LESSON 5: WHAT MAKES A TREE A TREE?

LESSON SUMMARY:
In this lesson children learn that trees are plants, collect evidence about trees in their local environment and make comparisons. By the end of this lesson they have identified similarities and differences between trees, and recognised common features of many. If necessary, arrange to visit a nearby park.

Preparation required:
Identify at least three trees of differing heights in the local environment. Photograph each tree with the same person beside it and present these in a slide-show for use during the Explore part of the lesson. Print off a copy of the slides for children to arrange in height order.

This lesson links to OCW: Plants, Lesson 2 Do all trees lose their leaves in winter and grow new ones in spring? In this series of lessons, children make observations of trees in their local environment across the seasons, recognising differences between trees of different types, for example, evergreen or deciduous.

National curriculum links:
To identify and describe the basic structure of a variety of common flowering plants, including trees

Learning intention:
To identify and name, describe and compare a variety of trees in the local environment

Success criteria:
• I can identify a variety of trees in my local environment.
• I can observe and describe trees, identifying similarities and differences between them.
• I can compare the heights of different types of trees and the diameter of their trunks.

Resources:
Strips of paper to wrap around trunks of trees, wax crayons and paper, digital cameras, sketchpads, tape measures and metre sticks

Health and safety:
Ensure that children wash hands thoroughly after handling plant material and soil.

Key information:
Many children have a concept of ‘plant’ that does not include trees: that plants are small and can be grown in pots.

EXPLORE:
Say to children: Trees can be giants! But they are really just a type of plant, with a massive stem that we call a ‘trunk’.

Ask: How tall is a tree?

Show children the photographs of different trees in the local environment (see Preparation).

Ask: Which tree do you think is the tallest and which the shortest? How can you be sure?

Provide printed copies of the slides to arrange in height order.

Ask: We decided which tree we thought was the tallest and which the shortest, but how will the others fit in? Is this one shorter or taller than that one?

Help children to create sentences to compare the trees, such as “The rowan tree is smaller than the oak tree. The oak is the biggest tree”. Use Key vocabulary flashcards (Resource sheet 1) to help build sentences. Blank flash cards are provided for adding trees specific to your area.

ENQUIRE:
Ask: What types of trees can you find in our local area? What do all trees have in common? Do all those we have seen have trunks and branches? Do they all have leaves?

Return to the photographs and repeat the names of parts of a tree, particularly the trunk.

Ask: Are all the trunks of trees always the same size or are some bigger than others?

Explain to them that they are going to get to know a tree by taking bark rubbings and photographs, collecting leaves and twigs, and so on. They wrap strips of paper around their tree to measure the size of the trunk. Back in class they make a display or big book page about ‘Our trees’. Show Getting to know your tree (Slideshow 1) and go through it.
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The challenges are differentiated by the levels of observational and comparison skills required for their completion.

The challenges are presented on the Challenge slides to be displayed on the board, or printed and handed out to the children.

**Challenge 1:** Children choose a tree and observe its bark and surroundings

The children choose a tree to investigate in the school grounds or nearby and make a bark rubbing of its trunk to show its texture. They look around the tree for anything that has fallen from it, such as leaves, twigs, fruits or seed cases.

Ask: What is your tree called? What does the surface of its trunk look like? What colour is it? Is it smooth or rough? Does it have cracks or a flaky surface? Did you find anything on the ground under the tree? What do you think you found?

**Challenge 2:** Children choose a tree and observe in detail its bark and surroundings

The children choose a tree to investigate in the school grounds or nearby and make a bark rubbing of its trunk to show its texture. They look at the tree using magnifiers for anything that is living on the bark or the roots.

Ask: What is your tree called? What does the surface of its trunk look like? What is its texture like (what does it feel like)? Smooth, rough, bumpy, shiny? Does it have cracks or a flaky surface? Is the bark hard or soft? Can you see anything living on it? Or down among the roots? What might that be?

**Challenge 3:** Children choose a tree and closely investigate its bark and surroundings, measuring the trunk circumference

The children choose a tree to investigate in the school grounds or nearby. They work in twos or threes (depending on the size of the tree) to measure the distance around the tree’s trunk. They use magnifiers to examine the surface of the trunk.

The children may need to be shown how to use the measuring strip. Provide a long strip of paper to wrap around the trunk and a pencil. Show them how to place the strip at a point they can reach, where the trunk is at its thickest. One or two children should hold the strip level while another overlaps the two ends and marks the point of overlap. Remind children to write the name of the tree on the paper strip. Back in class they could measure this in standard units.

Ask: Which tree’s trunk did you measure? What is your tree called? What is its trunk like? What is the bark like? (Rough, smooth, bumpy, shiny?) Is it a tall or short tree? How big was its trunk? Is it thick or thin?

**REFLECT AND REVIEW:**

Ask a child who completed Challenge 3 to demonstrate how they used a strip of paper to measure their tree’s trunk. Ask the other Challenge 3 children to hold up their measuring strips for comparison. Pin up the strips on a board, to compare the lengths of the different strips.

Ask: Are all the strips a similar length? Which tree had the thickest trunk? Which had the thinnest trunk? Did the tallest tree have the thickest trunk? Or did our results show something else? Refer back to the photographs children sequenced at the beginning of the lesson. Can we use these to help us compare our trees?

**EVIDENCE OF LEARNING:**

Look and listen for evidence of learning throughout the lesson and in response to your questions. Can children identify trees in their locality? Do they understand that trees are plants that have a stem called a trunk? Can they observe and describe similarities and differences between trees, such as scale, trunks, branches, leaves? Did they make any observations about the roots, referring to what they learned in the last lesson? Could they compare and order different types of trees by height? Could they use appropriate vocabulary to describe relationships between the trees? Did children use Maths skills in measuring and comparing the diameters of tree trunks?
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