

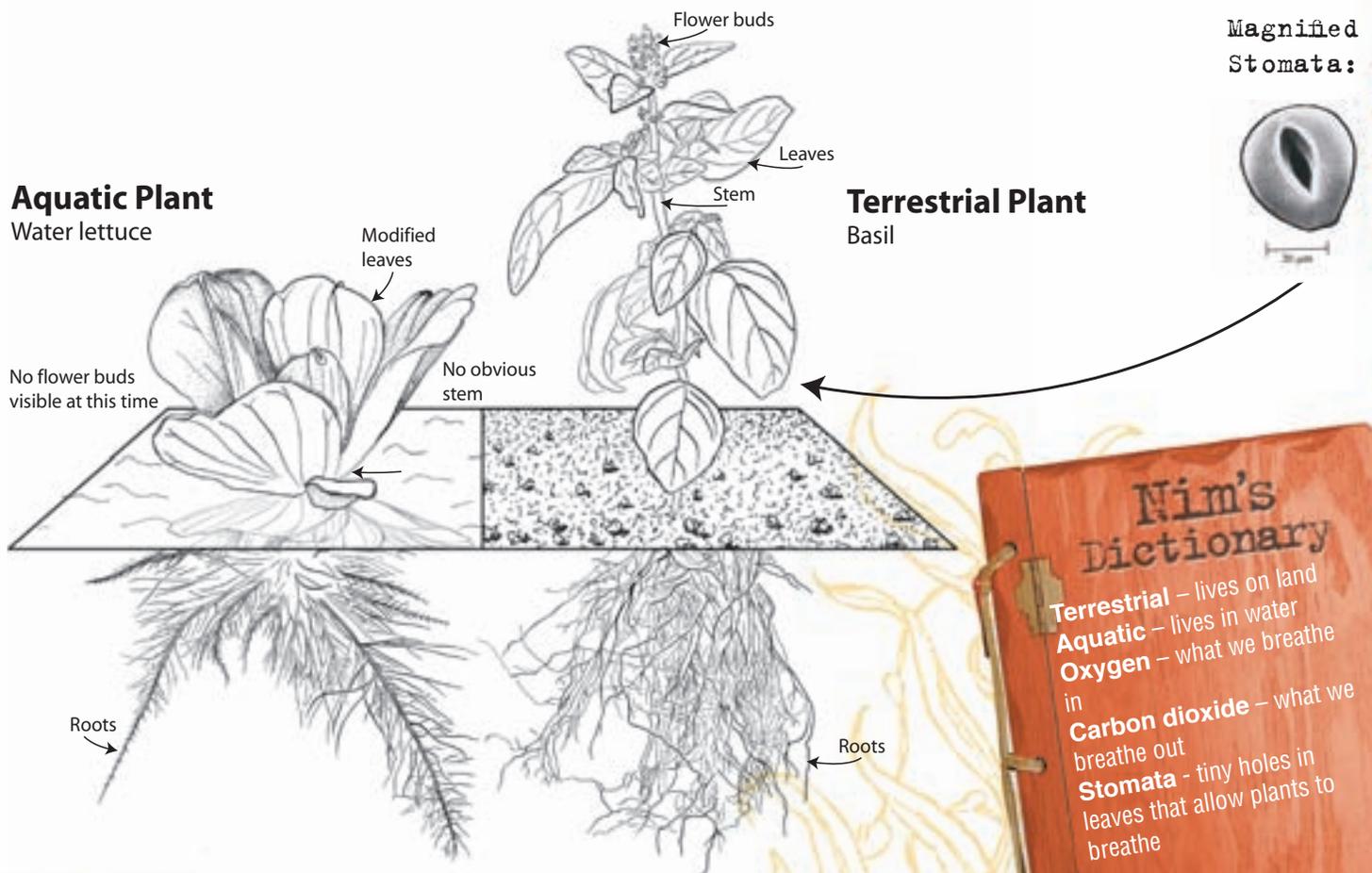
# Terrestrial vs. Aquatic Plants

Nim's Island is covered in plants, from the forest where she swings on vines to the water where she swims with them. Plants live everywhere on Earth, both on land and in water. Wherever they live, plants provide food and oxygen to the creatures that live nearby – including humans! In this activity we will examine both a **terrestrial** (land) plant and an **aquatic** (water) plant. They have many things in common, but the ways they get air, food and water change along with the environments in which they live.

Plants breathe in air through **stomata**, just as humans breathe air through their noses. This not only allows plants to breathe but it helps humans too! Though plants breathe in air as we do, while we absorb **oxygen** from air and release **carbon dioxide**, plants take in carbon dioxide and release oxygen. Plants give us the oxygen that we need, and remove carbon dioxide from the air. This helps us because having too much carbon dioxide in the air makes it hard for us to breathe.

Terrestrial plants get plenty of air so they usually have stomata on the bottoms of their leaves. Aquatic plants have their leaves near or under the water, but they also need to breathe. Plants that float on the surface of the water have their stomata on top, where they have access to air. Plants that live completely under water gather carbon dioxide from the water. When they release oxygen you can see tiny air bubbles gathering around them.

Plant roots drink water and nutrients from the environment. Aquatic plants have plentiful water to drink, but nutrients may be scarce; the opposite is true of terrestrial plants. Roots change shape to compensate for what the plant is trying to get from its environment.



