

# ANIMAL ADAPTATIONS FACT FILE

An adaptation is the process by which an animal or plant changes to become better suited to its environment. Many animals have weird and wonderful adaptations that make them better at surviving and more suited to their environment. While we may think of a forest as just trees, lots of different habitats exist within, all of which are home to different animals with different needs. For this activity, you should create a new animal that is adapted well to surviving in a forest.

## YOU WILL NEED:

- Colouring pencils
- Plain paper

## WHAT TO DO:

1) Think about forests. What challenges are there for animals that live there? What benefits could living in a forest provide? What kind of habitats might exist within it? All of these questions will help you to think about what type of animal may live there and how they will need to adapt to survive.

2) Think about the animal you'd like to create. It could be a mixture of lots of different woodland creatures you already know about, or it could be something completely new! Think about its colour and pattern, how it moves around, the senses it uses (smell, sight, sound, touch and taste) and other special adaptations for collecting food, like a sharp beak or long tongue. We've given you some examples of animals with adaptations below –

- Bluebells – Each year, bluebells sprout in the spring. They do this by detecting temperature changes in the ground – their bulbs are very clever, and can detect when it is warm enough for them to grow.
- Pine marten – Pine martens have excellent joints that are flexible, allowing them to move quickly. They also have claws that help them to climb up and down trees, to find food or escape predators.
- Goshawk – Goshawk have adapted over the years to hunt in woodlands. They have transparent second eyelids to prevent them getting damaged by thorns or branches. They can tuck their wings in and use their tail as a sail, allowing them to dive quickly through gaps in the trees and catch prey, such as pigeons and squirrels.

3) Using your ideas, sketch out your animal. Be sure to make notes around the drawing labelling the features and adaptations that will help it to survive. You can even draw it from multiple angles and colour it in to add more detail.

4) Now you've created your animal, think about how it might have to adapt to the impacts of climate change. This could include loss of habitat or food, rising sea levels or changes in temperature patterns.

**Did you know? Trees not only take in carbon, but also store it, so the UK Government has committed to increase tree planting. Deforestation is a double threat, in that it releases the carbon that has been stored whilst also removing a forest's ability to take carbon in from the atmosphere.**

# BUILD A TULLGREN FUNNEL

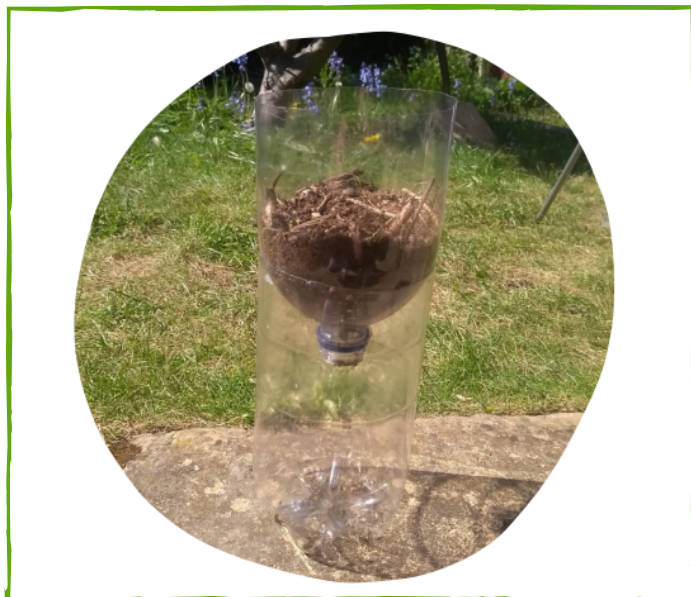
A tullgren funnel is a special tool that can be used to find out what lives in soil! It's a fun and easy way of observing some of the amazing wildlife we don't always think about. For this activity, you will be making your own tullgren funnel and investigating the wonderful creatures you can find in the ground!

## YOU WILL NEED:

- A clean, large plastic bottle
- Scissors
- Soil
- A magnifying glass
- Twigs and sticks

## WHAT TO DO:

- 1) Take your plastic bottle and give it a good clean with water.
- 2) Get the help of an adult to cut the bottle in half, so that the base and the neck of the bottle are in two parts.
- 3) Take the top half of your bottle and place the neck into the base.
- 4) Create a grid in the neck of the bottle using twigs and sticks. This will ensure that none of your soil falls out into the bottom. You need to leave some small gaps, but not too big.



5) Gather two large scoops of soil or dried leaves from the ground. Try to pick somewhere that is cool and shady. Place the soil into the top half of your bottle, on top of the grid you created.

6) Leave your funnel under bright light. If it is sunny outdoors, leave it in a sunny spot, or take it indoors and place it by a lamp.

7) Make sure to keep checking your funnel regularly. You want to make sure it does not get too hot. Any wildlife that was in the soil should fall through into the bottom of the bottle.

8) Once you begin to notice wildlife in the bottle, move your creatures onto a white plate or tray and take a closer look. Once you've had a look, make sure to put the wildlife back where you gathered your soil from.

9) Once you have finished your experiment, put your soil and wildlife back where you collected it from.

**Did you know? In the last ten years, the rate of ice melt in Antarctica has tripled.**

# BUILD A BUG HOTEL

Bug hotels are a great way to encourage crawling critters into your local green space or garden. Insects play an important role in ecosystems, pollinating flowers, breaking down waste material, providing fertile soil and as a food source to lots of other animals. This activity gives two great examples of homes to build for bugs – you can try both or just pick the one most suited to your environment!

