Living things and their Habitats

Activities: KS1 and 2

LIVING THINGS AND THEIR HABITAT/ PLANTS AND ANIMALS

The below activities cover elements from across the science curriculum and aim to aid in the teaching of the following requirements:

- Asking questions
- Observing and suggesting answers to questions
- Identifying and classifying
- Gathering and recording data

KS1:

- Identifying and naming a variety of common plants
- Identify, describe and compare the structure of a variety of common animals
- Habitats and Micro-habitats

KS2:

- Grouping and categorising living things
- Exploring and using classification keys to help group, identify and name a variety of living
- Observing characteristics and similarities and differences

Additonal Resources for Activities

Activity 1:

- *Leaf identification sheet*
- *Tree Identification sheet*

Activity 2:

- *Identification guides*
- *Recording sheet*

Activity 3:

- *Habitat Key*
- *Satellite image/ map of chosen space*

Activity 4:

- *Recording sheet*
- *Key bird song link*

Activity 5:

- *Common British wildlife list*

Habitats & Heritage

Activity 1: Identifying Trees, Leaves and Using Keys

This activity is all about the identification of trees. This is a multilevel activity to cover KS1 and 2 but feel free to do both activities.

KS1: Use the Leaf Outline Identification Sheet for this activity. for this activity try to find an area with more than one species of tree. Whilst you are collecting leaves look at the bark and the canopy of each tree. Try to match the leaves found with some of the common leaf outlines. For example, horse chestnut's hand like leaves. Once you think you have found the right tree name take a bark rubbing and label the type of tree you have identified.

KS2: Use the Tree identification Key for this activity. We love the Natural History Museum one but there are lots of good ones. Follow the questions through the key to identify your tree. Once you have identified your trees mark down how many different types you have found. Look at the tree and see if you can see any animals or living things using the tree. What are they using it for? You can also take a bark rubbing to remember the types of trees you managed to identify.

Additional Information

A key is a set of questions about the characteristics of living things.You can use a key to identify a living thing or decide which group it belongs to by answering the questions.

Trees can be identified by their size and shape, their seeds, the leaves, the buds and the bark.

For more help identifying tree why not try the British Trees app by Woodland Trust.
Or try making your own key here: www.saps.org.uk/primary/teaching-resources/560-grouping

Tree fun facts:

- *Trees have been to space...At least kind of! Apollo 14 astronauts brought with them tree seeds which were later sprouted and grew into trees.*
- *Everyone knows that tree rings can reveal a tree's age, but they can do so much more than that. Tree rings can also tell us information about past climate changes - even when volcanoes erupted!*
- *The single largest organism on Earth is a tree! An aspen tree, named Pando, has clones of itself spread out across more than 5 miles of forest.*
- *Trees shrink when they get to old age just like people. Through a process known as retrenchment, or growing downwards. This is a natural process in which the crown of the tree and the root system are rebalanced with each other.*

You will need:
- Leaf outline sheet and/ or Tree key sheet
- Paper
- Crayon

Activity 2: BIO BLITZ- Identifying Insects and Arachnids.

What better way to find out about all the bugs and beasties our parks have to offer than going to fin some? On you next trip to you local green space, do a bio blitz. all you need is a bug net or an old sheet or pillow case.
Place your net or pillow case under a branch and give the branch a gentle shake. Check your net to see if you have caught anything.

Take a careful look. Try not to handle what you find and w=once you have managed to have a look back carefully place everything you caught back before your next shake. You can take a small pot with you to take a closer look, just make sure to only have once mini-beast in the pot at a time. You don't want to accidentally create a food chain in the pot.

Things to look for:
Count the number of body parts and legs.
I**nsects** always have 3 body parts (Head, abdomen and thorax), six legs and two antennae.
Arachnids have two body part and eight legs with no antennae.
Don't get these confused with Harvestmen who have eight legs but only one body part.

Once you have worked out what class (insect or arachnid) then try to use the Identification guides to work out what you have found. Record all findings in the table provided, recording sheet, or design your own. Get in touch with your findings or anything you find that is difficult to identify. You can also record where you found the mini-beast, which habitat.

Also look for 'clues' spiders webs, holes in leaves and look under rocks and logs to see what lives there.

