Trees

Adventurer e-Award

REQUIREMENTS

1. Read several Bible verses about leaves. List the kinds of leaves you find.
2. Collect 10 leaves from different trees.
   a. Press and dry
   b. Identify
3. Paint one leaf with chocolate.
4. Tell how trees scatter their seeds and collect or draw five different seeds.
5. Make two different leaf rubbings.
   OR
   Make two pieces of stationery, using a leaf design.
6. Discover the trees and leaves in your neighbourhood. Learn something special about each one. Report your findings to the class.
7. Put your dried leaves in a “Leaves” Scrapbook.

Bible Verses about Trees and Leaves

Genesis 3:7 “Then the eyes of both of them were opened, and they realized they were naked; so they sewed fig leaves together and made coverings for themselves.”

Genesis 8:11 “When the dove returned to him in the evening, there in its beak was a freshly plucked olive leaf! Then Noah knew that the water had receded from the earth.”

Ezekiel 47:12 “Fruit trees of all kinds will grow on both banks of the river. Their leaves will not wither, nor will their fruit fail. Every month they will bear fruit, because the water from the sanctuary flows to them. Their fruit will serve for food and their leaves for healing.”

Revelation 22:2 “ … On each side of the river stood the tree of life, bearing twelve crops of fruit, yielding its fruit every month. And the leaves of the tree are for the healing of the nations.

What are trees?

Trees are tall plants with a single woody stem called a trunk.

There are two main groups of trees – deciduous and evergreen.

Deciduous trees loose their leaves in the autumn. Most deciduous trees have broad, flat leaves.

Evergreen trees keep their leaves all year round. Most evergreen trees are coniferous – they have hard, flat leaves called needles.

Some trees can grow to around 100 metres (328 feet) in height!

Trees produce oxygen and reduce the amount of carbon dioxide in the atmosphere.

What are trees?

The roots of a tree usually grow underground, helping keep it stable and providing it with water and important nutrients.

Water and nutrients travel from the roots, up the tree trunk, through the branches and all the way out to the leaves.

The trunk of a tree is protected by an outside layer of bark.

The way a tree grows through different seasons can be seen by growth rings in the wood, they can even be used to determine the age of a tree.

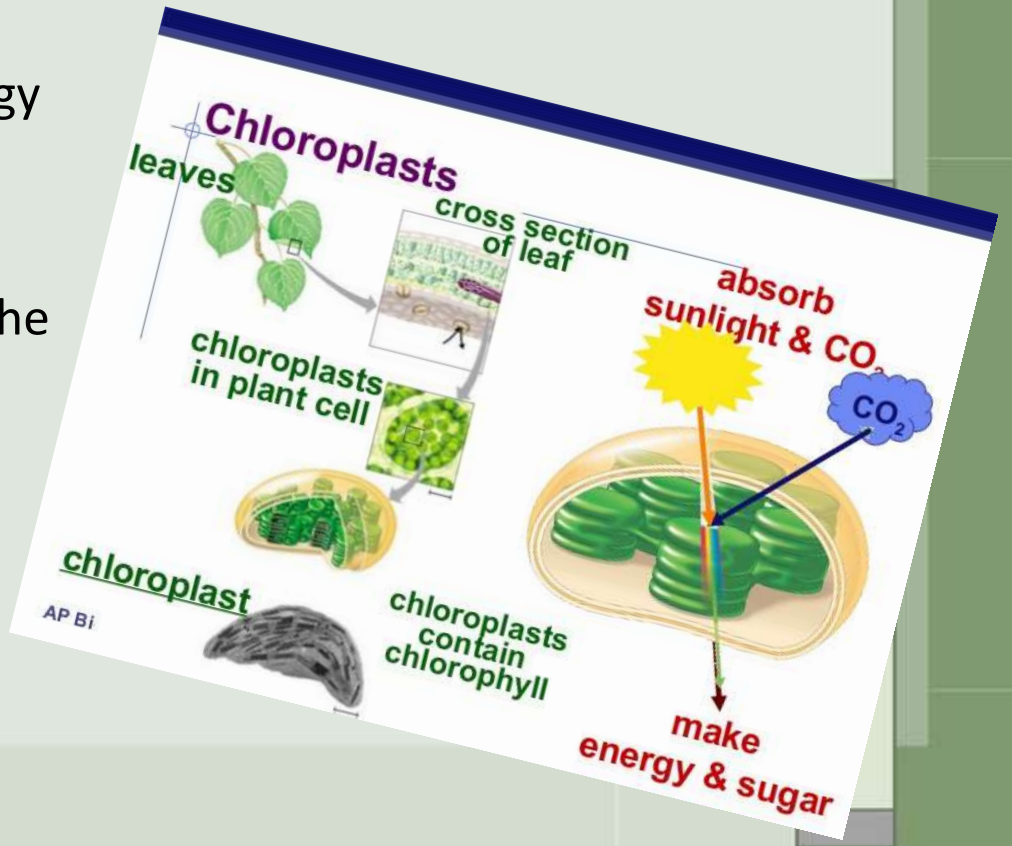
Wood from trees can be used in a number of different ways including as a building material and energy source (such as a campfire).

