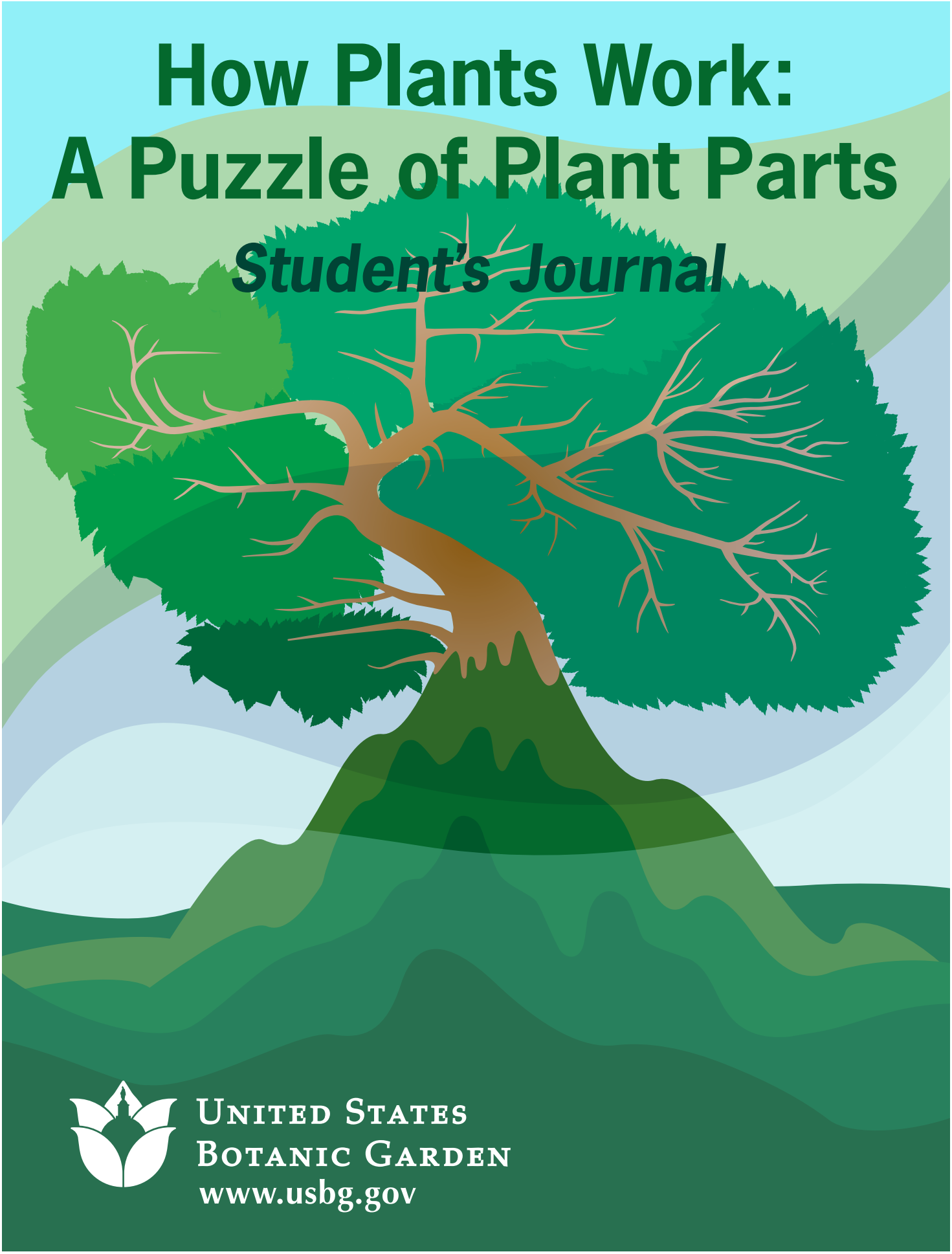
How Plants Work: A Puzzle of Plant Parts

