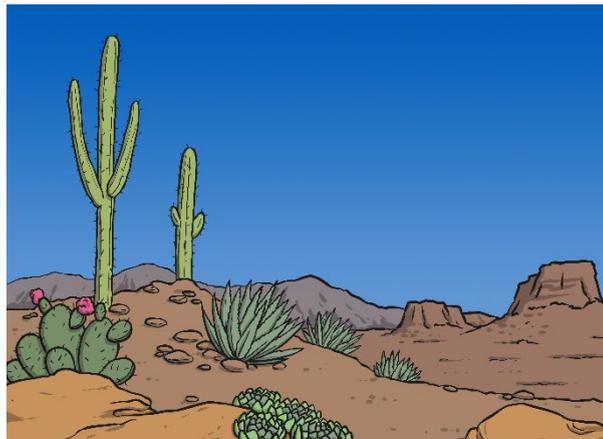
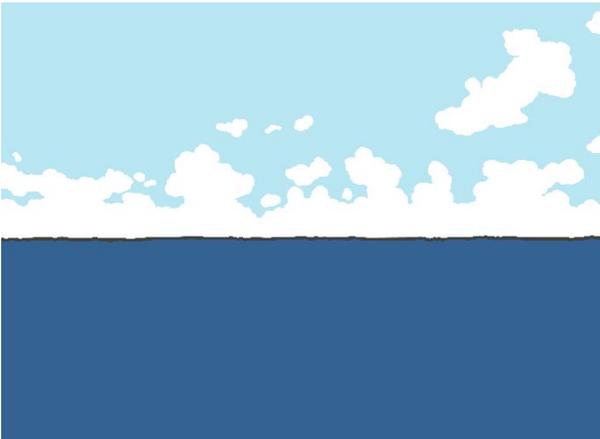
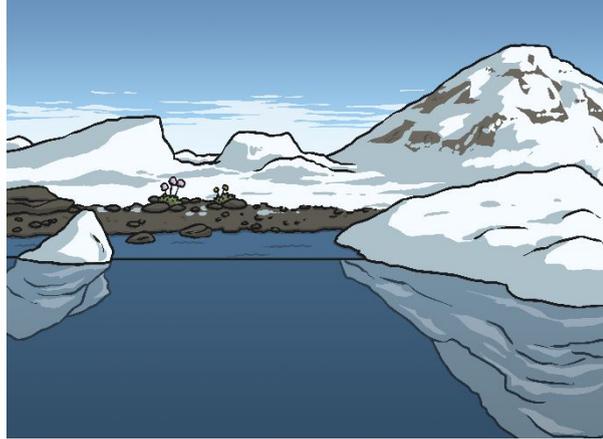


Our Changing World: Habitats



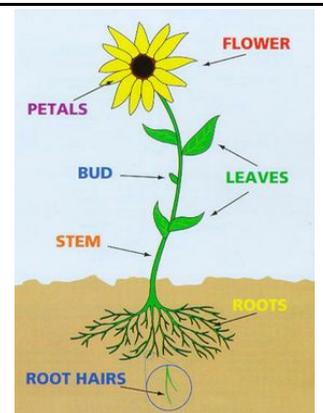
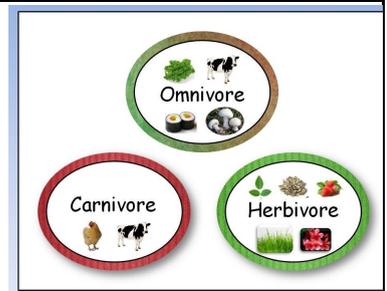
Year 2 - Summer 1

Name: _____

Class: _____

Year 2 Science Knowledge Organiser - Summer 1 - Our Changing World: Habitats

| | | |
|-----------|-------------------------|---|
| 1 | Habitat | The natural environment in which an animal or plant usually lives. |
| 2 | Plants | A large group of living things that use sunlight to make their own food. |
| 3 | Animals | A large group of living things that feed themselves by eating plants or other animals. |
| 4 | Deciduous | A deciduous plant, bush or tree loses its leaves in autumn and grows new ones in the spring. |
| 5 | Evergreen | An evergreen plant, bush or tree has leaves for the whole year. |
| 6 | Coastal | There are lots of different types of coastal habitats including shallow sea water, dunes, beaches, rock pools and coves. |
| 7 | Forest/Woodlands | Forests and woodlands are places where there are mostly trees. They can be hot or cold. There are deciduous forests, coniferous forests and rainforests. |
| 8 | Marine | Marine is a word that describes oceans and seas, where the water is salty. Over 70% of the Earth's surface is covered with water and nearly all of that is seawater from oceans and seas. |
| 9 | Polar | Polar habitats are located at the very top and very bottom of the Earth. They are cold, windy and have a lot of snow and ice. |
| 10 | Living | Something or someone that is alive. |
| 11 | Once-Lived | Objects that used to be alive, but now are not. |
| 12 | Never-Lived | Something that has never been alive. |
| 13 | Decay | Something that is rotten or is rotting. |
| 14 | Rocks | Rock, or stone, is a hard material made up of one or more minerals. |
| 15 | Soil | Soil is the loose upper layer of the Earth's surface where plants grow. |
| 16 | Air | The invisible mixture of gases that surrounds the Earth that people and animals breathe. |
| 17 | Water | Water takes the form of rain, rivers, oceans and lakes and is required for most forms of life |
| 18 | Food Chain | The chain from a food source to the ultimate consumer. |
| 19 | Carnivore | An animal that eats meat only. |
| 20 | Herbivore | An animal that eats plants only. |
| 21 | Omnivore | An animal that eats both meat and plants. |
| 22 | Flower | The part of a plant that is often brightly coloured and has a scent. |
| 23 | Petals | Any of the usually bright coloured parts that together form most of the flower. |
| 24 | Stem | The stick-like central part of a plant that grows above the ground. |
| 25 | Leaf | One of the flat, usually green part of a plant that are joined one end to the stem. |
| 26 | Roots | The part of the plant that grows down into the earth to get water and food and holds the plant firm in the ground. |



