Classifying Plants
What is in a name?

3rd-5th Grade

Objectives

- Students will recognize different ways to identify plants.
- Student will understand a variety of terms related to plants.

Materials

- Plant Details Worksheet
- Pen, Marker, or Crayon
- Paper

Introduction

It is estimated that there are nearly 400,000 different species of plants on earth. They come in many shapes and sizes. One plant can look completely different from another plant. Their leaves and stems can look very different. In fact, they may not even have leaves and stems. Fully grown plants can be as small as a speck of dust (watermeal) or 300 feet tall (redwood). There is an orchid that grows in the rainforest that has seeds so small that 35 million of them weigh only one ounce. The largest seed in the world is a seed from a type of palm tree and can weigh up to 40 pounds.

With so many plants and so many differences, it is next to impossible to know all of the plants. There is a system called taxonomy that is used to classify all living things. It divides these living things up by using nine different levels. Everything gets a scientific name! For example, corn is called Zea Mays. This system has been around for over 250 years and it can be complicated.

Let's learn some more common terms that are easier to understand to describe the plants that we see every day. Some of these are simple and some may be a challenge.

Background

Common terms used to describe plants.

Is it a grass or a broadleaf plant?

- Grass leaves have parallel lines. Look at the lines in the leaf, they are called veins. If the veins are all straight with the others, it is a type of grass!
- This is a close-up of a corn leaf. You can see all the straight lines. These are the parallel veins. So, corn is a type of grass.

- Broadleaf leaves have netted veins. If you look closely, they kind of look like a tree.
- These are mustard leaves. Look closely and you can see the veins look like tree branches. So, this mustard plant is a broadleaf plant.

Is it an annual or perennial?

- This one could be a little harder to figure out. An annual completes its life cycle in one year. Corn is an annual. It sprouts from a seed in the spring, grows all summer and the plant dies in the fall.
- Perennial plants can live for many years. The grass and trees in the yard are perennials. They do not have to be planted every year. Many of them can produce seeds but the plant stays alive for many years, if taken care of properly.

Is it a fruit or vegetable?

- Sometimes this one can be confusing, but you have to think about the part of the plant that is being eaten.
- A fruit normally has seeds and it came from the flower of a plant. Over time, seedless fruits have been developed but they are still a fruit because they came from the flower.
- This is a Gala flower and the apple it can produce. Did you know that a tomato is actually a fruit? Think about it. It came from the flower and contains seeds.

- A vegetable comes from parts other than the flower like the seeds, stems, leaves and roots. Think about what you are eating when you eat these examples:
  - Peas are seeds
  - Celery is the stem
  - Lettuce are leaves
  - Carrots are the roots
- Corn might be the most confusing plant in this category. Some people consider corn a fruit! This sounds crazy but if you are eating corn on the cob, you are eating the seeds from part of the flower. Yes, the cob is part of the flower. If you are eating corn kernels from your plate, you are just eating the seeds and that makes it a vegetable. See, it can be confusing!

Are these crops a forage crop, a grain crop, or a fiber crop?

- In this case, you have to think about the part of the plant are you using.
- With forage crops, the entire plant can be used. When a cow is foraging, she is eating the entire plant (mostly leaves and stems). Sometimes, farmers chop up the entire corn plant and feed it to the cattle. It is called corn silage.

- Alfalfa is a type of forage crop. The farmer mows the alfalfa then lets it dry. Then, it is put into bales of hay that can be fed to cattle and other livestock.
- The seeds are used in grain crops. Most seeds can be used to feed livestock but can be used for many other things. In Kansas, a lot of the corn is fed to livestock, it can also be used to make ethanol (fuel) and found in a lot of things around your house. There is a little bit of corn in window cleaner, toothpaste, deodorant, and lots of other items.
- There are two types of fiber. There is dietary fiber but, in this case, we are talking about the fiber from crops used to make clothes, rope, bedding and other things.
- Cotton is the best-known fiber crop.

Is this a weed or a desirable plant?

- This might be the easiest one to figure out! Simply ask yourself:
  - Do I want that plant to be growing there? If the answer is yes, it is a desirable plant. If the answer is no, it is a weed.
    - Example 1: there is a dandelion growing in the lawn. That is easy, you do not want that, it is a weed.
    - Example 2: There is a corn plant growing in the middle of the alfalfa field. It is a weed too! Even though corn plants are usually a desirable plant, you do not want one growing in the alfalfa field. So, because it is in the wrong place, it is a weed. Now, a corn plant in a corn field is a desirable plant.

Activity

- Go outside and see if you can find 3 different kinds of plants.
- Using a pen and paper draw a picture of the plant showing details that will help you describe the plant.
- Using the terms that you learned in this lesson, describe each of your plants.

Conclusion

All of the terms that we covered do not apply to all plants. Complete the Plant Details Worksheet to see what you have learned!

Plant Details Worksheet

Circle the correct terms for each of the following plants. You will circle one term on every line:

1. A corn plant in a corn field:
   a. Grass or broadleaf
   b. Annual or perennial
   c. Grain crop or fiber crop
   d. Weed or desirable plant

2. Radishes in the garden
   a. Grass or broadleaf
   b. Annual or perennial
   c. Fruit or vegetable
   d. Weed or desirable plant

3. A cocklebur in the flower garden
   a. Grass or broadleaf
   b. Annual or perennial
   c. Weed or desirable plant

4. A soybean plant in a soybean field
   a. Grass or broadleaf
   b. Annual or perennial
   c. Grain crop or fiber crop
   d. Weed or desirable plant

5. A dandelion in the lawn
   a. Grass or broadleaf
   b. Annual or perennial
   c. Weed or desirable plant

6. Can you name some fruits that do not have seeds?

7. What part of the plant are you normally eating on these vegetables? Leaves, stem, roots, or seeds
   - Beans –
   - Onions –
   - Cabbage –
   - Peas –
   - Celery -

Plant Details Worksheet

ANSWER KEY

Circle the correct terms for each of the following plants. You will circle one term on every line:

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   a. Grass or broadleaf
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3. A cocklebur in the flower garden
   a. Grass or broadleaf
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4. A soybean plant in a soybean field
   a. Grass or broadleaf
   b. Annual or perennial
   c. Grain crop or fiber crop
   d. Weed or desirable plant

5. A dandelion in the lawn
   a. Grass or broadleaf
   b. Annual or perennial
   c. Weed or desirable plant

6. Can you name some fruits that do not have seeds?
   Watermelon, oranges, grapes, bananas...

7. What part of the plant are you normally eating on these vegetables? Leaves, stem, roots, or seeds
   - Beans – seeds
   - Onions – roots
   - Cabbage – leaves
   - Peas – seeds
   - Celery - stem