

CUSP Science

Year 2
Biology
Living things and their habitats

Lesson 1

Learning question

What is alive and what is not alive?

↪ Connect

Animals need food and water to live.

Based on the food it eats, match each example to the type of animal it is.

This is a squirrel. It eats seeds, plant shoots, insects and birds' eggs.



carnivore

This is a bee. It eats pollen and nectar.



omnivore

This is a barn owl. It eats mice and other small animals.



herbivore



Vocabulary

Read, hear, say



Define



Apply



Connect



Analyse



A feature of living things is *reproduction*.

Reproduction. That is an interesting word. I want to understand what it means.

re-pro-duc-tion – reproduction

Reproduction is the process of making new life.

My report is on the reproduction of frogs.

Reproduction is a word I might use when talking about animals giving birth to offspring.
In the office, reproduction is a word used when making copies on the photocopier.

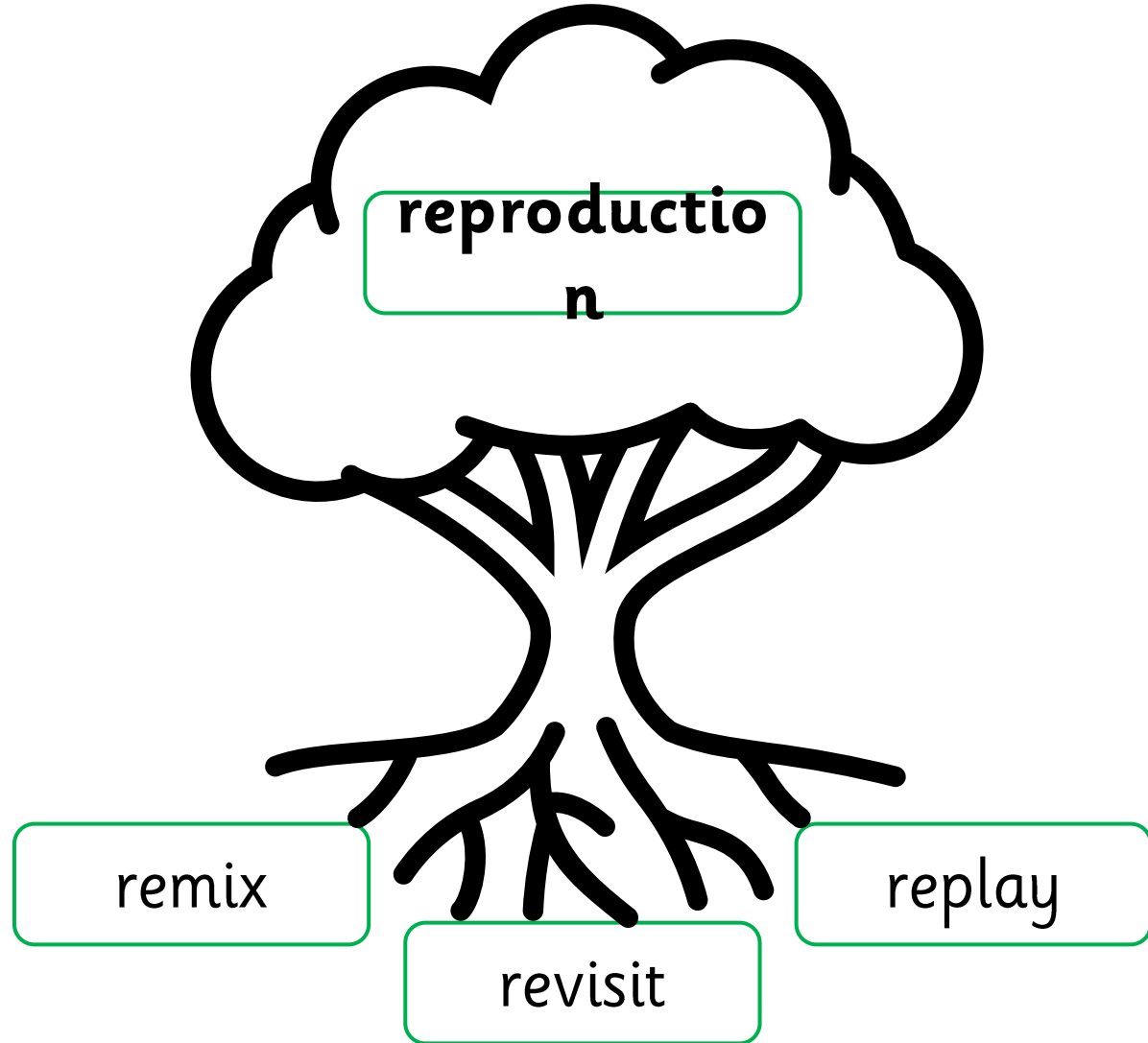
I know that *re-* means again.