What do Trees Need to Live and Grow?

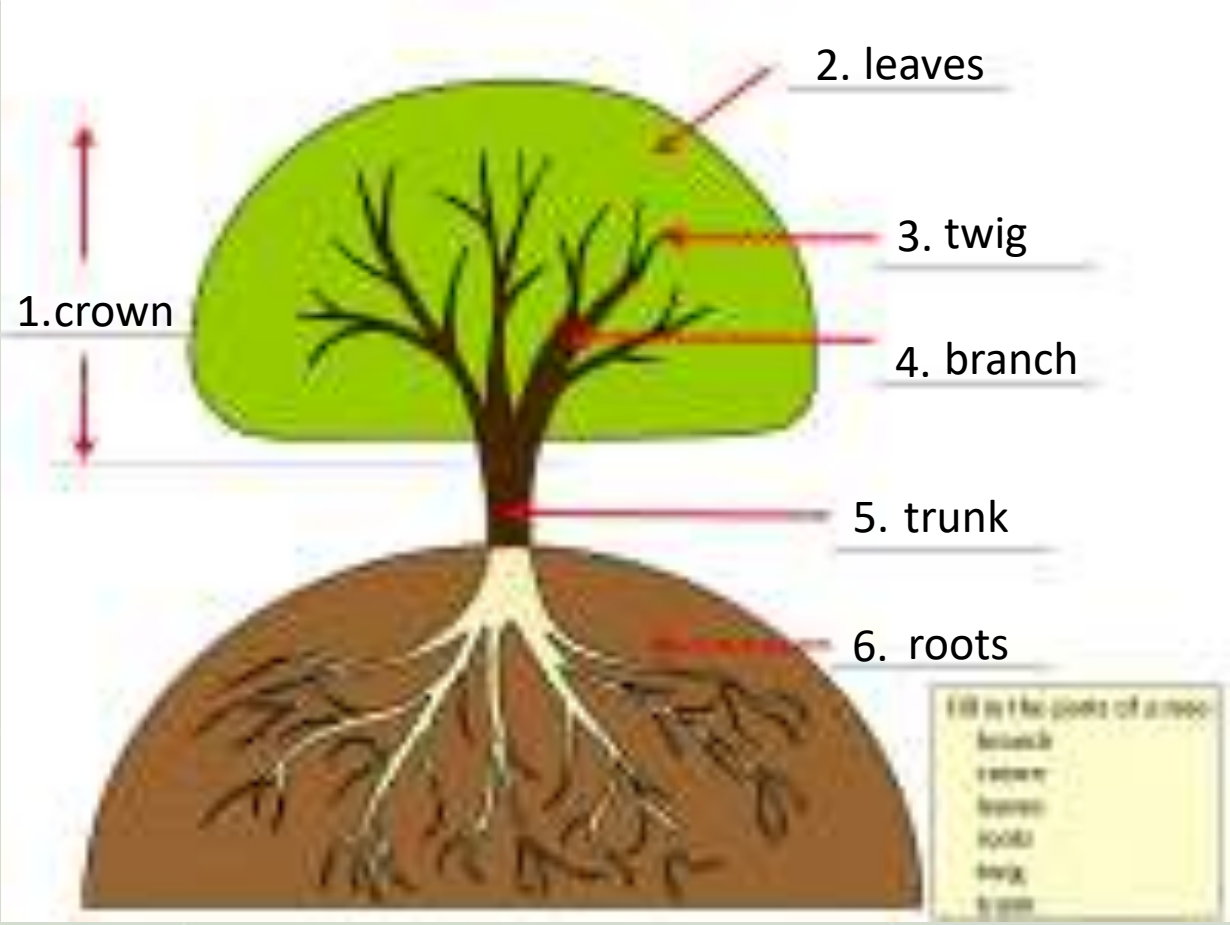
1. Air
2. Light
3. Water
4. Nutrients
5. Space to Grow