Student's Journal



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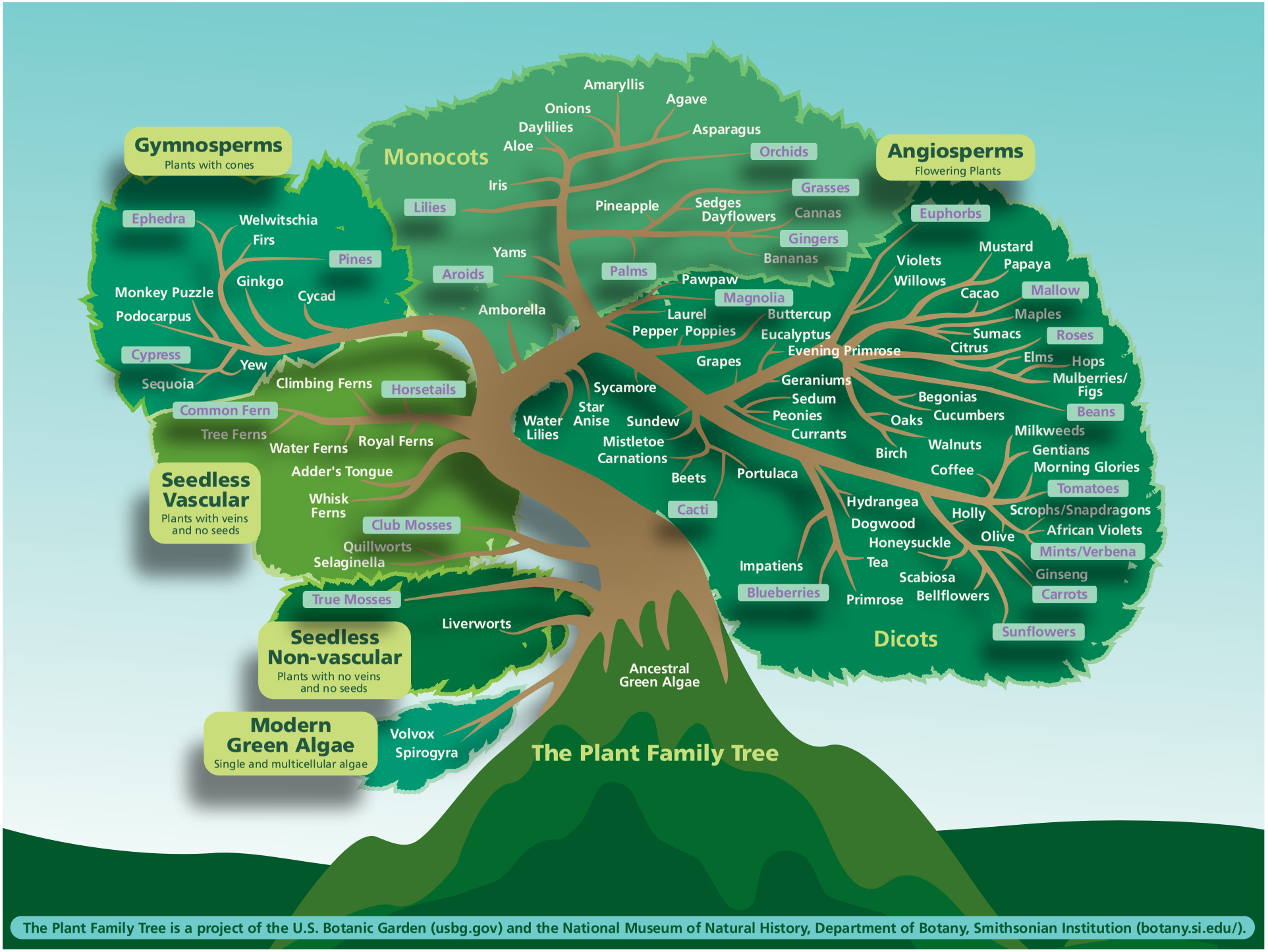


The Plant Family Tree is a project of the U.S. Botanic Garden (usbg.gov) and the National Museum of Natural History, Department of Botany, Smithsonian Institution (botany.si.edu/).

A Puzzle of Plant Parts

Why do plants have so many different parts?

Exploring the Conservatory…

Follow your teacher or chaperone and explore the many rooms of the Conservatory and start to notice the different parts of a plant.

