

Title: Branch Puzzles

**Adapted from A Head Start on Science Encouraging a Sense of Wonder
by William C. Ritz, Editor*

Objective: Assemble pieces of branches together to make whole branches.

Time: 15 minutes

Materials Needed: Two 1-foot lengths of a branch from two different types of trees, several 1-foot branches from a variety of trees cut into multiple pieces so as to allow for one piece per student using straight and angled cuts
Optional: masking tape and paper

Directions:

1. Show students the two 1-foot uncut branches. Discuss details that the students notice about the branches.
2. Explain that you have cut some other branches from different types of trees into small pieces. Each student will receive one piece to join with others to complete a branch.
3. Have students find the matching branch puzzle pieces and make groups according to the type of tree branch they have.
4. Have the groups reassemble their branch. Optional: You may want to have them tape their branch pieces together on paper.

Variation: Blindfold students and give each a stick to explore for one minute. Collect the sticks, mix them up, and put in a pile. Students remove blindfolds and find the stick they had. What characteristics helped them identify their stick?

Discussion Questions:

1. Discuss the characteristics that enabled you to know your piece belonged to the same tree as the others in the group. What kind of tree does your group think it is? Why?
2. Was there a thicker and thinner end? Which part of the branch do they think was connected to the tree? Discuss.
3. If branches were collected on the school grounds, have students in the group try to identify the source of their branch.

Activity

Theme: Plants

Topic: Sequencing

Suggested Grade Level: K-5

Indoors or Outdoors: Outdoors

Science and Engineering Practices:

3. Planning and carrying out investigations; 7. Engaging in argument from evidence; 8. Obtaining, evaluating, and communicating information.

Crosscutting Concepts:

1. Patterns; 3. Scale, proportion, and quantity; 6. Structure and function.

Disciplinary Core Ideas:

Life Sciences: LS3: Heredity: Inheritance and variation of traits.

Background Information:

- Branches get thinner toward their ends. The trunks of trees will be rougher than the smooth bark of small branches.
- Types of trees can be identified by their bark, leaf arrangement (opposite or alternate leaves), and leaf shape.

Additional Resources:

- *This Is the Tree* by Miriam Moss
- *Have You Seen Trees?* by Joanne Oppenheim
- *Not a Stick* by Antoinette Portis
- *Trees of Minnesota Field Guide* by Stan Tekiela
- Minnesota Native Trees - <https://www.dnr.state.mn.us/trees/native-trees.html>

Correlates with:

Greeting - Parts of a Tree (p. 28)

Interdisciplinary Lesson - Tree Drawing (p. 117)