Photosynthesis

- Photosynthesis is the process that enables plants to get energy from the sun.
- Light energy from the sun is converted into chemical energy by chlorophyll.
- Chlorophyll gives plants their green colour.
- Photosynthesis takes place in chloroplasts, cells found in the leaves of a plant.
- Carbon dioxide and water are also needed for photosynthesis.
- Carbon dioxide is drawn into the plant through tiny holes called stomates.
- Stomates also expel oxygen, a gas we need to breathe.
- Water is absorbed by the plant through its roots.

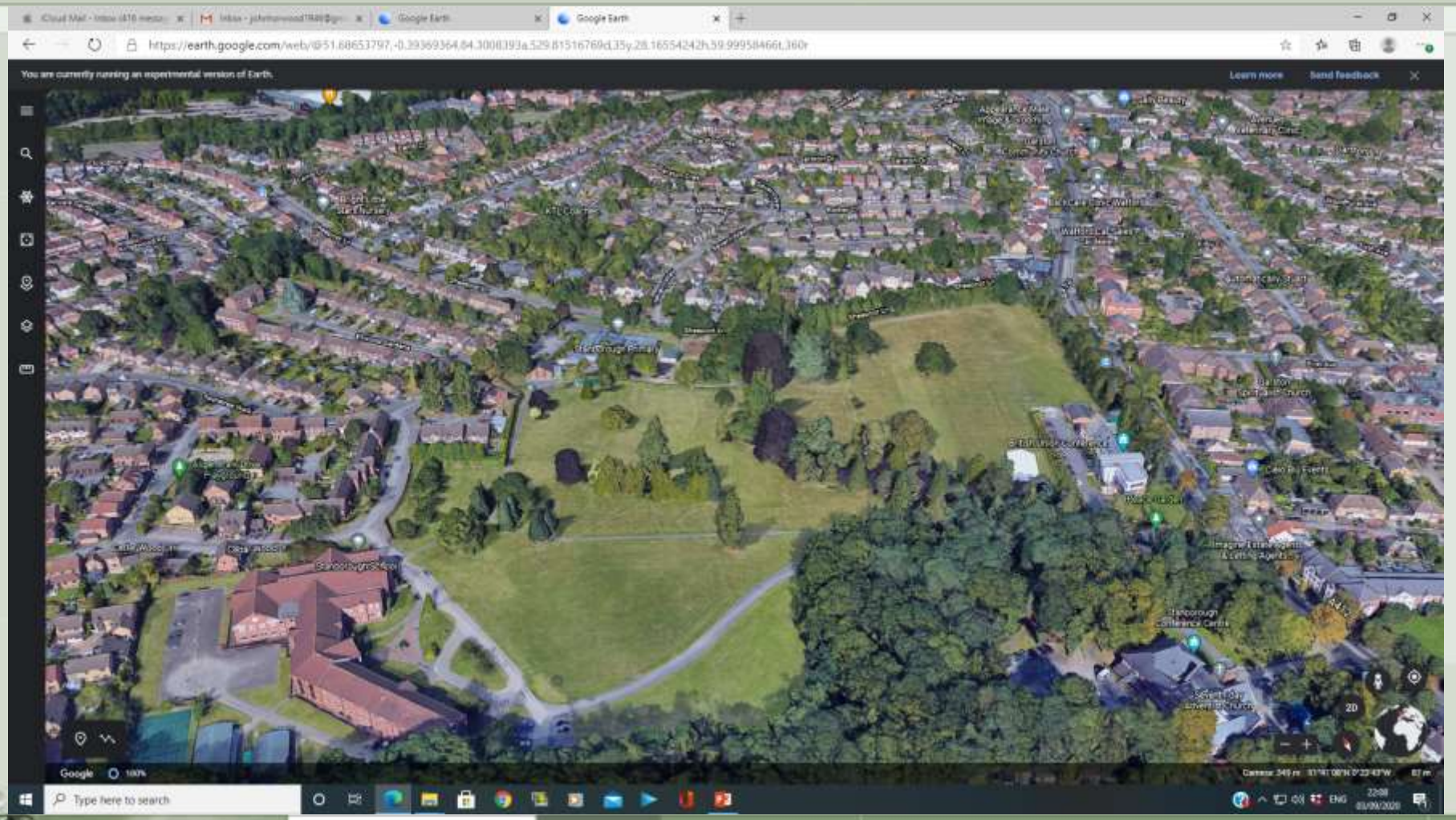


Can you name the different parts of a tree?



Leaves
Roots
Crown
Twig
Trunk
Branch

Trees in my local area – Stanborough Park, Watford



Trees in my local area – Stanborough Park, Watford

Giant Sequoia – the oldest known trees of this species are more than 3,000 years old!