Puzzle Piece #1: STEMS!

Look at the many plants in the Garden Court and see if you can find the stems of these plants. Select one plant and draw its stem below.

Plant Name: _____

The stem holds up the leaves and flowers of a plant. This is important because the leaves need to be held up to the sun to get light for photosynthesis and the flowers need to be held up to be available for pollination. Stems carry water and minerals up from the roots to the leaves to help with photosynthesis and take food back down to be stored.

Puzzle Piece #2: LEAVES!

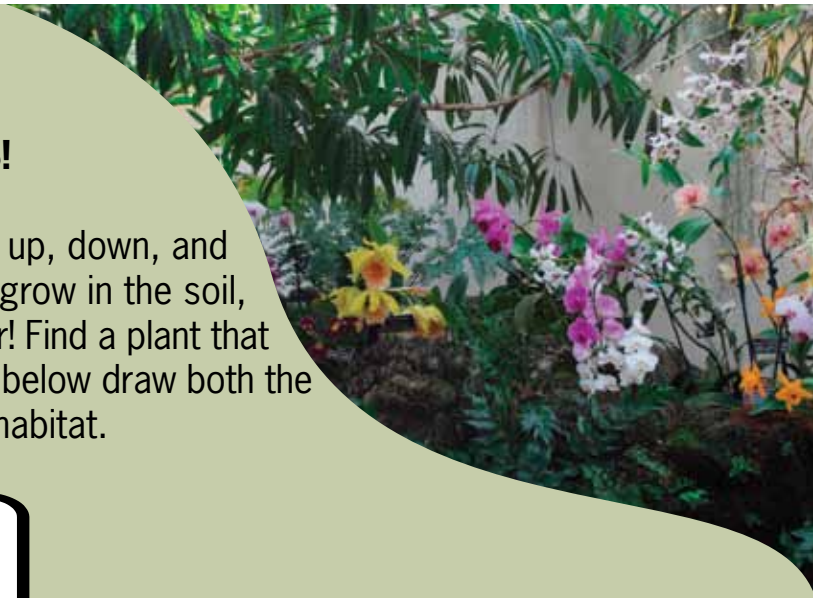
Proceed to the Jungle and discover the many plants. Find two plants with COMPLETELY DIFFERENT leaves, one from the ground floor and one from the canopy. Look at leaf shape, color, size, and texture to find differences. Draw each leaf in the space provided, making sure to write down the name of its plant.

Plant Name: _____

Plant Name: _____

Think Tank!
What influences the size of a plant's leaves?

Leaves are the usual site of photosynthesis. Transpiration (evaporation) occurs in the leaf and draws water and minerals up from the roots. Leaves are the place of gas exchange: carbon dioxide in, oxygen out!



Puzzle Piece #3: ROOTS!

Follow your teacher to Orchids. Look up, down, and all around. Notice that some orchids grow in the soil, some in the rocks, and some in the air! Find a plant that has roots above ground. In the space below draw both the plant you found, and its surrounding habitat.

Plant Name: _____

Think Tank!
Why do some roots grow above ground?

Puzzle Piece #4: FLOWERS!

Stay in the Orchid Room, but this time look at all the different flowers. Find your favorite flower and draw it in the space below. See if you can find a flower that looks like its possible pollinator.

Plant Name:
_____

Think Tank!
What is the purpose of a flower? Find a partner and share your thoughts.

Dig Deeper…

Follow your teacher or chaperone back to the Garden Court. Use your knowledge of plant parts to explore the Garden Court and answer the following questions:

1. Find a plant that humans depend on for something they drink. Which part of the plant is used in this drink?

Plant: _____
Product: _____
Plant Part: _____

2. Find and list below two plants with parts that are used to season and flavor foods and/or drinks. What part of that plant do you use?

Plant: _____
Plant Part: _____

Plant: _____
Plant Part: _____

3. Look at the large murals. Find a plant that is used to make a product that is not a food or a beverage. What part of the plant does this item come from?

Plant: _____
Product: _____
Plant Part: _____

What Did You Learn?

Plants and humans are both alive, but their parts function differently to allow them to cope with the challenges in their environments.

Is this statement true or false? Why?