LESSON ONE: Living, dead or never alive

Retrieval Practice

| What I already know about habitats. | Questions I still have about habitats. |
|-------------------------------------|--|
| • | • |
| • | • |
| • | • |
| • | • |

| Outcomes | Key Vocabulary |
|--|--|
| To explore and compare the differences between things that are living, dead, and things that have never been alive by thinking about life processes. To use their observations and ideas to suggest answers to questions by explaining how they know something is living, dead or has never been alive. | Life process, living, non-living, dead, never alive, movement, respiration, sensitivity, growth, reproduction, excretion, nutrition. |
| Knowledge needed | |
| It will be helpful if children have previously made detailed observations of animals and plants. | |

Everybody Reads

We are all alive! What do we do that lets us know we are alive?
All living things do certain things to stay alive.

These are called **life processes**.

Animals, including humans, do these things. Plants do too, although they do them in different ways.



We can remember these things by thinking about **Mrs Gren**.

Movement
Respiration
Sensitivity

Growth
Reproduction
Excretion
Nutrition



Movement

A hare runs to escape from danger.

A sunflower moves to turn its face towards the sun.

Respiration

Mammals breathe through their mouths and noses.

Plants take in and give out gases through their leaves.

Sensitivity

Animals use their senses to see, hear, taste, touch and smell the world around them.

Plants can also detect changes in the environment. This mimosa plant curls up when you touch it!

Growth

This ocean mola started life as an egg not much bigger than a full stop. It will grow to weigh about 1000 kg- this is the same size as a large bull!

Bamboo can grow up to 3cm every hour.

Reproduction

This wolf spider has her babies on her back.

Each seed contains a tiny miniature plant ready to grow.

Excretion

How do you get rid of waste products from your body?

Left over gases and water leave plants through their leaves.

Nutrition

Some animals eat plants, and some eat other animals. Bears eat both, like people!

Green plants make their own food using the energy from the sun.

Talk Task

Look at the pictures of the board (and on your sort cards) and discuss with your partner:

Which of these are living?

Which of these are non-living?

How do you know?

Write living on a whiteboard and non-living on another whiteboard to help you to sort the pictures.

Everybody Reads

Features of **living** things.

- Living things have life processes.
- They need food, water and air to stay alive.
- They can sense changes in the environment.
- They can move, grow and reproduce.



Features of **non-living** things.

- Non-living things can be things that were once living or part of a living thing, or they can be things that have never been alive.
- They do not need food, water or air.
- They cannot reproduce.

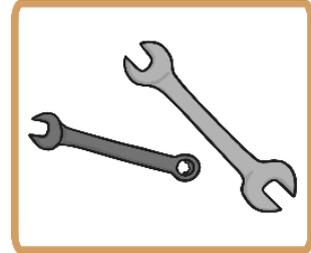
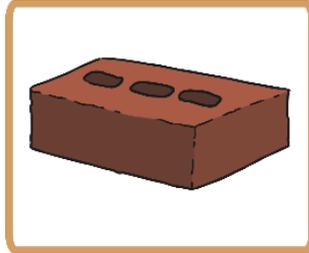
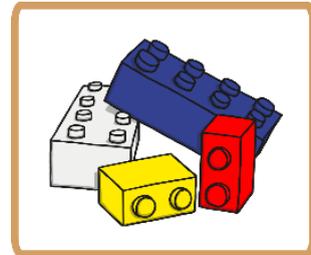
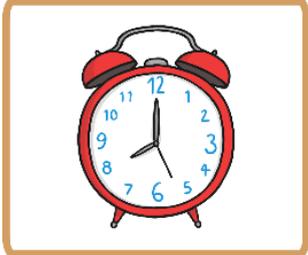


Dead or never alive?

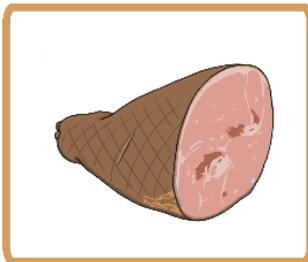
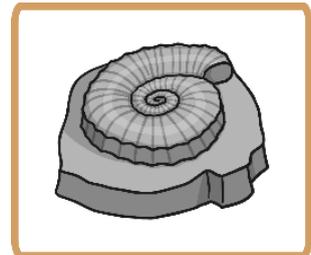
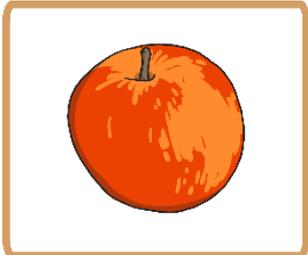
Many non-living things have never been alive but some of them were once part of a living plant or an animal.

Look at the board, which of these non living things are dead, and which were never alive? It may help to think of what the thing is made from.

Things made of materials like metal, rock, plastic, glass and sand have never been part of a living thing.



All of these things are non-living, but they used to be part of a living thing.



Talk task

How can you tell if something is alive, dead or never been alive?

Is this teapot living, dead or has it never been alive? How can you tell?



Is this bunny living, dead or has it never been alive? How can you tell?



Is this pinecone living, dead or has it never been alive? How can you tell?



Group Activity

Your group is going to be given an example of something that is living, something that is dead, and something that has never been alive. Classify your cards as living, dead or never alive and write reasons for your answers.