Trees in my local area – Stanborough Park, Watford

English Oak, also known as Common Oak – English Oak wood can be used in buildings, bridges and furniture.

Trees in my local area – Stanborough Park, Watford

Norway Maple, also known as Great Maple.

Trees in my local area – Stanborough Park, Watford

Norway Maple, but with a different leaf colour.

Trees in my local area – Stanborough Park, Watford

Silver Birch – this plant has a unique tree bark which is white and drooping branches.

Trees in my local area – Stanborough Park, Watford

Monkey Puzzle Tree

Trees in my local area – Stanborough Park, Watford

Stone Pine – some pine tree cones produce pine nuts which are delicious to eat!

Trees in my local area – Stanborough Park, Watford

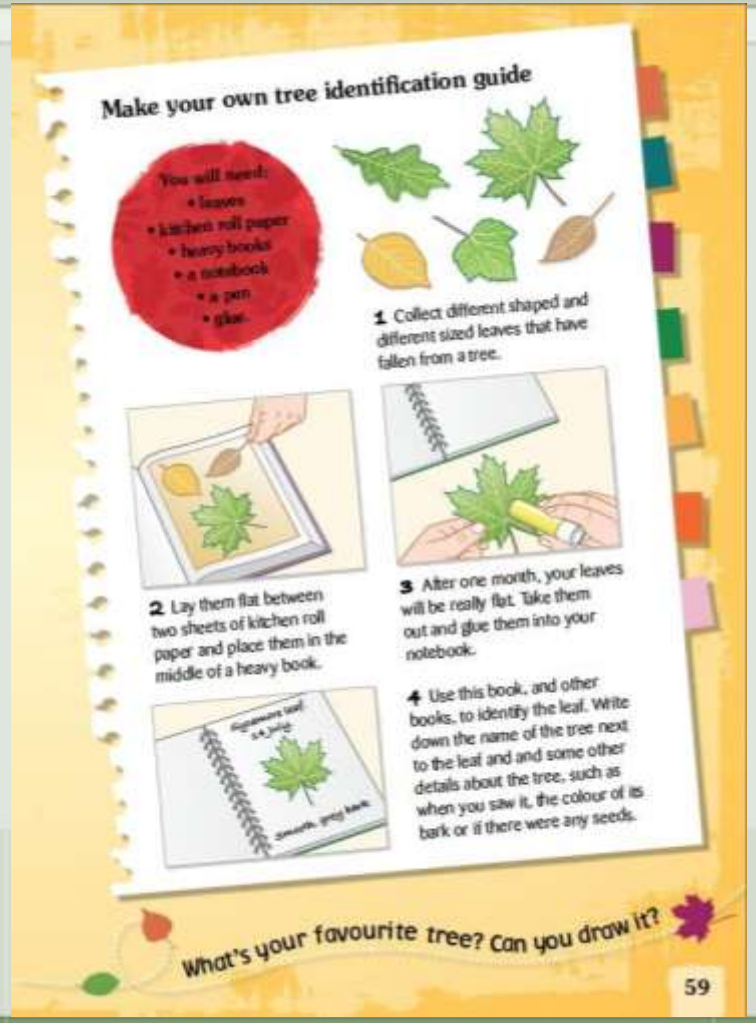
Rowan Tree, also known as Mountain Ash – it's bright, red berries are an important food source for birds.