Insect fun facts:

- *Fruit flies were the first living creatures to be sent into space.*
- *Dragonflies have been on earth for 300 million years!*
- *A bee's wings beat 190 times a second, that's 11,400 times a minute.*
- *The stag beetle is the largest species of insect to be found in the UK.*
- *Caterpillars have 12 eyes!*
- *Harvestmen can shed legs to help them get away from predators.*
- *Harvestmen do not make webs and are not part of the arachnid class.*

You will need:
- Identification guides
- A Bug net or old sheet/pillow case.
- Recording sheet
- Pen






Activity 3: Habitat Hunt and Mapping

This activities involves identifying micro habitats in you garden or local space and introduces mapping.

Before you start this activity you need to have a map. You can either draw a simple map of your garden or space or print of a satellite image, e.g from google maps. You also need to create a key of micro-habitats. Using our picture key, mark the white squares with unique shapes or stickers to represent each of the micro-habitats.
Now it is time to map your space. Mark each different micro habitat you find on the map. What type of animals does the micro-habitat support? What size is the micro- habitat? What makes a good habitat?

Share you mapped spaces with us hello@habitatsandheritage.org.uk

Habitat and adaptation:

- *Most animals live in one type of habitat because they are best suited to it.*
- *We say they are 'adapted' to it.*
- *For example, animals such as frogs, newts, and ducks have webbed feet to help them swim in the water.*
- *If the habitat changes, it may no longer be suitable for the animals and plants that live there.*
- *Climate change is making some habitats warmer, and so many animal species are moving to cooler areas.*
- *However some species are not able to move and the populations (groups of animals/plants in an area)are getting smaller.*

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Additional Information

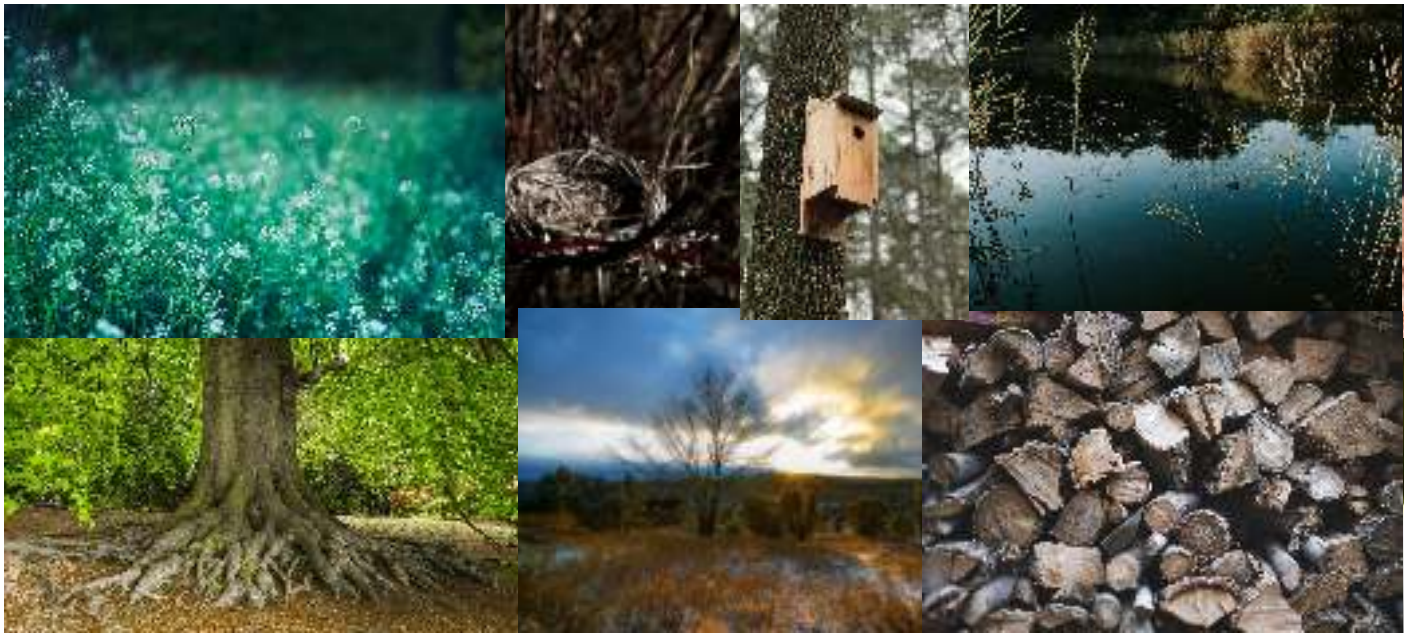
Habitats are places where animals and plants live. The plants and animals - including humans - in a habitat need each other to survive. Most things live in habitats to which they are suited and different habitats provide for the basic needs of different kinds of animals and plants.
Examples:desert,meadow,woodland,grassland,forest,sea shore, ocean

A micro-habitat is a very specific, small home environment for plants, animals and insects. Examples: ponds,individual trees, pile of logs.