Vocabulary

The prefix *re-* means again.

How does this help me understand the meaning of replay, revisit and remix.





Explain

All living things can carry out these seven processes, which is how we know that they are alive. For example:

- **movement** – A flower can turn to face the sun.
- 🐾 **respiration** – Animals release energy from their food by respiration.
-))) **sensitivity** – Living things can sense changes to their environment and respond to them.

Explain

 **growth** – excess energy is used to grow

 **reproduction** – making new life

 **excretion** – produce waste that needs to be removed

 **nutrition** – need food for energy and nutrients

We can remember these features of all living things with the name **Mrs Gren**, as the first letter of each process makes up this name.

Explain

Non-living things

- These can be things that were once living or things that have never been alive.
- They do not need food or water or air. They cannot reproduce or sense the environment around them or move on their own.












Example

Let's look at how these processes appear in plants.



-  movement
-  respiration
-  sensitivity
-  growth
-  reproduction
-  excretion
-  nutrition








Just like animals, all plants are also living things.



Attempt

Alive or not?










-  movement
-  respiration
-  sensitivity
-  growth
-  reproduction
-  excretion
-  nutrition

Apply

Which of these oranges are alive, are dead or have never been alive?



-  movement
-  respiration
-  sensitivity
-  growth
-  reproduction
-  excretion
-  nutrition



Challenge

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.








Lesson 2

Learning question

What do all living things have in common?

↪ Connect

Who do you agree with? Explain your reasons.

-  movement
-  respiration
-  sensitivity
-  growth
-  reproduction
-  excretion
-  nutrition



A stone is not alive but it was once because it is not man-made.



A stone has never been alive.



Vocabulary

Read, hear, say



Define



Apply



Connect



Analyse



What do all living things have in *common*?

Common. That is an interesting word. I want to understand what it means.

com-mon – common

Common means shared by or happening often.

Mum and I have a common love of fishing.

Common is a word I can use when describing things that share the same qualities. I might also use common when describing something that happens or is found often.

I know that the prefix *co-* means together or joint. This helps me understand the meaning of common and other words like copilot and cooperate.



Vocabulary

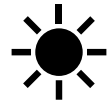
Complete the table.

<p><u>Define</u></p> <p>Common means shared by or happening often.</p>	<p><u>Use</u></p>
<p><u>Connect</u></p>	<p><u>Analyse</u></p> <p>I know that the prefix <i>co-</i> means together or joint</p>

common

Explain

To stay alive, living things need certain conditions so that they can carry out the seven life processes.



Plants need sunlight, air (carbon dioxide), water and space to live.



Animals need food, air (oxygen), water, space and shelter to live.



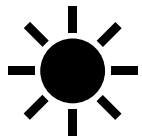
Example

This plant can



.

It needs



to live.