Trees in my local area – Stanborough Park, Watford

Sycamore Tree – this tree has winged seeds (often called helicopters), that glide far from the tree on the wind.

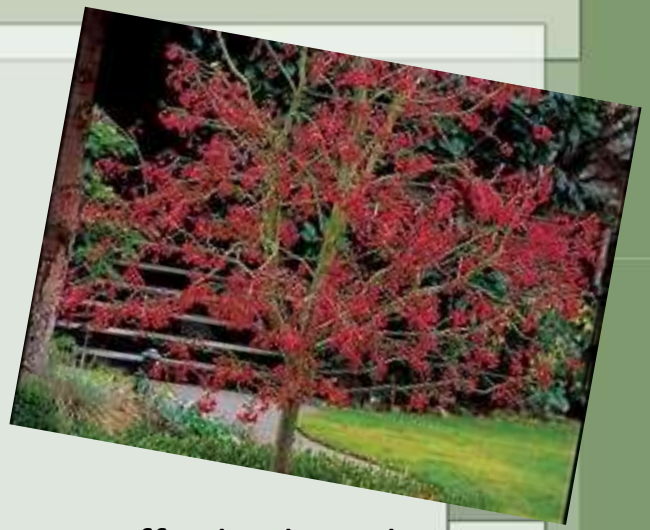
Pressing, drying and identifying leaves

Take a walk around your neighbourhood and discover what trees grow where you live. Collect 10 leaves from different trees, press and dry them (see picture on the right) and add them to your scrapbook. Identify each leaf and add at least one interesting fact about the tree the leaf comes from.



Seed Dispersal

Trees have a bit of a problem – if their seeds are to have a good chance of survival, they need to spread them to a new location away from the parent tree. But how do they do this without moving?



By gravity

The simplest way to spread your seeds is to allow them to drop from a height. Hard or rounded seeds may bounce or roll some distance from where they first hit the earth. Some seeds are inside a shell or case which may split open and scatter their contents.

By animals

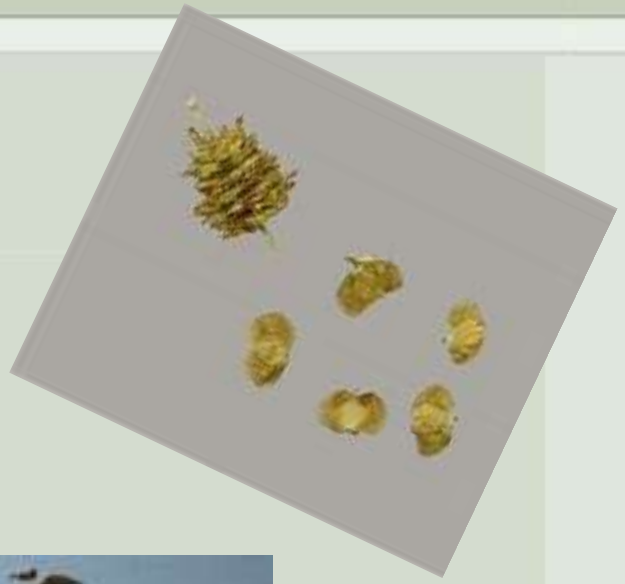
Fruit bearing trees offer birds and other animals a tasty reward for carrying off their seeds. When berries are eaten, an indigestible coating protects the seed inside as it travels through the digestive system until it leaves the bird's body in its droppings (poo).