Group Names:

1. _____

2. _____

3. _____

4. _____

Draw your item:



Is it living, dead or has never been alive?
How can you tell? Give three reasons:

1. _____

2. _____

3. _____

Draw your item:



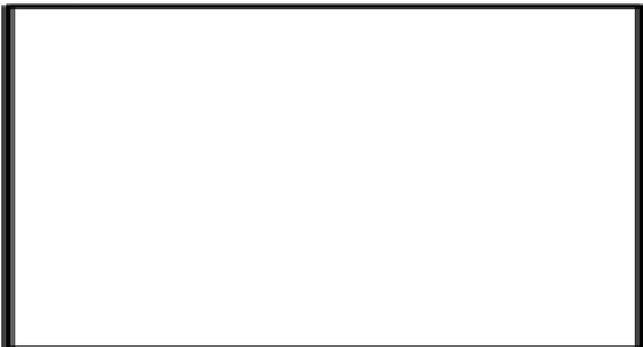
Is it living, dead or has never been alive?
How can you tell? Give three reasons:

1. _____

2. _____

3. _____

Draw your item:



Is it living, dead or has never been alive?
How can you tell? Give three reasons:

1. _____

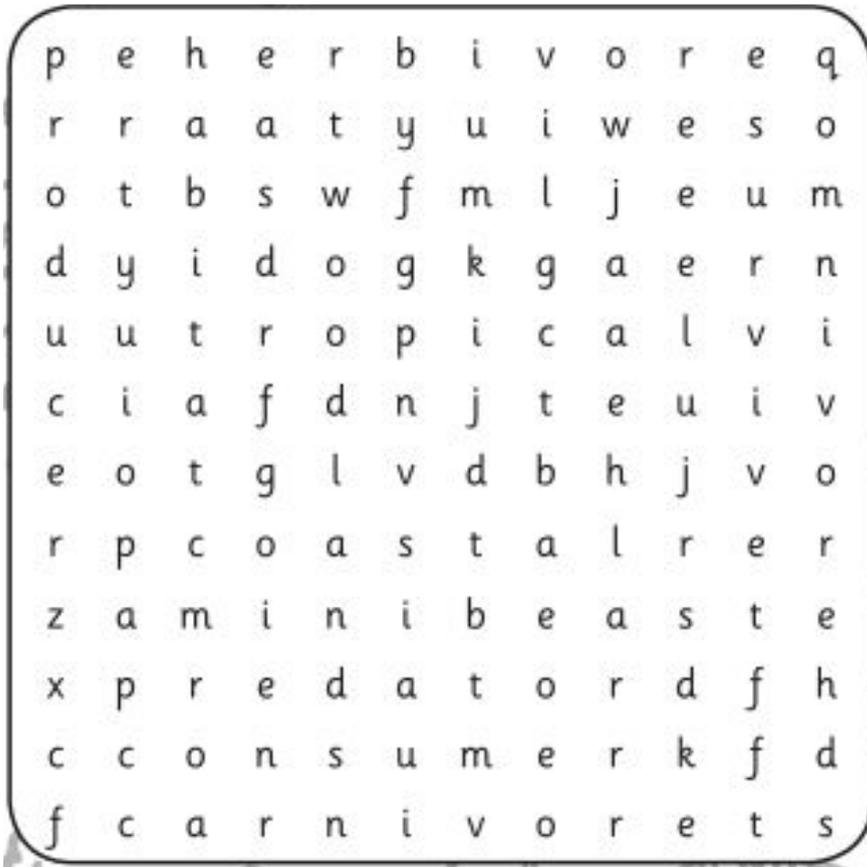
2. _____

3. _____

Exit Ticket

I am going to choose someone to pick an image from each slide.

You can only ask 'yes' or 'no' questions about life processes, can you guess which image they had chosen?

LESSON TWO: Local Habitats**Vocabulary Practice**

habitat producer
 woodland predator
 coastal herbivore
 minibeast carnivore
 tropical omnivore
 consumer survive

| Outcomes | Key Vocabulary |
|--|--|
| To identify and name a variety of plants and animals in their habitats, by mapping a habitat and identifying its inhabitants. To identify and classify, and sort objects into categories, by sorting objects that are living, dead and have never been alive. | Habitat, conditions, survive, urban, woodland, pond, coast, coastal. |
| Knowledge needed | |
| Children will have explored the concept of living, dead and never alive in lesson 1. | |

Everybody Reads

You are alive!

Humans, all other animals and plants are all living things.

All living things do certain things, called life processes.

Talk Task

Can you remember what these words mean?

Movement

Growth

Respiration

Reproduction

Sensitivity

Excretion

Nutrition

Everybody Reads

To stay alive and healthy, you and all other living things need certain conditions that let them carry out the 7 life processes:

- Food and water
- Space to move, grow and have young
- Air or oxygen
- Shelter and safety

A definition of a habitat - A **habitat** is a **place** where **animals** and **plants** live, where they can find everything they **need** to **stay alive**.

A habitat can be as big as an ocean or as small as a rock. What is your habitat?

Talk Task

Where do you live?

What living things live and grow there?

How does your habitat keep you safe and sheltered?

How does your habitat provide food and water?

How does your habitat provide space for you to move and grow?

Everybody Reads

Humans are unique because we can make big changes to our habitats to make sure we have everything we need. How do humans change their habitats?

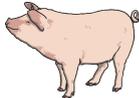
We build roads and vehicles so we can travel everywhere we need safely and quickly.



We pipe fresh, clean water into our homes to use for drinking, cooking and washing.



We grow plants for food, and farm animals for meat and dairy products. We even have pets to keep us company!



We build houses with heating to protect us from cold weather, or with air conditioning to protect us from the heat.



British Habitats

Plants and animals can't make big changes to their habitats like humans can. They rely on the environment around them to provide them with everything they need.

This means they have to live somewhere that has the right conditions to help them stay alive and well.