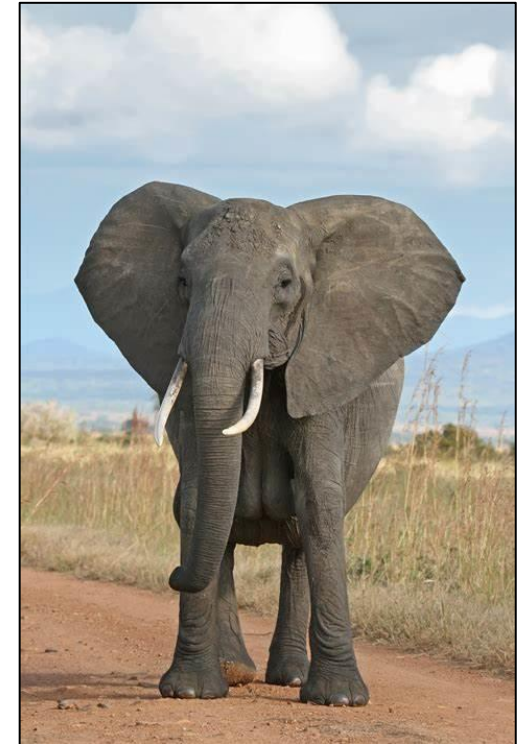


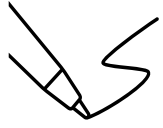
Attempt

What is missing in these sentences?

This animal can     .

It needs   to live.





Apply

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.



Challenge

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.

Lesson 3

Learning question

Where do plants and animals live?

↪ Connect

Look carefully at these objects.

What are they? What are they used for?





Vocabulary

Elephants are dying due to a loss of *habitat*.

Habitat. That is an interesting word. I want to understand what it means.

hab-i-tat – habitat

A habitat is where a living thing makes its home.

The fallen branches provide a valuable habitat for wildlife.

Habitat is a word I use when referring to a place where a particular type of animal or plant is normally found.

The word habitat comes from the Latin word *habitare* which means it dwells.

Read, hear, say



Define



Apply



Connect



Analyse





Vocabulary

Connect pairs of words.

bee

pond

parrot

jungle

hive

frog

Challenge: explain the connections that you made.

Explain

A habitat is the natural environment or home of a variety of plants and animals.

It is where the animals or plants live and where they can find what they need to stay alive.



desert



mountain



ocean



woodland

A microhabitat is a very small area which is different in some way from the surrounding habitat. For example, logs in woodland may provide a habitat for woodlice.





Example

This is a **woodland habitat**.

It is home to trees like the oak, beech or ash.

It is home to shrubs and grasses.

These provide homes for insects and worms and snails.

It is also home to mice, squirrels, badgers, foxes and deer.



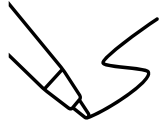


Attempt

This is a **pond habitat**.

What plants and animals live here?





Apply

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.



Challenge

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.

Lesson 4

Learning question

What plants and animals live in our local environment?

↪ Connect

Circle something that is living, is dead and was never alive.
Explain how you know.





Vocabulary

What plants and animals live in our *local* environment?

Local. That is an interesting word. I want to understand what it means.

lo-cal – local

Local means existing in or belonging to the area where you live.

The local park is a great place to meet my friends.

Local is a word I would use when I am talking about things in my neighbourhood.

The root word *loc* comes from Latin and means place.

Read, hear, say



Define



Apply



Connect



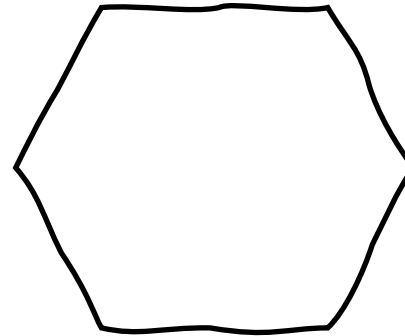
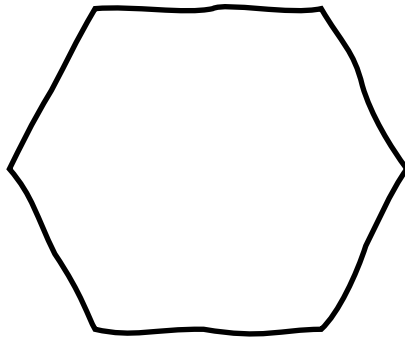
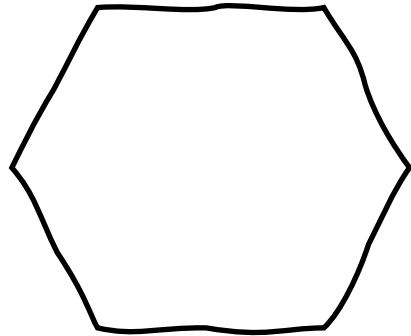
Analyse





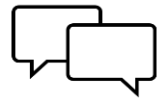
Vocabulary

observe



identify

Connect the two words above by building a 'pathway' of other words.



