A Legacy of the Roman Empire: Botanical Names

Overview:

Students will learn that plants have Latin names because Latin was the international language of science when scientists started developing a classification system for plants. They will learn the genus and species names of several plants in the garden and create illustrated name cards for those plants.

Objectives:

At the end of the lesson students will be able to:

- **Understand** that plants have a scientific (botanical) name that gives information about the plant.
- **Understand** why Latin is used today as the "language of science".
- **Research and label** the botanical name for plants in the garden.

Preparation:

- Prior to the lesson, bring in a plant from the garden that can be used as an example during the lesson.
- Review the handout.

Vocabulary:

- genus
- species
- botanical name
- scientific name
- common name

Materials:

- Handout: "Botanic Names"
- Index cards
- Popsicle sticks
- Colored pencils/markers

Supplemental Materials:

- Map of the Roman Empire at its height
- Diagram of a family of plants
- Images of several plants with their Latin names

On the Board:

- Vocabulary
- Student Reflection Questions

Suggested Snack:

- Seasonal produce, preferably one of the edible plants identified in the garden

Other Resources:

- Meaning of Latin Plant Names: http://theseedsite.co.uk/latin.html

Learning Activities:

1. Warm-Up (5 min.)
   A. Ask students to identify a common plant, such as an apple tree. Ask them to say the name in any language they know (apple, manzana, pomme) and, with a partner, discuss the following:
      - Why might it be confusing for people to discuss this fruit if they are calling it by different names?
      - What name would you give this fruit if you could name it using physical characteristics to describe it? For example, a crunchy, red skinned, roundish piece of food. Encourage them to use descriptive words.

2. Discussion (20 min.)
   A. Tell students that because of the international collaborative nature of science, a unified system was needed to identify plants, which are often called different things in different parts of the world. A Swedish scientist named Carolus Linaeus created a system of naming plants, using mostly Latin in the mid 1700's. Latin was the language of the Roman Empire (show map).
      - Botanical names are also called scientific names. These are mostly in Latin, but some are Greek or other ancient languages.
      - Common names can give a clue about what the plant is used for and may vary in different parts of the world.
      - Plants have two names: genus and species. Genus refers to the "family" (a group of plants which share characteristics and can be thought of like one's last name). Species is the specific plant in the family, and can be thought of like a first name. Combining these names gives each plant a unique botanical name which is recognized in the global scientific community.
   B. Explain how the botanical names work using the handout. Remind them that the genus name goes first and is capitalized, and the species name is second, and written in lowercase.

3. Garden Activity (15 min.)
   A. Have students take their handout to the garden and work in partners or small groups to identify four plants for which they will research their botanical (Latin) names. These plants should be ones they can identify with their common names.
      - On their handout, they should include:
        - a common name
        - a sketch
        - a brief description (color, shape of leaves, height, use)

B. Using available technology (i.e., computer, iPAD, phone, or a plant dictionary), research the botanical names of the plants. Record on the handout. (Depending on school and teacher protocols, students could use their individual devices to do this research.
C. Provide students with index cards to create their botanical name cards for the plants they researched (one card per plant). Remind students to include image, botanical name written accurately, common name, and a brief description.

4. Snack (5 min.)
   A. Serve any seasonal produce, ideally one of the foods used in the activity, reminding students of their botanical and common names.

5. Reflection (5 min.)
   A. Have students answer the Reflection Questions in their garden journals.

Student Reflection Questions:

1. Why is it important for scientists to have a common language?
2. Can you think of any other fields of study where Latin is used? **(medicine, law, etc.)**

Assessment Questions:

1. Name the two parts of a botanical name.
   - **genus, species**
2. Which language is the "language of science"?
   A. Roman
   B. Latin
   C. Swedish
3. What are some challenges that scientist had before a universal system of naming plants was created?
   - **Depending on the part of the world, plants had different names in different languages. This was confusing when scientists were talking about the same plant but calling it different names.**
4. What is an accurate comparison for the two parts of the botanical name?
   A. Genus is like a family last name and species is like a first name.
   B. Genus is like a first name and species is like the family last name.

Standards:

Common Core State Standards

- CA HSS Analysis Skills (6–8)

Research, Evidence, and Point of View 5, Historical Interpretation

- CCSS.ELA-LITERACY.RH.6-8.7
Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

Botanical Names

Name: Teacher: Date:

1. Study the plant/food that your teacher is presenting to you. Come up with a new name for this object based on its descriptive characteristics (color, size, use, shape, scent). Sketch and label your plant in the blue box below.