Because different places have different conditions, the plants and animals that live there are different too.

We are going to look at some common British habitats. They are Urban, Woodland, Pond and Coastal habitats.

Listen carefully to the information on the boards.

Everybody Reads

Last lesson, we looked at a range of objects that were living, dead or never alive. Today we are going to use our knowledge of this and apply it to a local habitat.

Talk Task

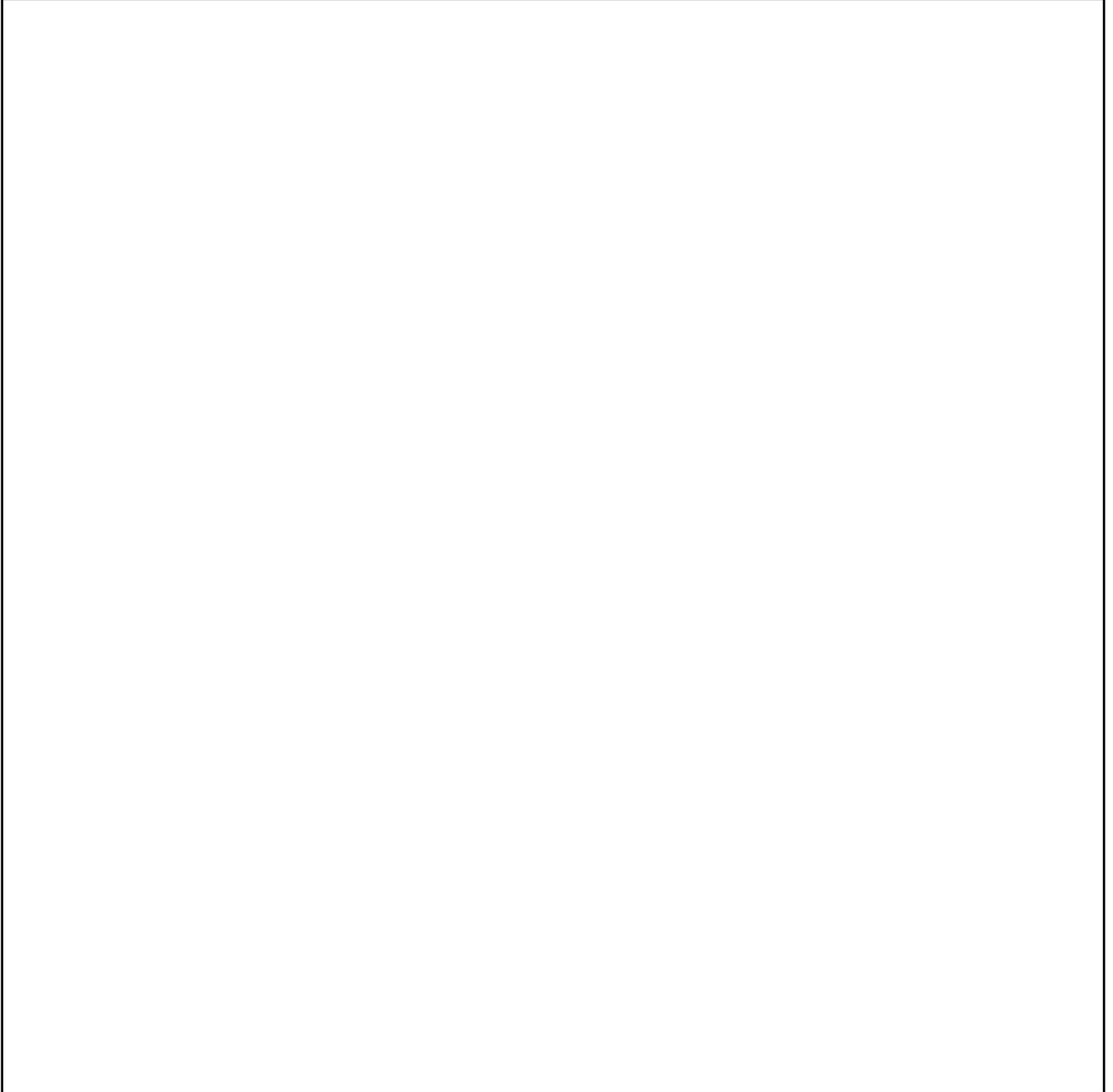
Look at the picture on the slide, what can you see that is living, dead and that has never been alive?

Independent Task

We are going to go and explore our local habitat.

In the box draw a map of the local habitat.

Draw the trees and plants, and any animal homes that you find.



Exit Ticket

Think back to the habitats you were shown on the board. What do you think is our main habitat around school and the local area, explain your answer, think about what you can see?

LESSON THREE: Microhabitats

Retrieval Practice

Name four things that live in an Urban habitat.



Urban habitat

1. _____

2. _____

3. _____

4. _____

| Outcomes | Key Vocabulary |
|---|--|
| To identify and name a variety of plants and animals in their habitats, including microhabitats by identifying minibeasts in microhabitats. To gather and record data to help in answering questions by investigating the preferred habitat of minibeasts. | Minibeast, microhabitat, enquiry, survey, pictogram. |
| Knowledge needed | |
| Children will have mapped the local habitat in Lesson 2. | |

Everybody Reads

We have been learning about the different habitats where living things make their homes. Some of these habitats are very big, like a woodland. Some habitats are very small; we call these microhabitats.

A large habitat contains many microhabitats.

A microhabitat can be as small as a fallen branch or the space under a stone.

Talk Task

What microhabitats did we find in our local habitat?

Microhabitats and minibeasts

Here are some different microhabitats you might have found in the local environment.



Under stones and rocks.



In short grass.



Inside rotting wood.



Under fallen leaves.



In and on the soil.



In tall grass and flowers.

