

Part 2: Leaf Detectives

Discover the diversity of leaf shapes, colours, and sizes and practice categorizing leaves.



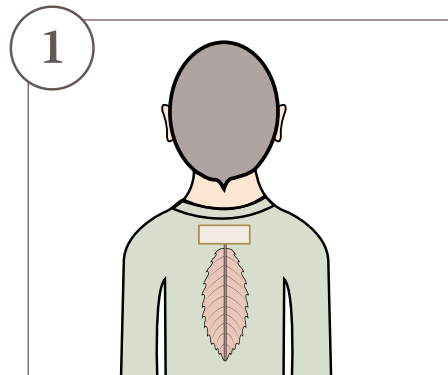
MATERIALS

- An assortment of leaves, compound, simple, toothed, lobed, palmate, needles etc. Ask students to bring in 2-3 leaves each.
- Magnifying glasses
- Dissecting microscopes (if possible)
- Crayons
- Masking Tape
- Leaf skeletons (found in the fall)
- Scrap paper
- Leaf Types poster and worksheet (1 worksheet per student)
- Optional: maple syrup (sap) (an example of sugars, produced by maple leaves by photosynthesis during the previous summer and stored in the trees over winter)
- Spoons to taste maple syrup (plant sugars)

PREPARATION

Before the lesson, you'll need to prepare several assortments of different leaves (one assortment per group of students). Students will sort and draw these leaves on their "Leaf Types" worksheet.

LESSON



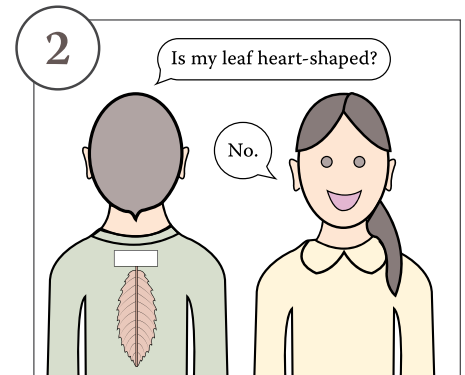
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1. Leaf Detectives activity preparation. Students face away from the teacher, and each student gets a mystery leaf stuck on their back. The goal of the game is to get as many clues as possible as to what kind of leaf they have.

While they are waiting for their turn to have the leaf taped on their back, students can start to brainstorm as to what **yes / no questions** they will ask each other.

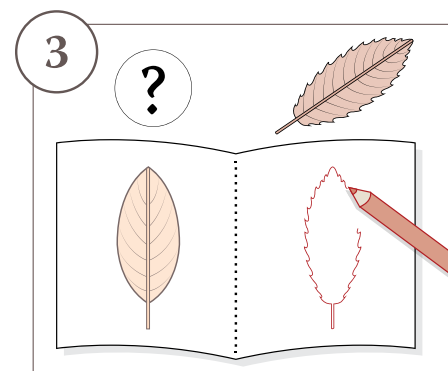
Include the following questions:

1. **Simple or Compound**
2. **Shape:** lanceolate (shaped like a sword or lance), oval, needle, palmate, triangular, circular, etc.
3. **Margin:** Entire (smooth), toothed, lobed, wavy
4. **Venation:** Parallel or net veins
5. **Colour:** green, yellow, brown, red, orange, purple, grey



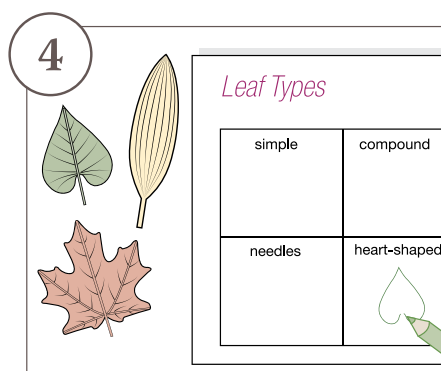
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2. Mingle. Rules: Students may ask questions that have a yes or no answer only. Eg. Is my leaf simple? Is my leaf compound? Does my leaf have teeth? Is it yellow? Green? Does it have net veins? Parallel veins? Students can circulate asking each other questions and gathering clues about their leaves.



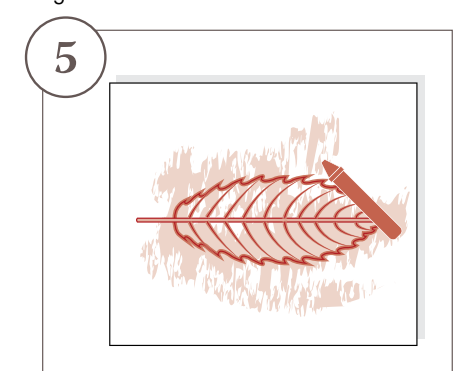
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3. Leaf guesswork. When students think they have enough clues to draw their leaf, hand out a scrap paper folded in half. On one half students will draw what they think they have on their back. Once the drawing is complete, they can then get a buddy to help remove the leaf, and they can then draw the leaf that they actually had. Compare the drawings.



