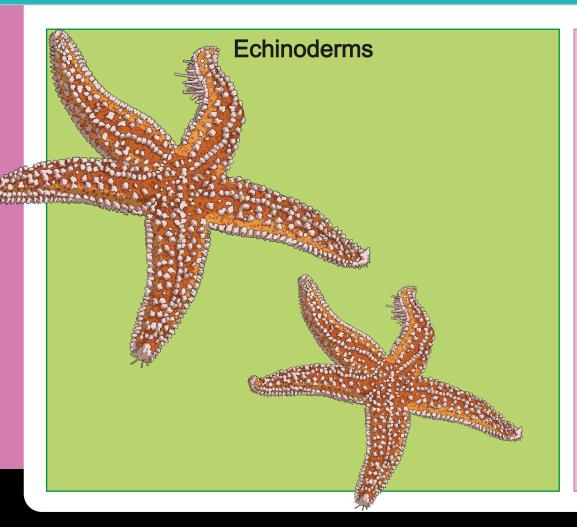


Molluscs were among the first inhabitants of the Earth. They live almost everywhere - such as the rockpool, in freshwater habitats and even in your garden.

Most have a soft, skin-like organ covered with a hard outside shell.

Land molluscs move slowly on a flat sole called a foot.

Ocean molluscs attach themselves to rocks or other surfaces and can't move.



Echinoderms are marine animals that live in the ocean.

Common echinoderms include the sea star, sea urchin and sea cucumber.

They have arms or spines that radiate from the centre of their body.

The central body contains their organs and their mouth for feeding.

The mouth is underneath, to eat other sea life.

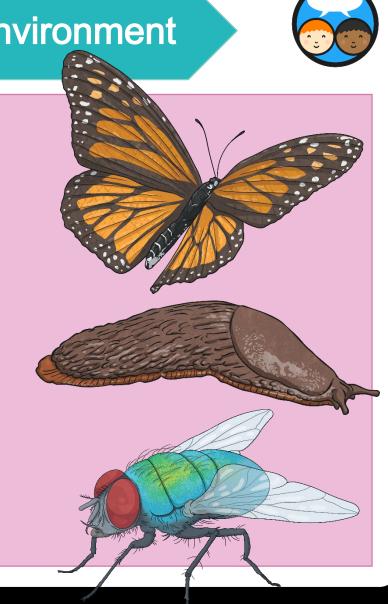
## Invertebrates in the Local Environment

A specimen is a particular plant or animal that scientists study to find out about its species.

We are going to look for specimens of invertebrates in the local environment.

What kinds of invertebrate do you expect to find?

Are there any invertebrates that won't appear in the local habitat?

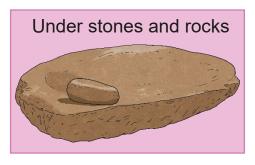


## Invertebrates in the Local Environment

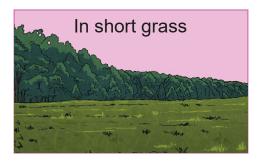


Invertebrates often inhabit small homes called microhabitats.

Here are some different microhabitats you might find.

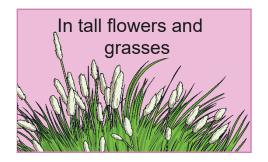












## Invertebrates in the Local Environment



We need to remember when exploring our environment to find invertebrates that they are so small and delicate and some can be dangerous.

We must be very careful not to hurt them or ourselves.

How can we observe and capture specimens without causing them or us any harm?

If you find an invertebrate that isn't safe to collect, you can use a tablet or camera to take a photo of the invertebrate.



## **Invertebrate Hunt**



With your partner, find, identify and name invertebrates, using your activity sheet.

Each pair may carefully capture an invertebrate specimen to bring back to class for further study.