A minibeast is a small creature like an insect, a worm or a spider.

Many different minibeasts live in many different microhabitats.

They are suited to live in that microhabitat as they can find the food, water and shelter they need.

Minibeasts help to keep the microhabitat healthy.

Look at the minibeasts on the slides, be thinking, have you seen any of these on your nature walks or trips to different places around Weymouth and Portland?

Group Task

Microhabitats Enquiry

How could we answer this question?
Do all minibeasts like living in the same microhabitats?

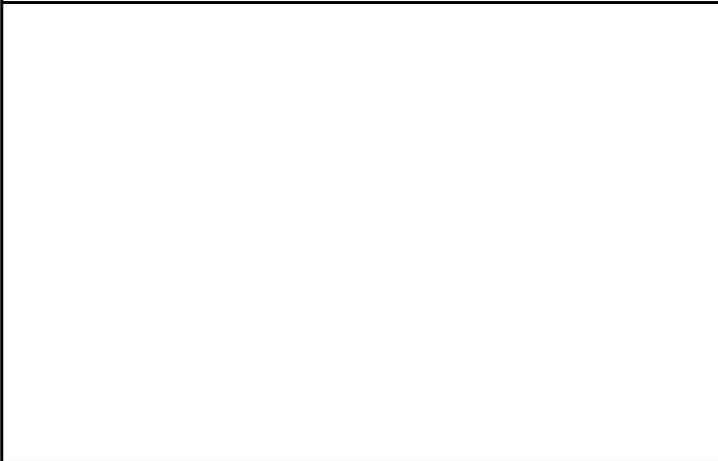
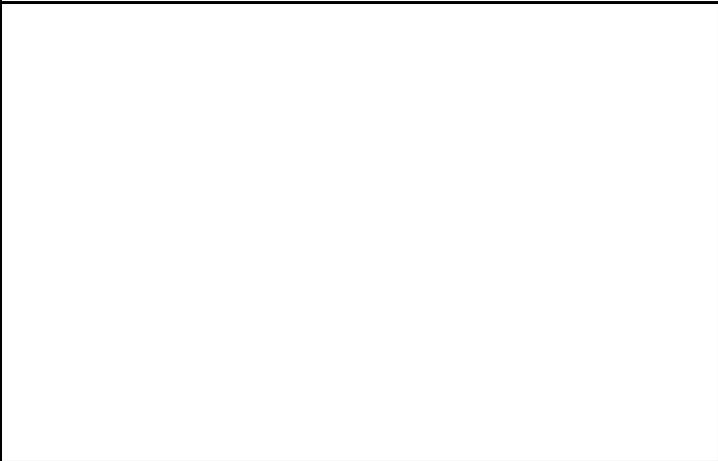
We are going to try to answer the question by finding microhabitats in the local environment and counting the different minibeasts we find there.

We are going back to the habitat that we studied in the last lesson.
Look at the map you made **last lesson**.

You are going to look closely at two different microhabitats.
Draw each microhabitat carefully and write a sentence to describe what it is like.

Task One

Find two different microhabitats. Give them a name, draw them and write a sentence to say what the habitat is like, using the word bank to help you.

| Microhabitat One: | Microhabitat Two: |
|---|---|
|  |  |
| <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> | <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> |

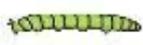
Word Bank

| | | | | | | |
|-------|-------|-------|-------|---------|-------|-------|
| dry | rocky | muddy | leafy | soft | light | big |
| dusty | damp | woody | hard | springy | dark | small |

Task Two

Next you need to look very closely at each microhabitat and count up each kind of minibeast that you find there.

Look carefully at your two habitats. Count up the number of each kind of minibeast that you find there.

| Minibeast | | Habitat 1 | Habitat 2 |
|-------------|---|-----------|-----------|
| Woodlouse |  | | |
| Slug |  | | |
| Snail |  | | |
| Spider |  | | |
| Beetle |  | | |
| Fly |  | | |
| Bee |  | | |
| Millipede |  | | |
| Butterfly |  | | |
| Caterpillar |  | | |
| Worm |  | | |
| Ant |  | | |
| Ladybird |  | | |
| Wasp |  | | |
| Other |  | | |

Task Three

As a group, choose one of your habitats and complete a pictogram to show the kinds of minibeast contained in it.

Exit Ticket

Microhabitats conclusion

Work with a different group, and discuss the questions, using your habitat drawings and descriptions to help you.

What were your two microhabitats like?

Look closely at both pictograms.

Did your two habitats have different kinds of minibeasts? Can you suggest why?

LESSON FOUR: World Habitats

Do now: FEEDBACK

Look through what you have completed in your booklet so far and complete any blank pages. If you were absent, read the **Everybody reads** sections and write **ABSENT BUT READ** in **purple pen** and sign your name.

If you **complete all** of your feedback, on your whiteboard write 3 questions about habitats for another person in the class to answer.

| Outcomes | Key Vocabulary |
|---|---|
| <p>To 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, by researching habitats and the animals that live in them.</p> <p>To ask simple questions and recognise that they can be answered in different ways by asking and answering questions about a range of different habitats.</p> | <p>Habitat, research, conditions, ocean, tropical rainforest, arctic, desert, adaptation.</p> |
| <p>Knowledge needed</p> | |
| <p>It will be helpful if children can identify a variety of common animals.</p> | |

Everybody Reads

Last lesson we looked at our own local habitats, today we are going to look more globally. Do you remember how plants and animals rely on the environment around them to provide them with everything they need?

This means they have to live somewhere that has the right conditions to help them stay alive and well.

Because different places around the world have different conditions, the plants and animals that live there are different too.