Seed Dispersal continued

By wind

Some trees produce large numbers of tiny, lightweight winged seeds which float and glide on the wind.

Willows instead release fluffy seeds which use a parachute effect to ride the breeze.



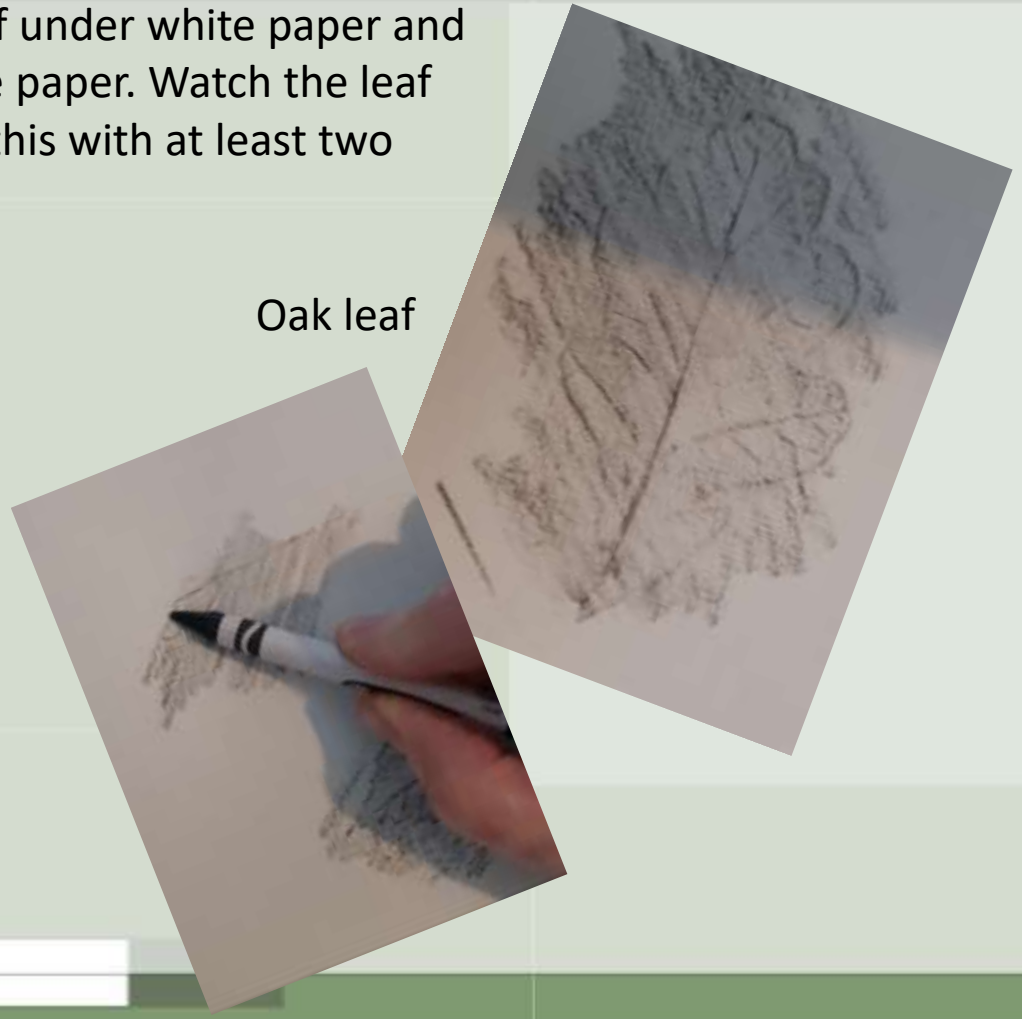
By water

Trees that grow near water will often use the stream or river that is next to them to sweep their seeds to a new growing spot. The seeds float on the water until they are deposited back on land so they can start growing.