Mapping is an important first step when looking to care for an area. It shows what is there. A habitat map shows the local and spread of different habitats within a particular area. For example, you map might show how many tree are in you local park or if you have an area of short or long grass or a pond in your garden.

You will need:

- A satellite image/ map of your chosen green space. e.g. from google maps or drawn.
- Habitat Key
- Pen or stickers to mark the map.



Activity 4: Sounds Around Us

For this activity you need to find a place you can sit and listen for 1-5 minutes. This might be in your garden or in a local green space. All you need is a pen/pencil, the recording sheet, a timer (one on a phone is fine) and your ears.

Prepare you recording sheet. Either fill out the information on the one we provided or create your own. you will be recording what you heard, if your not sure try to describe it, an estimate of how long you heard it for and how many different times you heard that sound.

No pick a spot and decide how long you are going to listen for. Sit very quietly and start recording your data. This activity can be done on your own, in pairs or groups.

Once the time is up, look up any sounds you weren't sure about. Can you work out whether the sounds were man made or natural and why don't you send us your results.
hello@habitatsandheritage.org.uk

Additional Information

Are you hearing lots of bird song? Why not try to work out what type of bird you have heard. We have supplied a sound clip of some common bird calls
Blackbird, Black-headed gull, Chaffinch, Chiffchaff, Magpie, Robin, Wood pigeon and Wren or check out many more on the British bird song website.

Sound facts

- *Crickets have their hearing organs in their knees.*
- *Male mosquitoes hear with thousands of tiny hairs growing on their antennae.*
- *In some owl species, one ear is set higher than the other.*
- *A cat's external ear can rotates up to 180 degrees to locate and identify even the faintest of squeaks, peeps or rustling noises.*
- *A hippopotamus has small ears high on top of the heads. They are very open and stick up when they go underwater. In this way they can always hear even when they are underwater.*
- *Snakes do not have ears, but "hear" vibrations through their skin that is touching the ground.*
- *Bats make loud cries that are too high pitched for the human ear. Sound waves from these cries bounce off every object and echo back. They have very large ears to gather the sound that bounces back to them. This method is called echolocation. This is how the bat knows the location of everything .*

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You will need:
- Recording sheet
- Pen or Pencil
-Timer

Activity 5: Categorising Wildlife

This activity is about grouping different plants and animals.

In order for us to understand how all living organisms are related, they are arranged into different groups. The more features that a group of animals share, the more specific the group is. Moving from Kingdom to species.
Animals are given scientific names so that people all around the world can communicate about animals, no matter what language they speak . Animals and plants belong to a number of different groups, starting with the animal and plant kingdoms.

There are also many ways to group wildlife. By what they eat, what they look like, where they live and many more. In this activity use the pictures provided (or why not draw your own) and group them in as many different was as you can.
Try to work out what the scientific classification (groups) would be- Kingdom, Phylum and Class...

Additional Information

Scientific classification:
Kingdom - Animals, Plants, Fungi, Bacteria, and Protists (single-celled organisms).
Phylum , Class, Order, Family, Genusa, Species
Example - Tiger
Kingdom: Animal
Phylum: Vertebrate- has a backbone
Class: Mammal
Order: Carnivore eats meat
Family: Cat Genus: Panthera Species: Panthera tigris (Tiger)

How the example can be grouped:
Kingdom: Animals or Plants
Phylum: Vertebrate or Invertebrate
Class: Arachnid, Bird, Fish, Insect, Mammal or Reptile
Other: Predators, Prey and Producers

Classification facts:

- *People are mammals. So are dogs, cats, horses, duckbill platypuses, kangaroos, dolphins and whales. What do all these animals have in common, you ask?The answer is – MILK! If an animal drinks milk when it is a baby and has hair on its body, it belongs to the mammal class.*
- *The inventor of modern scientific classification was Carolus Linnaeus (1707-1778) a Swedish botanist who classified and described more than 4,400 species of animals and 7,700 species of plants.*

You will need:
- Picture of wildlife sheet