Explain

Observing things closely is an important scientific skill.

Observing carefully helps us to notice things that are unusual, similar and different. With careful observation we can identify plants and animals.



Example

By observing closely, I can see ...

- a triangular head
- antennae
- wings
- legs.

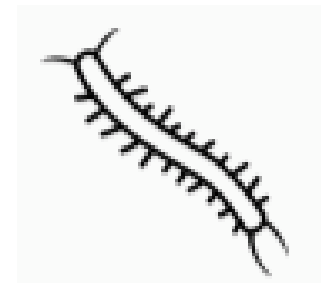
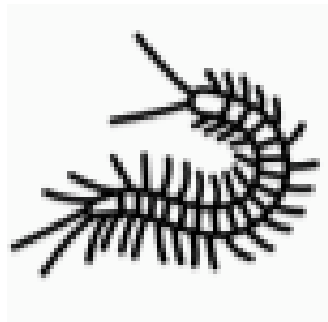
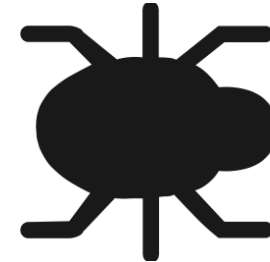
This must be a praying mantis.

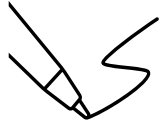




Attempt

Find a microhabitat in the school grounds where you may be able to find, observe and identify some of these animals.





Apply

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.



Challenge

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.

Lesson 5

Learning questions

What are food chains?

How are they connected?

↪ Connect

Sort the images under the correct headings.

Habitat	Microhabitat



desert



grass



ocean



log



forest



leaf litter



Vocabulary

Read, hear, say



Animals are consumers.

Consumers. That is an interesting word. I want to understand what it means.

con-sum-ers – consumers

Define



Consumers are organisms that eat plants and / or other animals for energy.
Consumers can also mean people who buy things for personal use.

Apply



Animals are consumers because they consume their food by eating plants and / or other animals.

Connect



I would use this word when talking about food chains.
I could also use this word when talking about shopping and customers.


Analyse

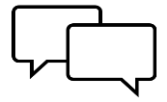


The word consumer comes from the Latin word *consumere* which means to use up or eat.



Vocabulary

KNOW-it	Define 
Tick one. The word <i>consume</i> means:	
<input type="checkbox"/> to grow and be strong	
<input type="checkbox"/> to eat, drink or use up	
True or false?	
The word <i>respiration</i> means to release energy from food.	
What does the word <i>excretion</i> mean?	

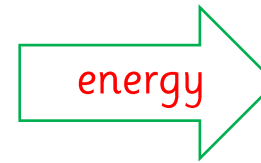
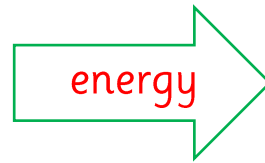


Explain

- Living things need food for energy to carry out the processes of life.
- Plants make their own food.
- Animals are not able to make their own food.
- A food chain shows the feeding relationships between living things.
- It also shows the order in which energy is transferred between the living things within it.



Example



producer: an organism that makes its own food

prey: an animal that is hunted and eaten by another animal

predator: an animal that kills and eats other animals

consumers



Attempt

Label the producer, prey and predator in this photograph.

