

YEAR 1 UNIT 2: Celebrations (Plants and Everyday Materials)

Enquiry Question: Which part of the plant is it? Do all materials make shadows?

Related units: Reception: My World, what can I do to care for my world?
Year 2 - Materials monster and young gardeners: Why are materials suitable for different jobs; Plants – How do plants grow?

Unit overview

National Curriculum Link Year 1: Plants and Everyday Materials

Children will be able to distinguish between an object and the material from which it is made. They will identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. They will describe the simple physical properties of a variety of everyday materials and compare and group together a variety of everyday materials on the basis of their simple physical properties.

Children will identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. They will

Identify and describe the basic structure of a variety of common flowering plants, including trees.

This unit builds on Reception's experience of children sorting materials and understanding that materials have different properties and uses.

Assessment

1. Name 4 objects and what they are usually made from
2. Describe the properties of materials using scientific vocabulary
3. Name the different parts of common plants and trees.
4. Explain the differences between evergreen and deciduous trees.

Scientific vocabulary

- Illuminate
- Light source
- Opaque
- Reflect
- Translucent
- Transparent
- Shadow
- Sound
- Vibration
- Properties
- material
- Stem
- Root
- Petal
- Trunk
- Evergreen
- Deciduous

Activities and working scientifically

- Use a candle and the local environment to explore and answer questions about various sources of light.
- Learn the names for a variety of everyday materials.
- Perform simple test on materials to find out if they create shadows.
- Use their observations and ideas to describe the properties of a range of materials (including plastic, wood, metal, rock, fabric, and glass).
- Describe how they identify, and group materials based upon their properties.
- Use their observations to name the different structures of plants and trees.
- Group fruits and vegetables based upon the part of the plant we eat (flower, stem, leaf, root, fruit and seed).
- Become familiar with a variety of evergreen and deciduous trees and understand the key differences.

Cross-curricular links

English: Re-tell their own experiences of celebrations.. Label the structures of plants and trees.

Maths: Read and write numbers correctly when collecting data; counting and comparing leaves.

Teacher knowledge

Light- Many celebrations during the autumn and winter months have the theme of light; brightening dark days, and bringing light into life. Without light we cannot see and that the word 'dark' means that there is no light. Light sources are anything that makes light, whether natural or artificial. Natural light sources are the Sun and stars. Artificial light sources include lamps, torches and televisions.

Shadows- The aim of the lessons are to help children understand how shadows are made. At this level children are not required to know that light travels in straight lines, even though it is an important and helpful idea. Because light travels in straight lines, when it hits an object, e.g. a child, then the light cannot get through (the child is opaque), so the area behind the child is less well lit and a shadow is formed. The shadow is the same shape as the object (the child) that is blocking the light.

Music for celebration- People use different materials in a celebration and often to make sounds that make people happy, think, scare spirits away, attract attention or to accompany a song for an audience. Sound is made when something moves or vibrates. Just as with light having a source, there are sources of sound. If you hit a drum, the part you hit (the skin) vibrates. This in turn vibrates (shakes) the air molecules next to the drum, which vibrates air molecules next to them, until the air molecules in your ear are vibrated. Inside the ear, tiny hairs then vibrate and messages are sent via nerves to the brain. As you move away from the source of the sound, it gets fainter because the sound has further to travel, and as the vibration moves through the air it doesn't only travel to your ear, but in many other directions as well.

Food and our senses - Foods vary according to the celebration and the culture. Many people remember food as part of celebrations because of their sensory memories, e.g. smells, sounds, tastes. Children should understand that some ingredients come from part of a plant. Children should be able to identify the basic structure of a plant and discuss which parts of the plant different ingredients come from (roots, leaves, seeds, shoots, bark, stems, flowers).

Materials- All objects are made from a material or various materials. A material is the substance from which that object is made e.g. a saucepan is made from metal and plastic. Most children will be able to recognise plastic, metal and wood, but may find the materials leather, rock, glass and fabric more difficult to identify. The property of a material is something about it that we can measure, see or feel. Most materials have more than one property and children will need to feel a variety of objects to facilitate a range vocabulary associated with material properties e.g. hard, soft, flexible, smooth, bumpy, rough, cold, warm, transparent, opaque, rigid and stretchy.

Deciduous- A deciduous tree loses its leaves each year. The leaves usually change colour and fall off in Autumn. During winter, deciduous trees have no leaves on their branches. Deciduous tree leaves are typically characterised by flat, broad leaves. Some examples of common deciduous trees in the UK are Beech, Oak and Horse Chestnut.

Evergreen- An evergreen tree keeps its green leaves all year round. You can remember this from the name (ever**green**). Evergreen leaves are often small, narrow, thick, spiky and waxy. Some examples of common evergreen trees in the UK are Holly, Fir, Spruce and Yew.

Misconceptions-

- Children think that windows are a source of light. Transparent materials such as glass allow light from a source such as the Sun or lamp to pass through them.
- Children think that all objects and materials create shadows. It is important to explain that objects that do not allow light to pass through them create a shadow. Transparent and translucent objects may create faint shadows or none at all.
- Children think that a material can only be described by one property. Most materials can be described using a range of properties e.g. metal can be hard, heavy, rigid and cold. It is important to explain that the same material e.g. metal can sometimes be rigid, like the metal on a car, but can sometime be flexible, like wire or tin foil.

Resources

Sources of light- <https://www.stem.org.uk/resources/elibrary/resource/32090/light>

All about materials- <https://www.bbc.co.uk/bitesize/topics/zrsgk7>

How sounds are created- <https://www.youtube.com/watch?v=3-xKZKxXuu0>

Evergreen and deciduous trees- <https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-are-plants-the-same-all-year-round/zdvct39>