

# Leaf Anatomy

Name:

Period:

## DERMAL SYSTEM ★

EPIDERMIS<sub>A</sub>

CUTICLE<sub>B</sub>

## STOMATE ★

GUARD CELL<sub>C</sub>

STOMA<sub>D-I</sub>

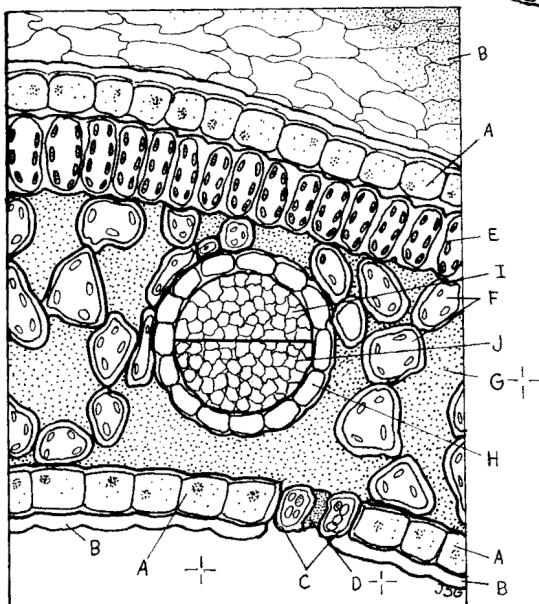
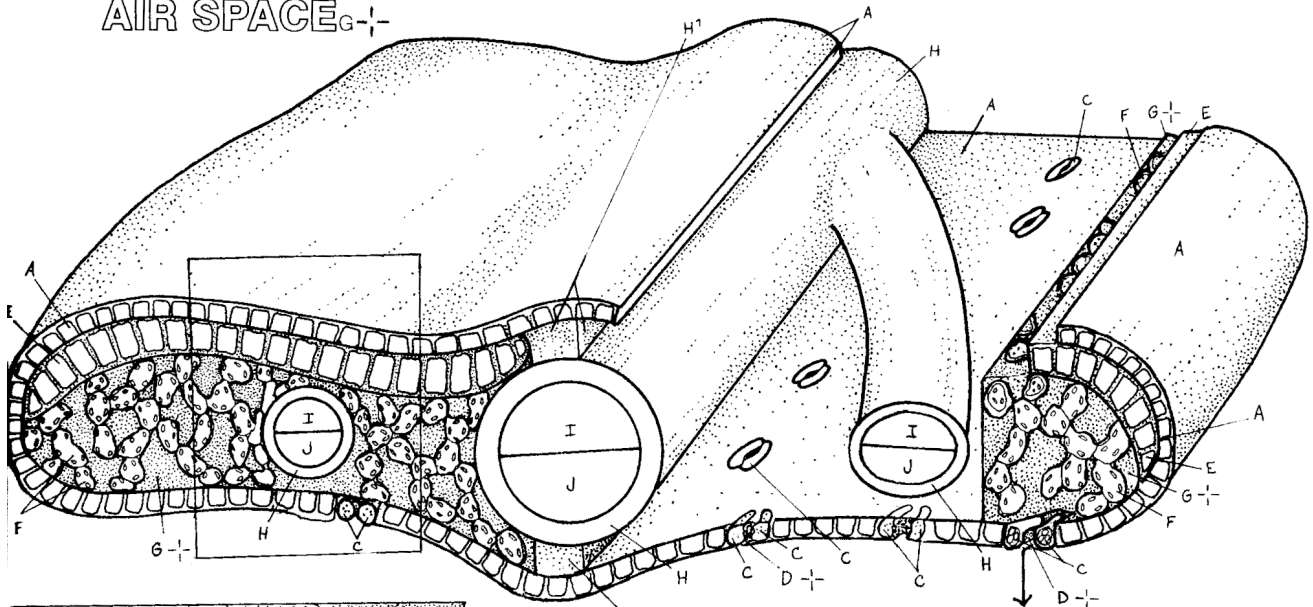
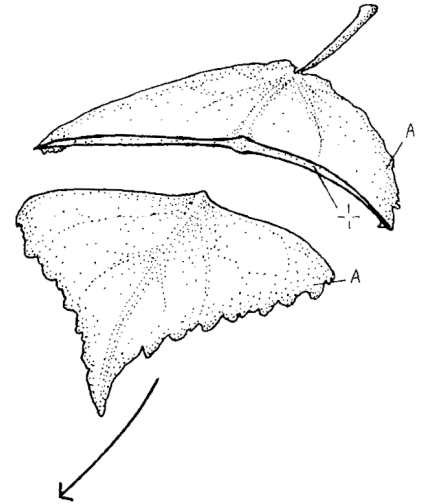
## FUNDAMENTAL SYSTEM ★

MESOPHYLL ★

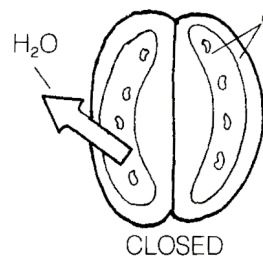
PALISADE PARENCHYMA<sub>E</sub>

SPONGY PARENCHYMA<sub>F</sub>

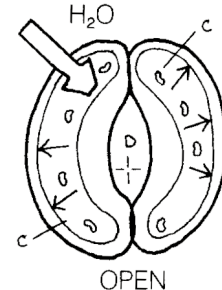
AIR SPACE<sub>G-I</sub>



## STOMATE ★



CLOSED



OPEN

BUNDLE SHEATH<sub>H</sub>

BUNDLE SHEATH EXTENSION<sub>H'</sub>

## VASCULAR SYSTEM ★

XYLEM<sub>I</sub>

PHLOEM<sub>J</sub>

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*Follow the directions below to color-code the diagram and to answer the questions. You can use p.377-378 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 leaf, and connecting their **structure** (body part) to their **function** (job). The leaf structures of plants are attached to the stems. The main function of leaves is to make food for the plant. In doing so, they capture sunlight and control the movement of gases into and out of the plant.

Just like the roots and stems, leaves 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 leaf labeled with a I ☐. Still using purple, color any part of the leaf closeup in the box labeled with a I ☐.

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 leaf labeled with a J ☐. Still using blue, color any part of the leaf closeup in the box labeled with a J ☐.

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

Now let's look at how the leaf can control what goes in and out of it. In the list of terms, find CUTICLE, and carefully color the letters light brown or tan ☐. Next, use light brown or tan again to color the cuticle layer in the leaf closeup in the box labeled with a B ☐.

3. What is the job of the cuticle on a leaf? *Hint: reread p.378.*

In the list of terms, find GUARD CELL, and carefully color the letters orange ☐. Next, use orange again to color any part of the leaf labeled with an C ☐. Still using orange, color any part of the leaf closeup in the box labeled with an C ☐.

4. What is the job of the guard cells in a leaf? *Hint: reread p.378.*

Use green to color the part of the leaf that is labeled with an E ☐. Next, use green again to color anything in the leaf closeup box labeled with an E ☐.

5. The layer of cells you colored green contains organelles called chloroplasts. What is the job of chloroplasts? *Hint: reread p.378.*