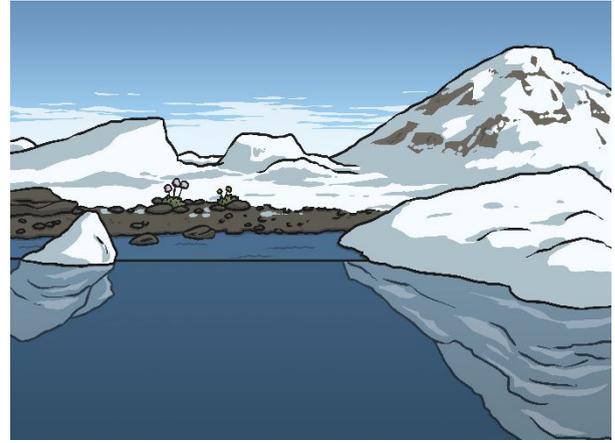
These different animals and plants all have special ways to survive in their special habitats.

We are going to find out about some of the different habitats around the world, and some of the different plants and animals that live there.

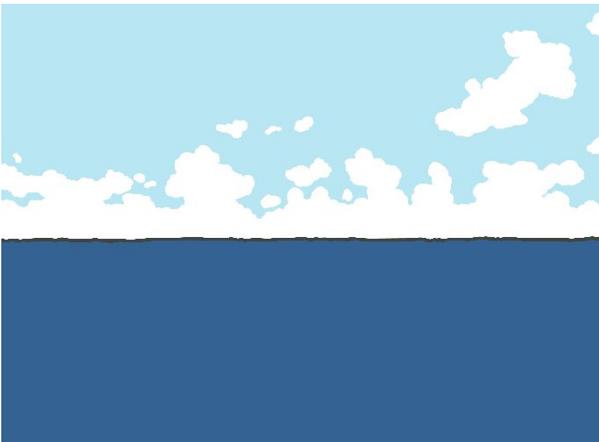
Rainforest



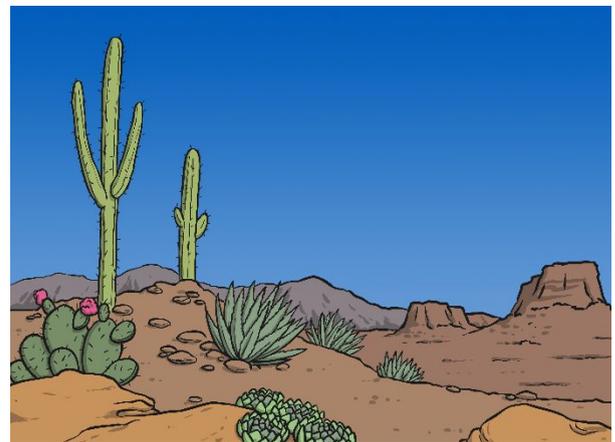
Arctic



Ocean



Desert



Watch the slides carefully to learn about the different features of these habitats and some of the creatures that live there.

Paired Task One

You are going to do some research about habitats.

Researching means finding out more information about something you are interested in.

How can we find more information?

- You can read about it in an information book.
- You can find out about it by looking it up on the Internet - **Your teacher will give you a list of suitable sites for you to go on.**
- You can ask questions of someone who knows more information about the topic.

You are going to choose one of the habitats and research it by looking in books and on the Internet.

1. Draw and label the plants and animals that live in your habitat.
2. Write a description of what it is like to live there.

Fill in the sheet on the next page with your research!

Researching Habitats

Draw your chosen habitat, and label the plants and animals that live there.

Write a sentence describing what it is like in this habitat.

Paired Task Two

You have researched your chosen habitat and found out lots of information about it. Well done! Now you are going to join with another pair and ask them about the habitat that they researched. In your group, think of some questions you can ask to find out about the other habitats...

Exit Ticket

Plants and animals live in habitats that suit them.

They have special features that help them to survive in their habitat.

This is why animals that live in cold places have thick fur, and why animals that live in or near water are good swimmers.

Look at the pictures on the slides, explain why the animals are or are not suited to the habitat they are being shown in.

LESSON FIVE: Working Together, Staying Alive

Retrieval Practice

What are the four World habitats?

1. R _____

2. O _____

3. A _____

4. D _____

| Outcomes | Key Vocabulary |
|---|---|
| To 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 by considering the adaptations of animals, and how living things in a habitat depend on each other. | Survive, adapt, adaptation, depend, dependency. |
| Knowledge needed | |
| Children will have researched four world habitats in lesson 4. | |

Talk Task

Discuss these tasks with your partner and be prepared to share your answers!

Ocean

What are ocean habitats like?

Can you remember some plants or animals that live here?

The Arctic

What is the Arctic habitat like?

Can you remember some plants or animals that live here?

Tropical Rainforests

What are tropical rainforest habitats like?

Can you remember some plants or animals that live here?

Deserts

What are desert habitats like?

Can you remember some plants or animals that live here?

Group Task

World Habitats Game

You are going to play a game to see what you know about the ways living things survive in their habitats.

Rules

Give each player a Habitats Board.

Shuffle the Living Things Cards and place them face down in the centre of the table.

1. Give each player a Habitats board. Shuffle the cards and place them face down in the centre of the table.
2. The youngest player takes the first turn and picks a card from the top of the pile on the table.
3. Read the name and description of the plant and animal on the card.

How to play

1. The player decides which habitat the living thing belongs in. If the other players agree, they can keep the card.
2. If the player has not guessed the right habitat, the card goes to the bottom of the pile.
3. If all the players can't agree which habitat a living belongs in, the players ask an adult.

The first player to get all 8 Living Things Cards in a single habitat wins the game!

Everybody Reads

Dependency

Living things in a habitat depend on each other. This means they need each other to stay alive. Squirrels and oak trees are part of a woodland habitat.



Why might this squirrel need an oak tree to stay alive?