2. This plant label shows both the common name of the plant (Rosemary), the genus name *(Rosemarinus)* and the species name (*officionalus).* Notice the beginning letters of the common name and the genus name have capital letters, while the entire species name is written with lower case letters. The genus and species names are written in Latin and are the plant's botanical, or scientific, names.
3. In the garden, select four plants that you know the names of (if you need support, ask a partner or teacher). Fill in the information on the "Table of Plants" on the other side of this page, then use a reliable site on the internet to research the plant's botanical name, such as : https://extension.umass.edu/floriculture/plant-identification
4. Finally, make a garden name tag (using index cards) for each plant that includes: a sketch, common name, and botanical name. These cards will then be attached to popsicle sticks and displayed in the garden next to the appropriate plant.

Table of Plants

Sketch	Common name	Genus	Species	Brief Description

Map of the Roman Empire

Geographical Tour: A Tour of Empire

A Plant Family: *Brassica oleacea*

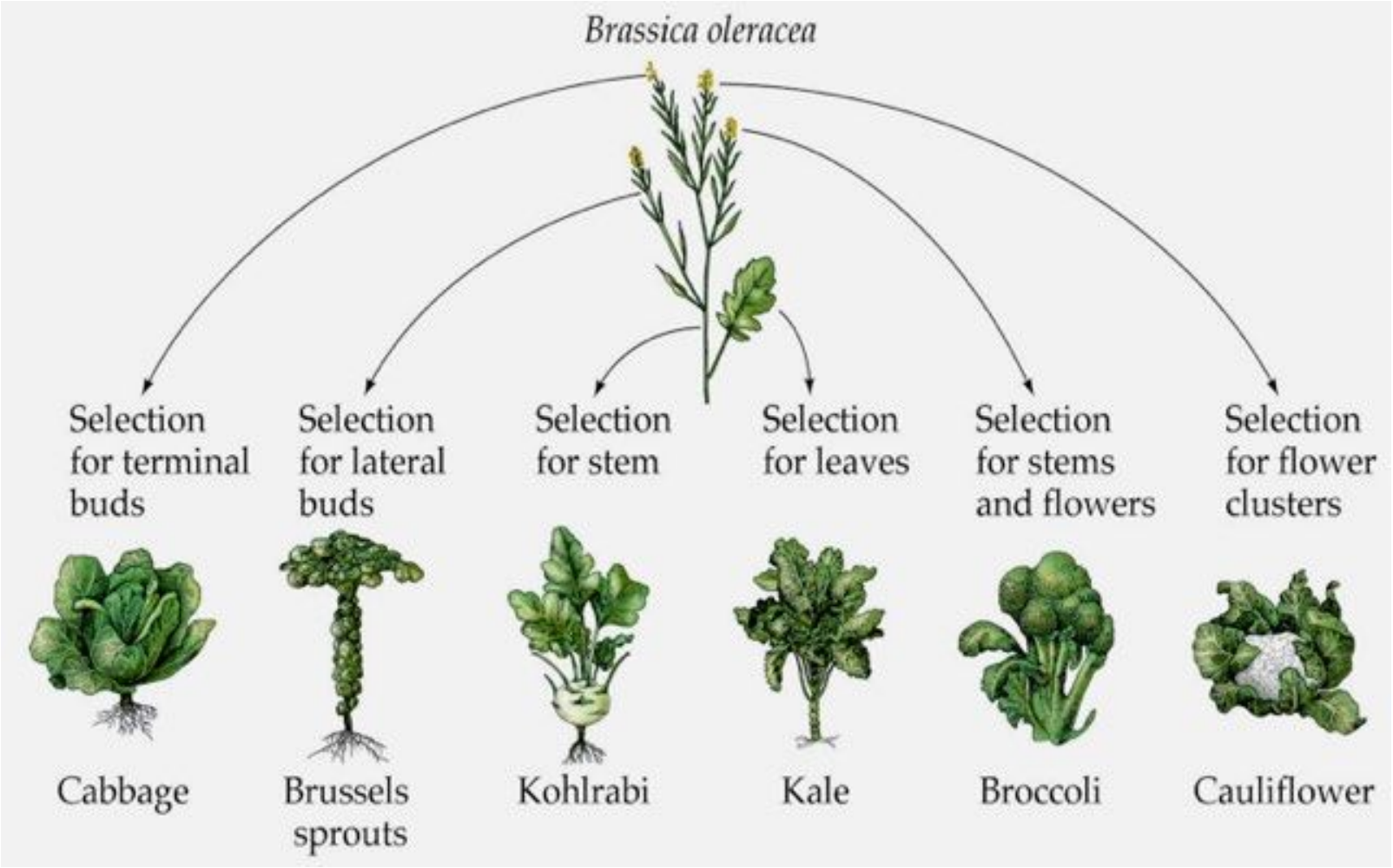
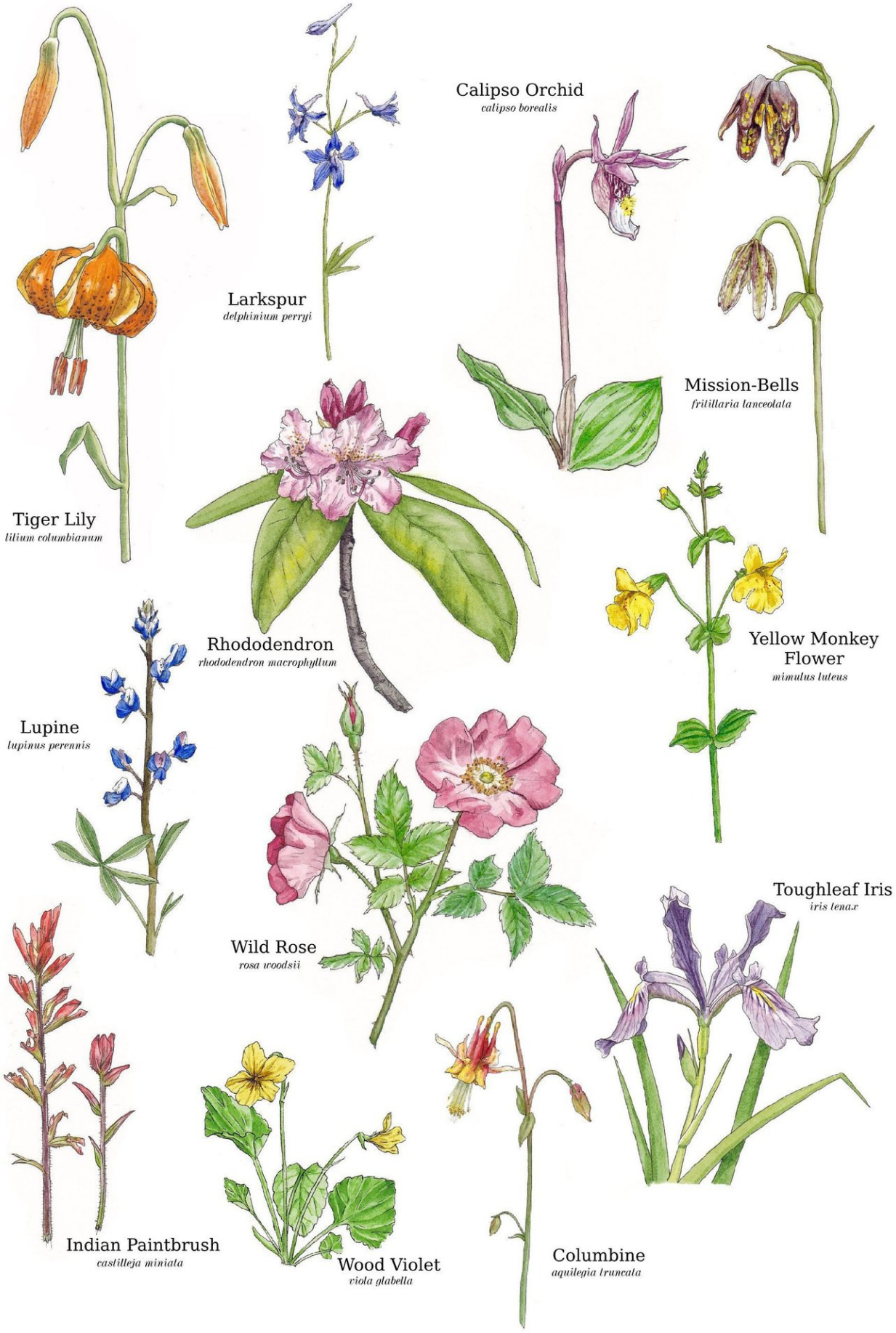


Image from: https://www.vox.com/xpress/2014/8/6/5974989/kale-cauliflower-cabbage-broccoli-same-plant



Pacific North West Wildflowers

By Kiri Bolles