Inve	ertebrate F	lunt	
			uick sketch of it in the
centipede	earwig	beetle	ant
spider	harvestman	slug	snail
larvae	slater	0	0
	spider	spider harvestman	spider

# Identifying Invertebrates



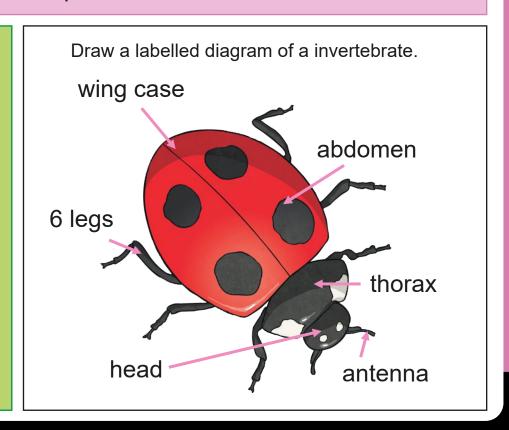
Now it is time to identify the invertebrate specimen you have collected. See the example below:

Name of the invertebrate: Ladybird

Habitat where it was found : leaf litter

Characteristics: This invertebrate has six legs, a body in three parts and a hard wing case with spots. It has an antenna.

**Hint**: To find out the characteristics of your specimen, look at the Invertebrates Classification Key or invertebrate information texts to help you.

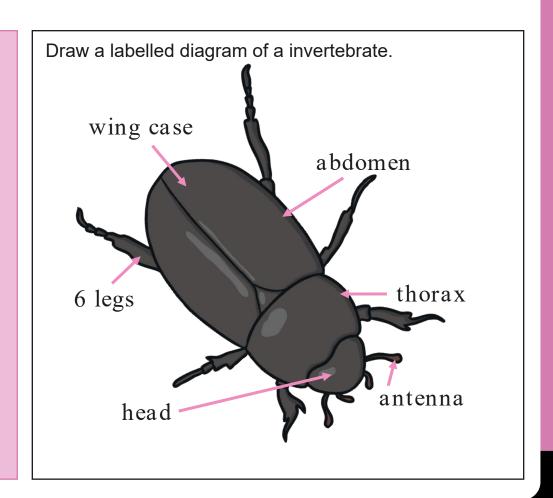


## How Do You Know?



How did you identify your specimen?

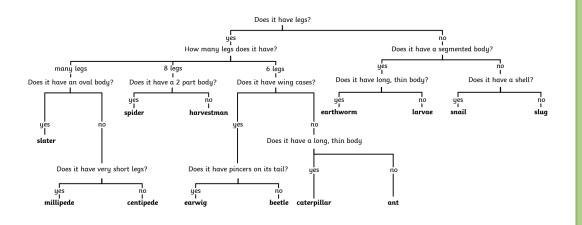
Use the Invertebrate
Identification Key and the
diagram of your specimen to
show your partner how you
found out what your
invertebrate is called.



## How Do You Know?







## Aim

To use a classification key and resources to identify invertebrates.