Making Leaf Rubbings

To make a leaf rubbing, place a leaf under white paper and gently rub a colour crayon over the paper. Watch the leaf pattern appear on your paper. Do this with at least two different leaves.

Maple leaf



Oak leaf

Silver Birch leaf

Chocolate leaves

To make chocolate leaves, you will need:

- Dark chocolate
- Leaves
- Wax paper
- Brush
- A glass bowl
- Saucepan

Collect some leaves that have deep veins (lines), e.g. maple, bay tree or rose leaves work well.

Chocolate leaves

To make chocolate leaves, melt some dark chocolate in a glass bowl over some boiling water **(Important: ask an adult to help you with this!).**

Heat water in a saucepan to a slow boil (simmer).

Break chocolate into small pieces and put in a glass bowl.

Place the bowl on top of the saucepan with the simmering water.

Your chocolate is melted when there are no more ‘lumps’ and it runs freely off a spoon. Now you’re ready to coat your leaves with chocolate!

Chocolate leaves

Using a small brush, paint the back of the leaf with the melted chocolate.

Chocolate leaves

Put your chocolate covered leaf on a tray or small plate covered with wax paper and put it in the fridge. When the chocolate leaf has ‘set’ (gone cold and hard again), ask an adult to help you remove the leaf from the chocolate. Can you see the leaf pattern in the chocolate?

Leaf Chalk Pastel Art (www.projectswithkids.com)

You will need:

Leaf or leaf stencil

Chalk pastels in autumn colours

Black drawing paper

Scissors

Painter's tape

Paper towels

Workable fixative (optional)

Q-tip or blending stick (optional)

Leaf Chalk Pastel Art (www.projectswithkids.com)

1. Print and cut out your leaf templates. Printing them on white cardstock will make them easier for kids to use.

2. Using painter's tape, tape down a leaf template onto black paper. We used black drawing paper for this project, but you could also use black pastel paper, scrapbook paper or even try black construction paper.

3. Choose your autumn chalk pastel colours, I love how these colours look against the black paper! We used red, 2 shades of orange, yellow, 2 shades of green and brown. Have lots of paper towels on hand. Chalk pastels can be very messy, but also fun! Having paper towels ready and being able to blow off the dust outside helps keep the mess down.

Leaf Chalk Pastel Art (www.projectswithkids.com)

4. Draw around your template with chalk pastels in autumn colours, switching colours as you go. Drawing thick lines will give you the best results.

5. Using your first 2 fingers or your first finger, smudge around your drawing in an outward motion. Remind kids not to smudge back and forth, but in one direction.

Some kids don't like using their fingers to smudge pastels, using a Q-tip or blending stick would also work. If there is a lot of dust created by the smudging, try carefully taking the paper outside and blowing off the excess. If you can't do this, using a damp paper towel to wipe up the dust on your work surface will also work.

Leaf Chalk Pastel Art (www.projectswithkids.com)

6. Carefully remove your leaf template, and blow off any excess dust outside. If there is a lot of dust on the inside of your leaf, try using a Q-tip or eraser to clean up the dust.

You can spray your picture with a fixative spray if you like to help keep it from smudging, but I find this isn't always necessary. This should be done by an adult only in an outside area.

Trees as Habitats

From their leafy branches to their tangled roots, trees provide a habitat for lots of plants and animals.

A habitat is the place where a plant or animal can get all the things it needs to survive. The next time you pass by a tree, think of it as a habitat, or living space.