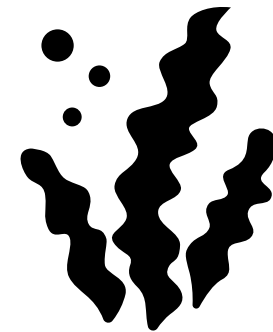
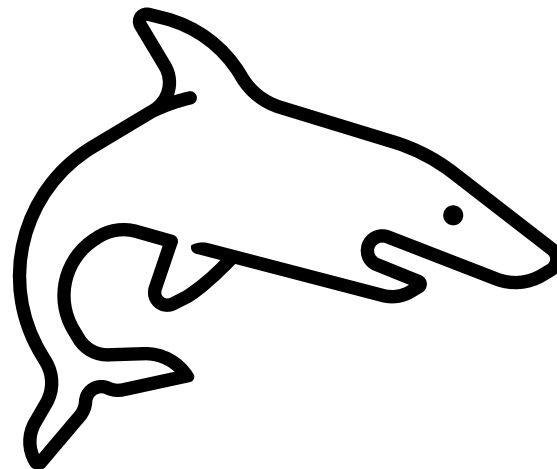
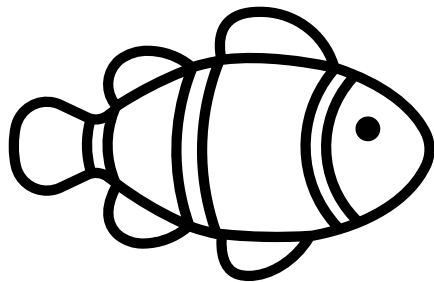


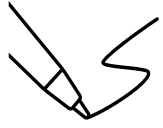


Attempt

The seaweed provides energy for the fish. The fish provides energy for the shark.

Place these living things in a food chain, using arrows to show the direction the food energy travels.





Apply

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.



Challenge

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.

Lesson 6

Learning question

Why do plants and animals need each other?

↪ Connect

Do you agree or disagree with the statement below?
Explain your answer.

A frog can be both a predator and prey.





Vocabulary

I can always *depend* on my friends to help me.

Depend. That is an interesting word. I want to understand what it means.

de-pend – depend

Depend means to rely on something or someone.

My friends can depend on me.

Children depend on their parents.

Read, hear, say



Define



Apply




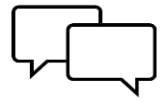
Connect





Vocabulary

USE-it	Use in context 
<p>Tick the sentence that uses the word <i>producer</i> correctly.</p> <ul style="list-style-type: none"><input type="checkbox"/> A <i>producer</i> makes its own food.<input type="checkbox"/> Grass is <i>producer</i> than rabbits.	
<p>Write a word in the gap that will complete this sentence correctly.</p> <p>To _____ means to grow and be strong.</p>	
<p>Use the word <i>depend</i> correctly in a sentence.</p>	



Explain

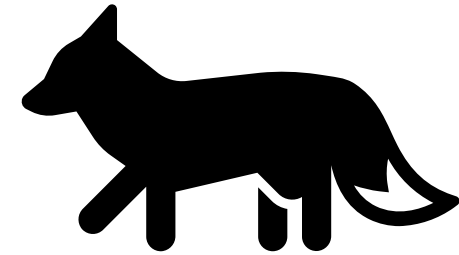
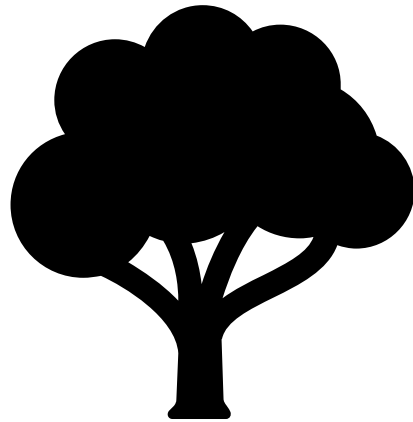
Within a habitat, all the plants and animals depend on one another.

If the habitat is healthy, the plants and animals will thrive.





Example



The tree **depends** on animals to spread its seeds.

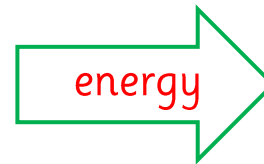
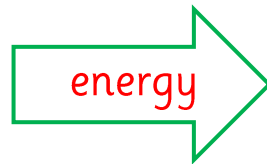
The woodpecker **depends** on the tree for nuts and a home.

The fox **depends** on energy provided by the woodpecker.

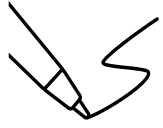


Attempt

A change to one part of the food chain in a habitat will affect the other parts of the food chain.



If the number of foxes decreased, the number of rabbits would increase. What would happen to the grass?



Apply

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.



Challenge

Teachers: select a task from the Thinking Tasks suitable for your cohort and context.