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4. Leaf sorting. Hand out examples of many leaves and have students find and draw a leaf for each category on their activity sheets. Hand out leaf skeletons and magnifying glasses. Allow students to look closely at the veins.

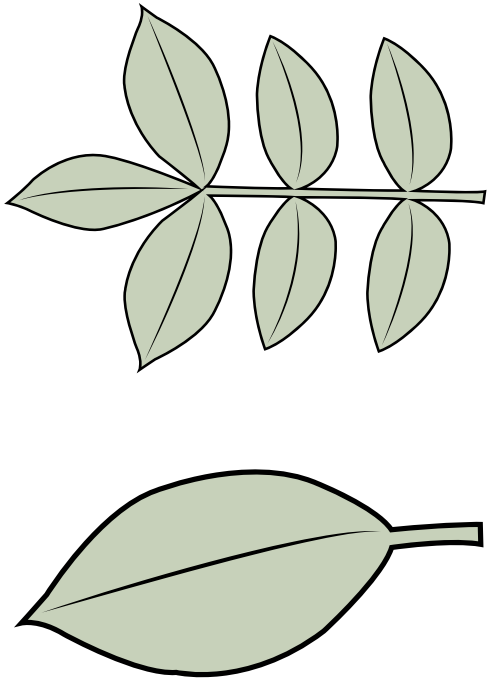


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5. Leaf rubbings. If time permits, get students to make leaf rubbings using the flat part of their crayon. Place the leaf under a piece of paper and gently rub the crayon lengthwise, over the leaf. Leaf venation and shape will appear.

Closure Discussion

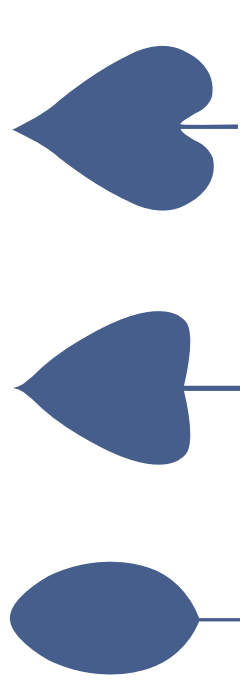
Review: What is the function of a leaf? What travels in a leaf vein? Review leaf shapes, margins, and venation. Give students a taste of maple syrup if desired.



simple

compound

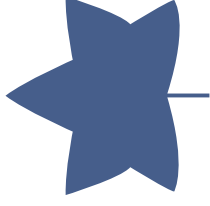
Simple or Compound



oval

triangular

heart-shaped



palmate



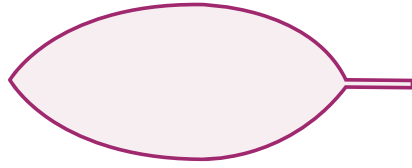
lanceolate



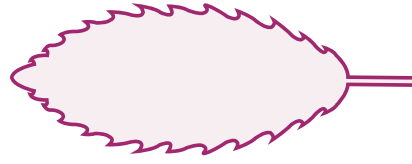
needles

Shape

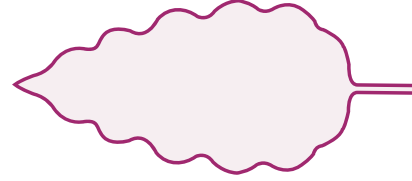
Leaf Types



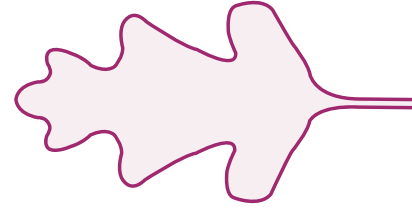
entire



toothed

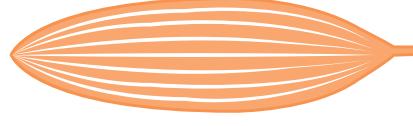


wavy

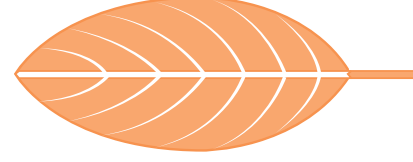


lobed

Margin



parallel



pinnate net



palmate net

Venation

name: _____

Leaf Types



Find leaves that match the leaf types in the chart below. Draw one leaf in each box.

simple	compound	parallel veins	net veins
needles	heart-shaped	palmate	lanceolate