## YOU WILL NEED:

- Bricks
- Old plant pots
- Natural materials (moss, straw, leaves)
- Recycled corrugated cardboard
- Plastic bottles
- Sticks
- Dried materials like hay or leaves

A top tip for building your bug home or hotel is to place it near trees, bushes or plants if you have some. It is also great to use a range of different materials, so that your bug hotel appeals to lots of different species of insects!



## BUG HOTEL

1) Pick a suitable location for your hotel - they are best built on hard, sturdy surfaces like concrete or pavement. The ground should be flat for stability!



2) Build the frame of your hotel. You don't want to build the structure too high, so aim to stack your materials to about one metre. Lay the foundation of the hotel - use bricks to make a H shape on the ground.

3) Lay some planks of wood, including a brick layer in between each wood layer to create gaps to put your natural materials. Make sure that the layers are steady and don't wobble or tip over.

4) Begin to fill the gaps between your layers with your natural materials. It's good to use a range of different materials, as each one will support different insects and species. Finally, make a sign for your bug hotel!

## MINIBEAST HOUSES

1) Using your scissors, cut the top and the bottom off a plastic bottle, to make a tube. You should ask for the help of an adult when using scissors.

2) If you would like to hang your minibeasts house up, make two small holes about 3 cm apart on one side of the tube. Thread a piece of string through both holes and tie a knot in it. You can skip this step if you plan on putting your house on the ground or balanced on tree branches.

- 3) Gather up some dry sticks and leaves to fill your minibeast house.
- 4) Place the things you have gathered into your plastic tube. Lie your sticks down with the length of the tube until you can't fit anymore in the tube and then fill the gaps with dried leaves or smaller twigs.
- 5) Find the perfect spot for your minibeast house! It could be on a windowsill, on the ground, hung from a tree or nestled in the branches.
- 6) Place your minibeast home and wait for the bugs to move in! You may wish to make a small sign or label for the home, explaining what it is and asking people not to move it. If you see insects coming and going, write down when and where you saw them and draw a small picture!



Did you know? Over half (56%) of UK species assessed have declined in population size since 1970.

# THE LIFE OF A TREE

Trees are amazing – some of the oldest and largest organisms on earth are trees, and they provide amazing benefits to nature and people. Each year, trees go through several changes as the seasons pass. In this activity, you should pick a specific tree or patch of woodland that you know and see regularly. Then, tell the story about how this tree changes throughout the year.

## YOU WILL NEED:

- Pen & paper

## WHAT TO DO:

- 1) Think about the tree and how it changes throughout the year. How has the way it looks changed over the year? How does it look in the four seasons of spring, summer, autumn and winter? Has it lost its leaves? Does it change colours? Does it grow flowers? And when does all of this happen?
- 2) Think about the parts of your story you may want to include. Some things to think about could be what month it is, what the weather is like, and what sort of animals or insects might live on the tree at different times of the year.



3) How do you want to tell your story? Will you tell it from your perspective, describing what you see happening? Or will you tell the story from the tree's perspective, thinking about what the tree might see, feel and experience?

4) Write out the story of a tree throughout the year. Think about all of the ways a tree might change through the seasons. If you would prefer, you could draw out your story on a storyboard, adding pictures for extra detail!

5) Think about how your story may change over the years. How will the trees look in the future? Will there be new or different trees to observe? You could add a section of your story to think about this.



Did you know? The 6 warmest years recorded globally have all fallen after 2014, with 2016 being the hottest year ever recorded.

## MEET A TREE

Trees are unique in lots of different ways, from their bark to their leaves. You can learn more about trees by interacting closely with them. Picture a tree near where you live - can you draw it? Do you know the name of this type of tree or any other trees? In this activity, you will meet a tree - pick one that you see a lot, either in your school grounds or at home.

### WHAT TO DO:

- 1) Pick a tree that you like. It could be one at home or at school, or even in a local park or field.
- 2) Think about how you might tell what type of tree? What features make it unique? Does it have an interesting pattern, shape or colour? Can you see any animals or insects living in or eating the tree?
- 3) Stand close to the tree trunk, placing your hands in front of you onto the tree. Close your eyes and gently feel the bark. What does it feel like? How would you describe it? After a couple of minutes open your eyes.
- 4) Take a piece of paper and hold it carefully onto the trunk of the tree, then use a pencil or crayon to rub gently across the paper. You should begin to see the pattern of the bark appearing on your paper.

5) Once you have a good patch of bark rubbing make some notes about the tree in the space on the paper – where is it, how tall is it, what sort of shape does it have, are there any leaves on the floor below it – if yes, collect and draw around one of these leaves.

6) If you have time and it is safe to do so, sit on the floor below the tree leaning your back onto the trunk (if it isn't safe/appropriate to sit down, stand up and lean on the tree). Take a deep breath and look up into the tree's branches for a moment, then take a deep breath and look down and imagine the roots of the tree. Take a final deep breath and sit quietly with the tree for a few minutes. How did leaning against the tree make you feel? What sounds did you hear?



**Did you know? A Tiny Forest can have up to 600 trees planted in a space the size of a tennis court!**