# Terrestrial vs. Aquatic Plants

Name: \_\_\_\_\_

Date: \_\_\_\_\_

In the diagram below, identify which plant lives on land and which plant lives in water. Label the **roots**, **stems**, **leaves**, and **flowers** on each plant. Be sure to include the following: **Roots, Stems, Leaves, and Flowers.**

What are the differences between terrestrial plants and aquatic plants? \_\_\_\_\_

---

---

---

How have aquatic plants adapted to be better suited to living in water? \_\_\_\_\_

---

---

What might happen if your plants switched environments? \_\_\_\_\_

---

---

---

This is a \_\_\_\_\_ plant.

This is a \_\_\_\_\_ plant.



# Terrestrial vs. Aquatic Plants

Name: \_\_\_\_\_

Date: \_\_\_\_\_

What are the differences between terrestrial plants and aquatic plants? \_\_\_\_\_

---

---

How have aquatic plants adapted to be better suited to living in water? \_\_\_\_\_

---

---

What might happen if your plants switched environments? \_\_\_\_\_

---

---

Look at the roots of both plants, what do you see? Draw what you see and then label the differences between them. \_\_\_\_\_

---

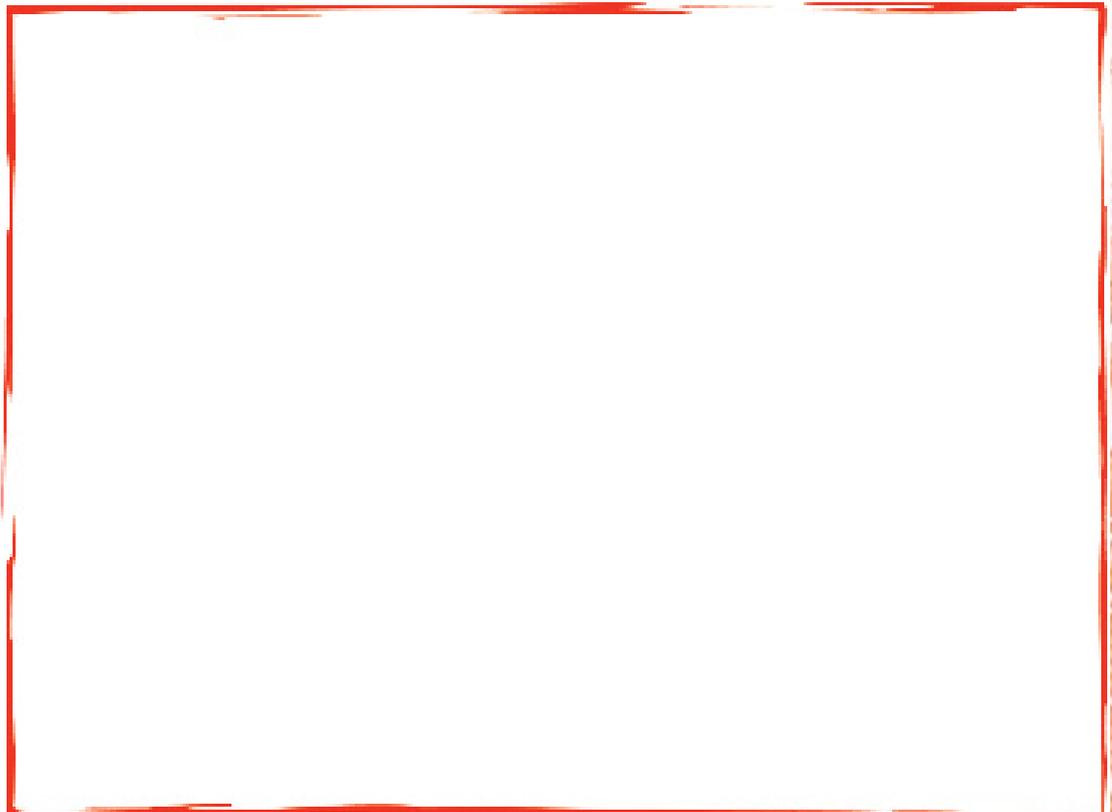
---

How does each plant smell and feel? \_\_\_\_\_

---

---

Draw one aquatic plant and one terrestrial plant from the specimens given to you. Identify which plant lives on land and which plant lives in water. Label the **leaves**, **stem**, **roots** and **flowers** on each plant.



# Terrestrial vs. Aquatic Plants

## *Educator Page*

**Exercise 1:** (No plant samples needed) Use the Provided student worksheet. Have the students label the illustration and answer questions.

Materials:

Copies of the worksheet  
Pencils

**Exercise 2:** (Plant samples needed) Give the students examples of each of an aquatic and a terrestrial plant. Have them do their own discovery and illustrations before answering the questions. Good examples of plants for this exercise include Elodea (which can be found in the aquatic sections of pet stores) and sprouted soybeans, however any convenient type of each terrestrial or aquatic plant will work for this project. Encourage each student to look at each plant leaf under the microscope. Ask them: what do you see? Draw what you see and then label the differences between them.

Materials:

An aquatic plant - Enough plant material for each pair of students to work with.  
A terrestrial plant - Enough plant material for each pair of students to work with.  
Microscope (optional)

### National Standards:

**Science:** NSES Grades K-4 Life Sciences

Standard C: students should be able to develop and understanding of: the characteristics of organisms and organisms and environments.

**Visual Arts:** CNAEA Standard 2: Using knowledge of structures and functions.

**English/Language Arts:** NCTE/IRA Standard 8: Students use a variety of informational resources to gather and synthesize information and to create and communicate knowledge.