Safety: Living high in an oak tree gives squirrels protection from foxes and badgers, and gives them a safe place to have babies.

Shelter: The oak tree protects the squirrel from the wind, cold and rain, and bigger animals.

Food: Acorns are a squirrels favourite food.

Why does an oak tree need a squirrel?

The oak tree needs the squirrel to **spread its seeds**.

The squirrel collects lots of acorns, and buries some to save for later.

It carries them far away from the tree and hides them under the ground, away from other animals.

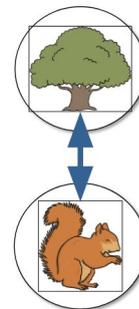
These acorns grow into new oak trees.

Sometimes the squirrels forget to go and dig them up again.

The squirrel needs the oak tree for **food** and **shelter**.

The oak tree needs the squirrel to **spread seeds** so new trees can grow.

The oak tree and the squirrel **depend** on each other. This means they need each other to stay alive.



Why do foxes need squirrels?

Foxes **eat** squirrels.

Why do foxes need oak trees?

If there were no oak trees, there would be fewer squirrels, so there would be less food for the foxes.

Can anyone think how the foxes are helping the oak trees?

If there were no foxes, there would be more squirrels.

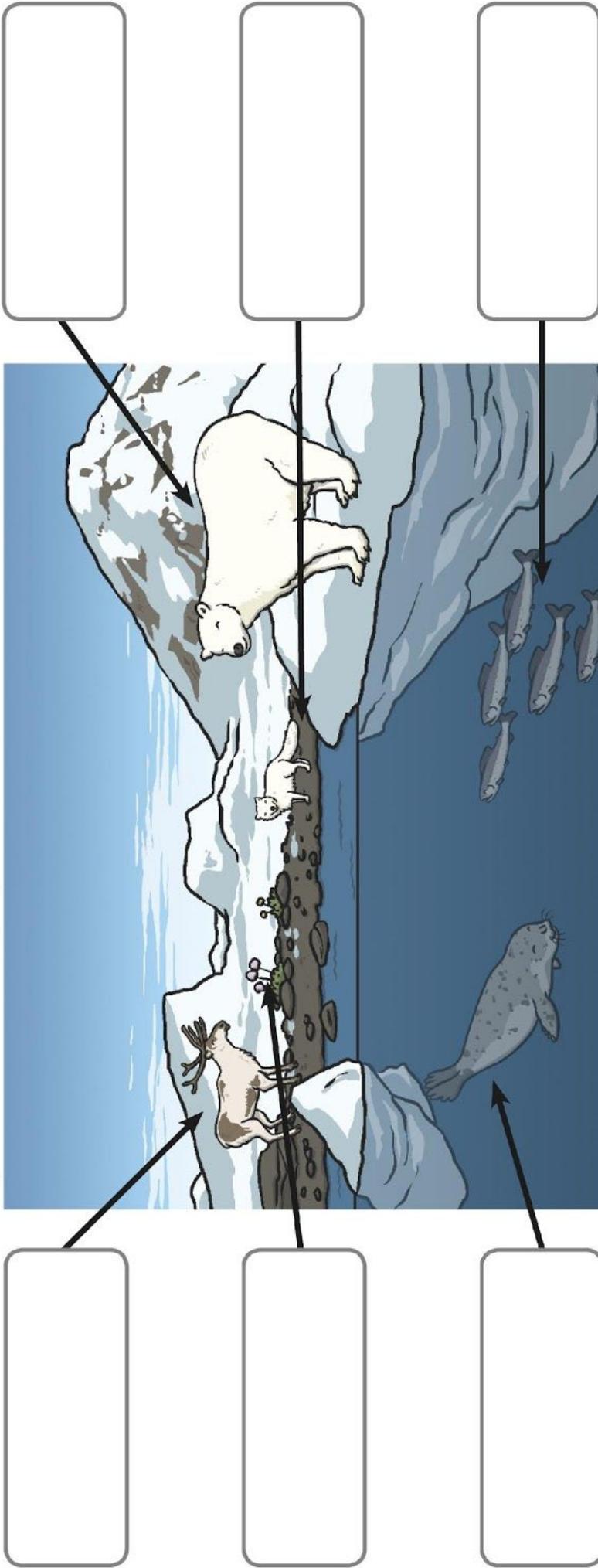
The squirrels might eat all of the acorns and then no new oak trees could grow.

All of the living things in this habitat depend on each other to survive.

Independent Activity

Read the labels, then write them onto the habitat sheet to show how the living things in the habitat work together. Complete the sentences to say how animals and plants depend on each other to stay alive.

All living things depend on one another- this means they need other living things to survive.
Cut out the labels and stick them on the activity sheet to show how the living things in the Arctic depend on each other, then complete the sentences below.



Plants need animals to _____. Animals need plants for _____ and _____.

Some animals _____ other animals.

Word Bank: food, spread seeds, eat, shelter

Exit Ticket

What about us?

How do humans depend on other living things to stay alive?

What living things depend on us for survival?

LESSON SIX: Food Chains

Retrieval Practice

What do humans need to be alive? Fill in the two missing letters (for each word) to identify the seven life processes.

Mov__men__

G__o__th

Res__iratio__

Re__ro__uction

Sen__iti__ity

E__cre__ion

N__tri__ion

| Outcomes | Key Vocabulary |
|---|---|
| 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 by making a variety of food chains | Food chain, consumer, producer, predator, prey, herbivore, carnivore, omnivore. |
| Knowledge needed | |
| It will be helpful if children have previously learnt about herbivores, carnivores and omnivores. | |

Everybody Reads

Today we are going to look at **nutrition**.

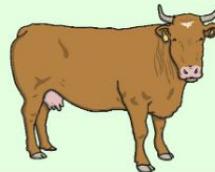
Food gives living things energy, which they use to carry out the other life processes, like moving and growing.