## **Success Criteria**

- I can answer the questions in a key by looking closely at invertebrates.
- I can use a key to name the invertebrates I have found.
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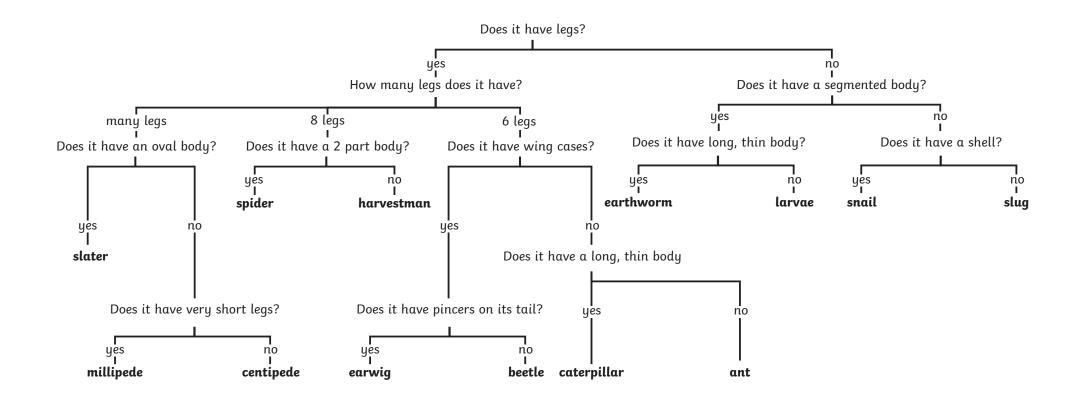
Aim: To use a classification key and evidence to identify invertebrates.			Date:						
				Delive	red By:		Suppo	ort:	
Success Criteria	Ме	Friend	Teacher	Т	LS	s	1	AL	GP
I can answer the questions in a key by looking closely at invertebrates.				Notes	/Evidend	æ			
I can use a key to name the invertebrates I have found.									
I can identify invertebrates by looking at their characteristics.									
Next Steps				•					
•									
•									
		_							
			Teacher					ependent	

Т	Teacher	1	Independent
LS	Learning Support	AL	Adult Led
S	Supply	GP	Guided Practice

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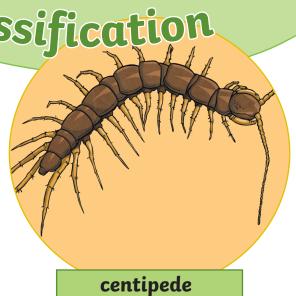
Т	Teacher	I	Independent
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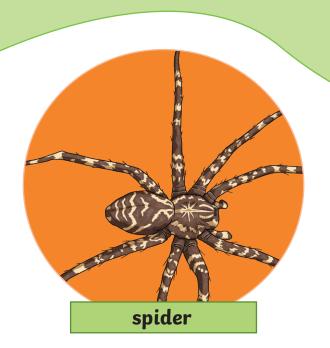
# Invertebrates Classification Key

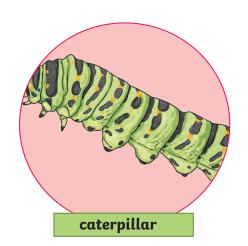


Invertebrate Classification

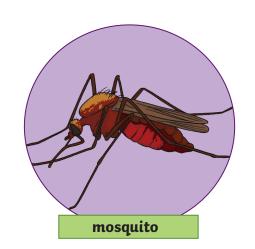


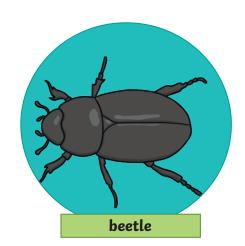












## Invertebrate Fact File

Invertebrate name	
Habitat	_
	-
Physical characteristics	-
	-
	-
	- _
Interesting facts	

## Invertebrate Hunt

When you find an invertebrate, use the Invertebrate Classification Key to find out what it is. Tick it off and draw a quick sketch of it in the box below.

millipede	centipede	earwig	beetle	ant	$\bigcirc$
caterpillar	spider	harvestman	slug	snail	$\bigcirc$
worm	larvae	slater			

To use a classification key and resources to identify invertebrates.		
Draw a labelled diagram of the invertebrate.	Name of invertebrate:	
	Habitat in which it was found:	
	Characteristics:	

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I can identify invertebrates by looking at their characteristics.	I can identify invertebrates by looking at their characteristics.
Living and Non-Living Things   Invertebrate Hunt	Living and Non-Living Things   Invertebrate Hunt
To use a classification key and evidence to identify invertebrates.	To use a classification key and evidence to identify invertebrates.
I can answer the questions in a key by looking closely at invertebrates.	I can answer the questions in a key by looking closely at invertebrates.
I can use a key to name the invertebrates I have found.	I can use a key to name the invertebrates I have found.
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