

# Aging Tree and Fish Activity



# Aging Trees and Fish – An Activity

## Key Concepts:

FOR YOUNGER STUDENTS and OLDER STUDENTS

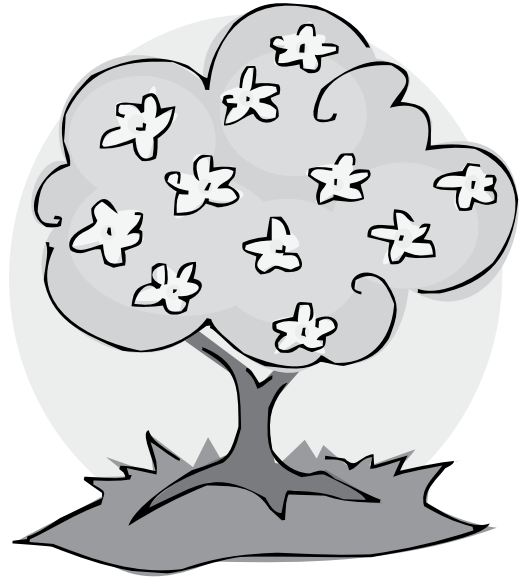
- By examining a drawing of a salmon scale, students will be able to determine their age.

## Objectives:

1. Students will learn about tree growth patterns.
2. Students will be able to age a tree by counting its growth rings.
3. Students will relate growth information to the aging of fish through their scales.

## Materials:

- Tree cross-sections (if available)
- Enlarged fish scale drawing
- Copy master (following page)



## Background:

Cross-sections of tree trunks reveal the different layers of a tree. Each ring in the trunk of a tree represents one year of tree growth; they are called annual rings. Each year the cambium (cambium is the area just under the bark) forms a layer of light-colored cells in summer. You can ‘read’ the age of a tree by counting the rings in a cross-section of the trunk. The annual rings in a tree cross-section vary depending on the weather and growing conditions.

## Method for Aging Trees:

1. Explain how tree rings are made and what constitutes one ring. Pass out tree “cookies” from the kit to students. Have them decide how old the tree was when it was cut.
2. Each group finds the rings that correspond to the years their classmates were born. Use pins to mark the ring(s), first placing a paper “flag” on the pin to label the date.
3. Use pins to mark other significant dates. For example, how large was the tree when:
  - a. Students were in the first grade?
  - b. The school was built?
  - c. Washington or Oregon became a state?
4. Examine the cross-section for differences in growing conditions during the years the trees lived.

## Method for Aging Fish:

## Educator Material

*This is where we relate tree rings to the aging of fish through their scales.*

1. Split the class into groups of two. (If you have a small class the students could work individually).
2. Give each group one scale to work with, can be xeroxed from the following page. They may need a magnifying glass to see the details of the rings. A photocopy of the scales could be used so the students can write directly on the scale.
3. Students should look for the heavy or dark rings in-between the lighter rings. The heavy lines are called annual rings (the mark of 1 year of life). Just like the cross-section of a tree trunk, the oval scales of the salmon show annually growth rings. Annual rings can be used to learn the age of a tree or fish. During the summer or other times when growing conditions are good, the fish grows quickly and the rings are far apart. In winter when living conditions are not as good, the fish grows slowly so the rings are close together.
4. Ask students to tell about their fish. How old is it? Did this fish have a lot of space between the annual rings or very little? What does that mean? Which part of the scales shows where it was attached to the fish? What part was exposed?
5. Students could create their own scale, drawing the light and dark lines indicating differing growth patterns. Have them explain the reasoning behind what they created addressing some of the same questions in #4 above.

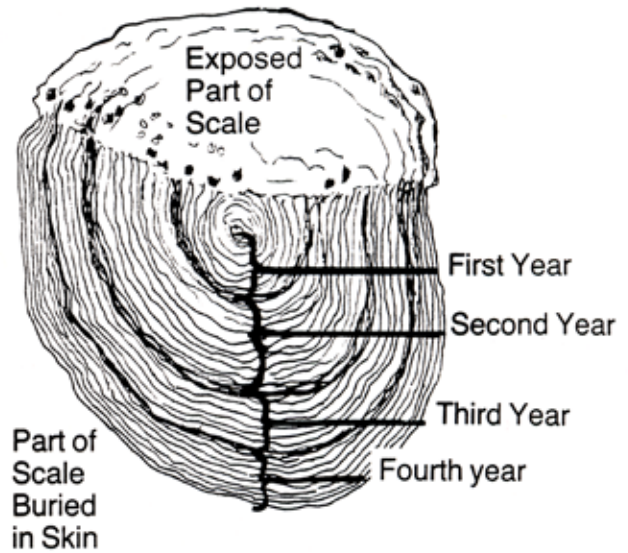
### **Evaluation:**

Students observe the cross-section of a tree and list events which might cause differences in the width of tree rings. They describe how each event might influence the size of the ring.

## How is a Salmon Like a Tree?



Cross Section of Tree



Salmon Scale

Just like the cross section of a tree trunk, the oval scales of the salmon show annual growth rings. Annual rings can be used to learn the age of a tree or fish. During the summer or other times when growing conditions are good, the fish grows quickly and the rings are far apart. In winter when living conditions are not as good, the fish grows slowly so the rings are close together. How old is the fish below?