Find out:

- What are some plants and animals that depend on trees?
- What do trees provide for these plants and animals?
- Observe a tree in your local area. Can you see signs of life on the trunk, branches, roots, and leaves? (Look on the ground around the tree for fallen leaves, twigs, bark, seeds, fruits, or nuts.)
- How is a tree affected by the plants and animals that live on it? (they may benefit, harm, or be neutral to the tree)

Use a magnifier or binoculars to get a closer look.
Use your sense of hearing to locate more plants and animals.
Finally, compare a tree to your own home, or habitat. How are they alike or different?

Protecting Trees

Trees are essential to our planet. They make oxygen that we breathe, and take in pollution (carbon dioxide) from the air. They are home for thousands of different types of wildlife. Some of the fruits and nuts that we eat come from trees. We use trees to make lots of things, such as furniture, buildings and boats. Around the world too many trees are being cut down. We need to make sure there are enough trees in the future.

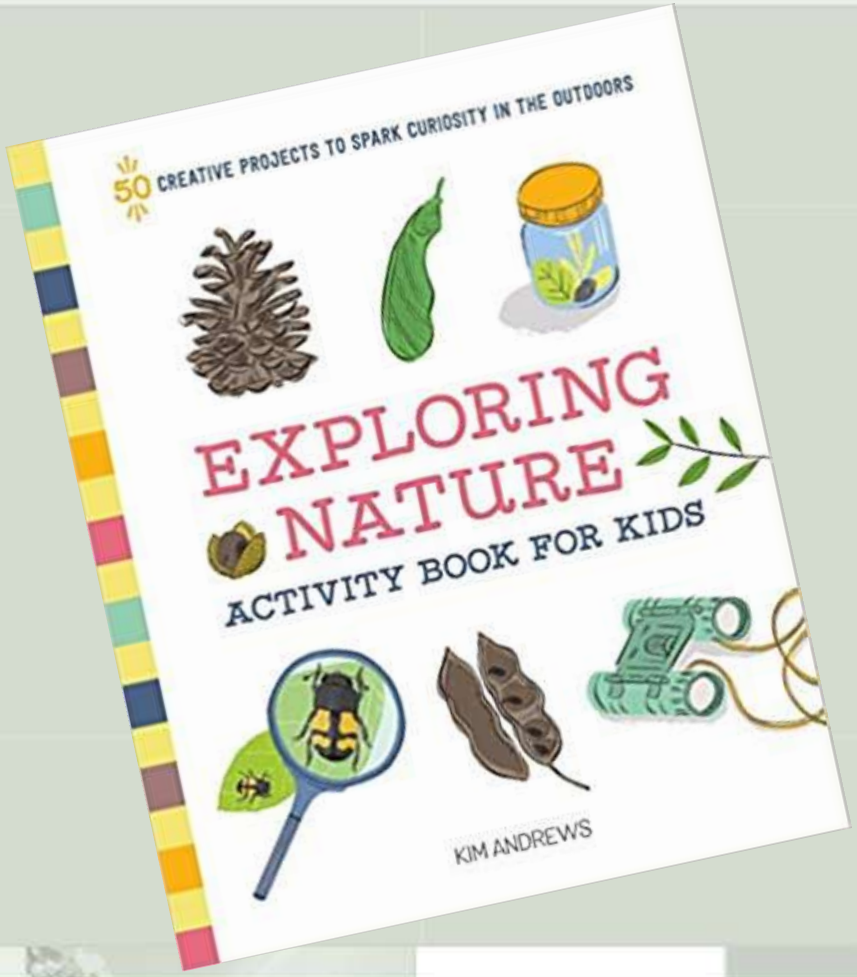
Recycle it!

When you've finished with the paper, make sure it goes into a recycling box. Ask your parents to buy recycled paper, kitchen rolls and toilet paper. Check with your school to see if they use recycled paper too.

You can help!

Trees are cut down to make paper. You can help protect trees by recycling paper. Always use both sides of a piece of paper and use scraps of paper for making lists or drawing sketches.

Here are two books you might find useful:



www.amazon.co.uk

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