



#### LESSON SUMMARY

Students will learn about the significance and function of tree rings, cambium and heartwood and later use this knowledge to create their own model of their “life as a tree” to share with their classmates.

## Activity Information

<b>Grade Level:</b>	Primary
<b>Estimated Duration:</b>	40 minutes
<b>Materials:</b>	Paper plates, crayons, pictures of tree discs, tree disc (if resources allow), two sticky labels per student, pencils
<b>Setting:</b>	Indoors
<b>Key Vocabulary:</b>	Tree rings, cambium, heartwood

## Teacher Background

Before beginning this activity, the teacher must have an understanding of the function and significance of tree rings, bark (protection), cambium (helps the tree produce new bark) and heartwood (supports the tree on the inside).

This lesson requires students to understand the relationship between tree rings and age, using this knowledge to relate it to their lives. Students are required to create their own “Life as a Tree” visual representation to share with their classmates. Students will each be given a paper plate, to which they will color it brown, add rings for their age and place sticker labels on the rings to represent significant changes or important events in their lives (e.g. birth, new sibling, pet).

## Teacher Preparation

Before this activity begins, the teacher will need to print off enough pictures of tree discs to provide every group or table with one picture. If possible, it is recommended that these are laminated, to preserve them for future use. The teacher will need to have counted the rings on the tree before the lesson. If resources allow, the incorporation of a real tree disc is recommended.

The teacher will need to gather one paper plate per student. It is preferred that the plates have a bumpy or rough underside, representing the texture of tree bark. It is recommended that before the lesson begins, the teacher creates their own visual representation of their life, providing students with a model of the desired project.

## Curriculum Connections

### Grade 1 Science

#### Specific Expectations

##### Understanding Life Systems

- *Relating Science and Technology to Society and the Environment: 1.2*
  - *describe changes or problems that could result from the loss of some kinds of living things that are part of everyday life*
- *Understanding Basic Concepts: 3.5*
  - *identify what living things provide for other living things*

##### Understanding Structures and Mechanisms

- *Relating Science and Technology to Society and the Environment: 1.2*
  - *assess objects in their environment that are constructed for similar purposes in terms of the type of materials they are made from, the source of these materials, and what happens to these objects when they are worn out or no longer needed*
- *Understanding Basic Concepts: 3.6*
  - *distinguish between objects and materials found in nature and those made by humans*

**Overall Expectations****Understanding Life Systems**

- *Investigate needs and characteristics of plants and animals, including humans*

**Understanding Structures and Mechanisms**

- *demonstrate an understanding that objects and structures have observable characteristics and are made from materials with specific properties that determine how they are used*

**Activity****STEP ONE**

- Students will be seated in the classroom, preferably in table groups.
- The teacher asks the class the following questions, guiding students towards the answers
  - “Why are trees important?”
  - “Does anyone know what the purpose of tree bark is?”
  - “Has anyone heard of cambium before?”
  - “Has anyone heard of heartwood before?”
  - “Has anyone ever seen what the inside of a tree looks like?”

**STEP TWO**

- The teacher will hand each table group a picture of a tree disc and ask the class, “What do you think the rings of a tree mean?”
  - Show the students how to count the rings on the tree, and have them try.

**STEP THREE**

- The teacher will give each student a paper plate and a brown, green, black and red crayon.
- The teacher will tell the class that they are each going to make a tree ring of their lives and quickly show them your previously made model.
- Ask the students to color the back of the plate brown, like the bark on the tree.
- The teacher will ask students what the significance of cambium and heartwood are to assess their learning.
  - After this, ask students how they would like to represent each



- Have the students draw a green circle around the outer edge of the inside of the plate to represent cambium and a heart in the center of the plate to represent heartwood.
- The teacher will ask the students what is left – the rings! Have the students draw the same number of rings on their plate as their age.
- The teacher will display their “Life as a Tree” to the class once more, showing them the sticky labels.
- Every student will receive two sticky labels and a pencil and will be asked to place them beside two important events in their lives (birth – first ring, new sibling at 3 – third ring etc.).

**Extension**

If time allows, the students should be opened up to the question of varying widths or distances between the tree rings. Students will have already have an understanding about the significance of tree rings and their relation to age. Have students brainstorm, and provide them prompts such as “What do trees need to grow?” if necessary. Try and guide students to consider weather conditions such as drought to account for small growth rings.