

# Stem Anatomy

Name:

Period:

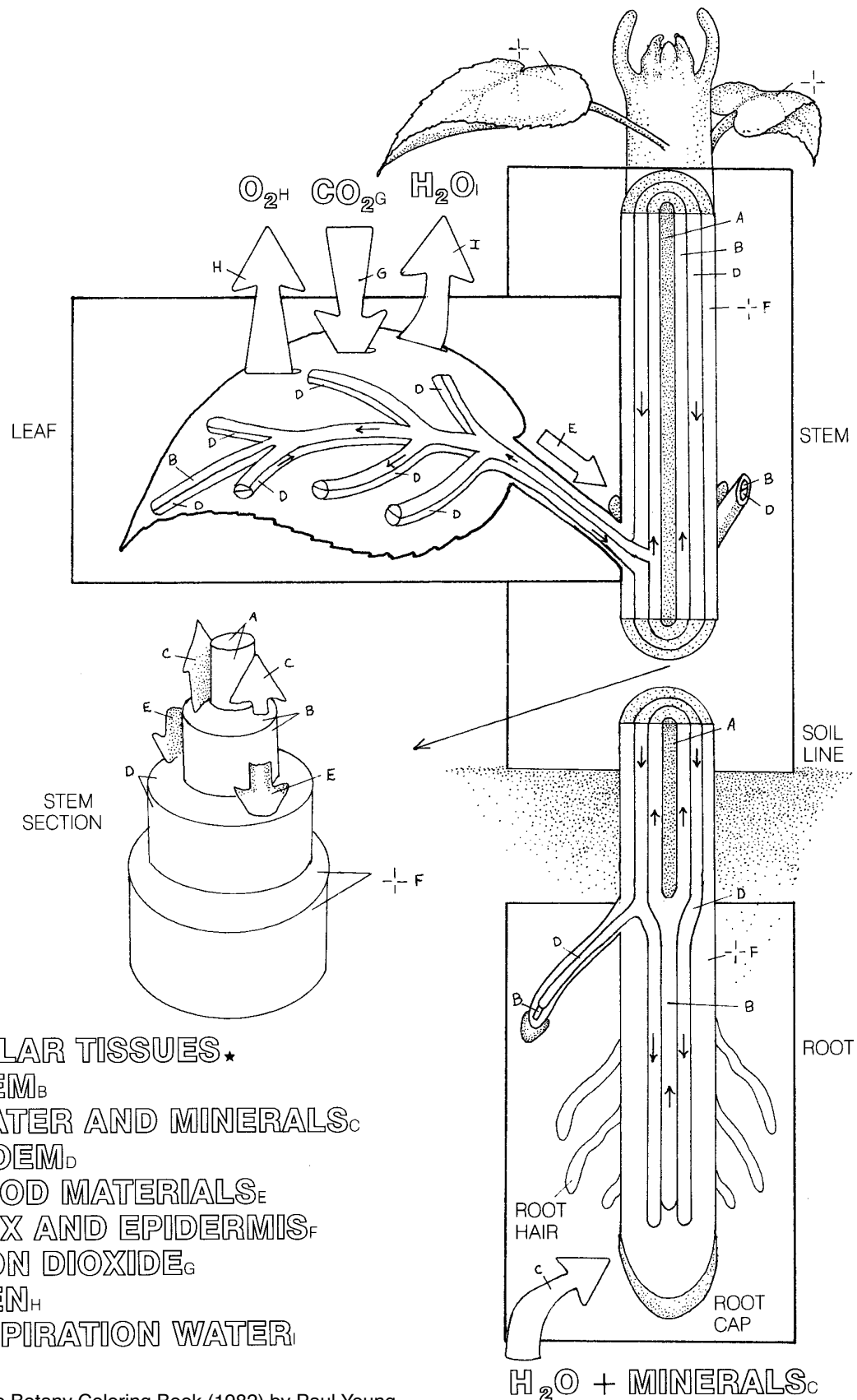


diagram from The Botany Coloring Book (1982) by Paul Young

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Follow the directions below to color-code the diagram and to answer the questions. You can use p.376-377 of your textbook to help you. Use colored pencils, and check off each box ☐ as you finish that part of the instructions.

For this exercise, you will be identifying various parts of a plant stem, and connecting their **structure** (body part) to their **function** (job). The stem structure of plants is usually found above ground. Stems connect the roots of the plant with its leaves and reproductive structures, and serve several functions in doing so. Stems support the plant body, holding up the leaves, flowers, and other reproductive structures. Stems transport materials between the roots below ground, and the leaves, flowers, and other reproductive structures above ground. In some plants, stems store materials like water.

Stems are filled with structures called **vascular tissue**. These are like little pipes that carry materials from one part of the plant to another. There are two types of vascular tissue, **xylem** and **phloem**. In the list of terms, find XYLEM, and carefully color the letters purple ☐. Now, using purple again, color any part of the root labeled with a B ☐. Still using purple, color any part of the stem and the stem section labeled with a B ☐. Finish using purple to color any part of the leaf labeled with a B ☐.

1. What does xylem transport in a plant? *Hint: reread p.374.*

In the list of terms, find PHLOEM, and carefully color the letters blue ☐. Now, using blue again, color any part of the root labeled with a D ☐. Now, using blue again, color any part of the root labeled with a D ☐. Still using blue, color any part of the stem and the stem section labeled with a D ☐. Finish using blue to color any part of the leaf labeled with a D ☐.

2. What does phloem transport in a plant? *Hint: reread p.374.*

Now let's look at what moves up and down the stem. In the list of terms, find WATER AND MINERALS, and carefully color the letters light brown or tan ☐. Next, use light brown or tan again to color the three large arrows labeled with a C ☐. Carefully color H<sub>2</sub>O + MINERALS light brown or tan as well ☐.

3. Where does a plant get water and minerals from? *Hint: look at the diagram.*

In the list of terms, find FOOD MATERIALS, and carefully color the letters green ☐. Next, use green again to color the three large arrows labeled with an E ☐.

4. Where does a plant get food from? *Hint: look at the diagram.*

5. What materials move up a plant stem? *Hint: look at the diagram.*

6. What materials move down a plant stem? *Hint: look at the diagram.*