Nutrition is about food. All living things need **food** to survive.

Green plants make their own food using sunlight, water and air.

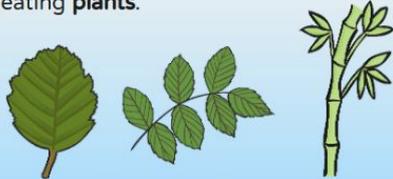


Animals are not able to make their own food.

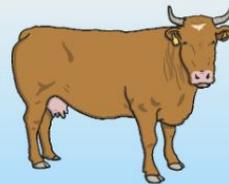


How do animals get their food?

Some animals get their food from eating **plants**.



These animals are called **herbivores**.



Some animals get their food from eating other **animals**.



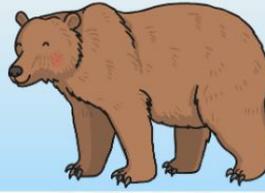
These animals are called **carnivores**.



Some animals get their food from eating some **plants** and some other **animals**.



These animals are called **omnivores**.



Talk Task

Are humans **herbivores**, **carnivores** or **omnivores**?
What are humans designed to eat?

Everybody Reads

What is a food chain?

A food chain shows how each animal gets its food. Food chains are one of the ways that living things depend on each other to stay alive.

Everybody Watches

Watch this video to find out more about carnivores, herbivores and omnivores. You will also discover some interesting information about food chains and food webs.

<https://www.youtube.com/watch?v=pasB5FhxVUK>

Everybody Reads

The arrows in a food chain mean '**is eaten by**', but also shows the **energy** being passed from one organism to the next.

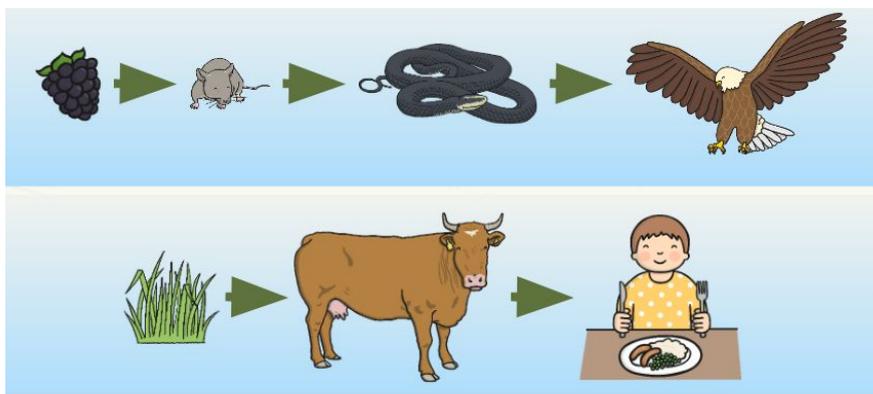
Each food chain starts with a green plant.

Green plants are called **producers** because they **produce** their own food.

All animals are called **consumers** because they **consume** their food by eating plants and other animals.

Animals that eat other animals are called **predators**. The animals that they eat are called **prey**.

There are food chains in all kinds of habitats.



Use the living things, that are on the board, to draw a food chain on your whiteboards.

Remember to draw the arrows to show who eats what and how the energy is transferred!

Group Task

Arranging food chains activity.

In your group, arrange the cards into as many food chains as you can.

There are lots of correct answers!

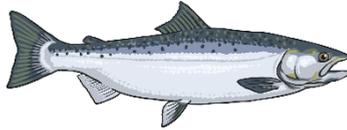
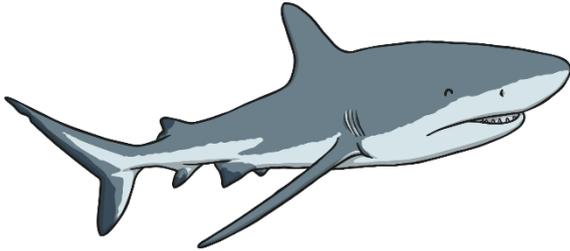
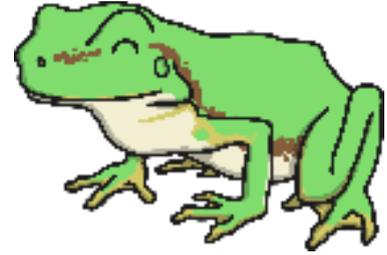
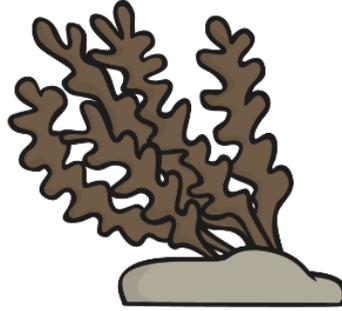
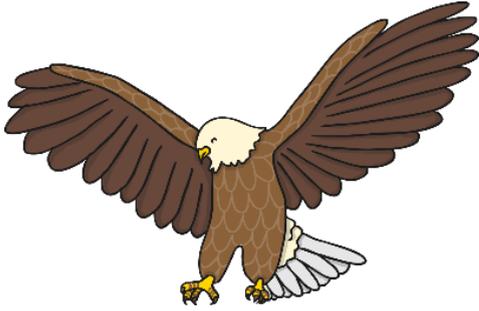
Independent Task

Food Chains Concertina Book:

Using the **Food Chains Mini Concertina Book Template**, draw a four-step food chain in a mini concertina book format. Remember to label each living thing in the food chain with its name. Can you complete the extension and use the key vocabulary '**producer**' and '**consumer**'?

Exit Ticket

Rearrange these living things to make two food chains.
Which habitats do these food chains belong in?



NB: Images are not to scale!