



Living Things: Plants
MERVED 3rd Grade Science
e-Curriculum

Written By: Jeri Popma

Table of Contents

Standards

Learning Targets

What Do I Need to Know

Vocabulary

Plants

Grouping Plants

Characteristics of Plants



You will see this symbol when you are going to investigate or do an activity.



Click on this symbol to do an internet activity, view a video, or learn a new song!



You will see this symbol when you should share/compare with a science buddy.

All words highlighted in **yellow** are vocabulary words and their definitions can be found on the Vocabulary Investigation page.

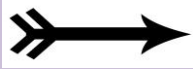
Minnesota Standards

Standard	Benchmark	Code
Living things are diverse with many different characteristics that enable them to grow, reproduce and survive.	Compare how the different structures of plants and animals serve various functions of growth, survival, and reproduction.	3.4.1.1.1
	Identify common groups of plants and animals using observable physical characteristics, structures and behaviors.	3.4.1.1.2
Offspring are generally similar to their parents, but may have variations that can be advantageous or disadvantageous in a particular environment.	Give examples of likenesses between adults and offspring in plants and animals that can be inherited or acquired.	3.4.3.2.1
	Give examples of differences among individuals that can sometimes give an individual an advantage in survival and reproduction.	3.4.3.2.2

Cross Curricular Standards

Standard	Benchmark	Code
Use information gained from illustrations (e.g. maps, photographs) & the words in text to demonstrate understanding of the text.	(Reading Standard under Integration of Knowledge and Ideas)	3.2.7.7

WHAT DO I NEED TO KNOW?



I can name the parts of plants.



I can sort plants into groups based on their characteristics.



I can explain how young plants are the same as the plants that their seeds came from, and also how they may be different.



I can give examples of why some plants are more likely to survive than others.

Hypothetically Thinking

- What do you know about plants and what they need to grow?
- What do you know about plant parts and what they do?
- What do you wonder about why plants have different leaves, stems, seeds, and flowers?
- What do you know about the characteristics of plants and how they help them grow and live?

VOCABULARY INVESTIGATION

Acquired - traits that are from experiences in the world - they are not inherited or passed on (examples: a bug eating off part of a leaf or disease)
(scimathmn.org)

Characteristics - a special quality or appearance that makes an individual or group different from others (www.wordcentral.org)

Cone - a group of scales joined to a stalk that are used for reproduction

Features - parts or details that stand out (Merriam Webster Word Central - Student Dictionary)

Flower - the part of a plant that makes seeds

Fruit - the part of some plants that contains the seeds (enchantedlearning.com)

Inherited - traits that are passed down from parents

Leaf- the part of a plant that takes in air and also takes in light to collect energy

Needle - a thin, pointy leaf of a tree

Reproduction - when plants make more plants like themselves or animals make more animals like themselves

Root - The part of the plant (usually underground) that gets food and water from the soil, stores energy, and holds the plant in place.

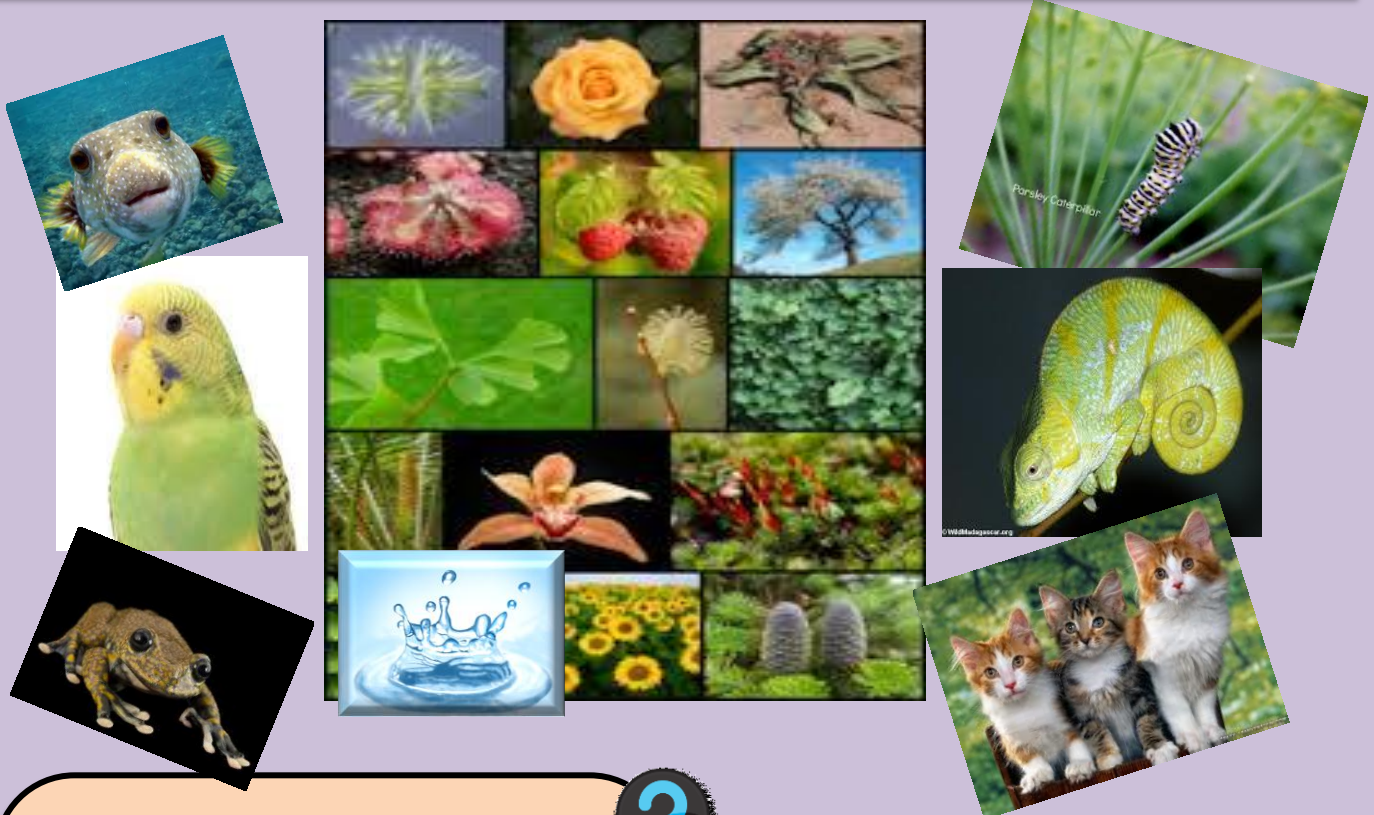
Scales - the seeds of a cone

Seed - a seed grows into a new plant (enchantedlearning.com)

Stem - the stem holds the plant up and water and nutrients travel through it from the roots to the rest of the plant

Trait - a quality that sets one plant or animal apart from another

Living Things



Living Things

What is a living thing?



Living Things

Are all living things the same? What are two main groups of living things?



Click here to find out what you know about categorizing living things:



Plants and Animals



Plant and Animal Differences



00nz/gam animaldif.ht



Characteristics are ways to describe something. What are some **characteristics** that plants have?

Plants

Plants are living things. Predict the things they need to live, grow, and **reproduce** and write them in your science notebook.

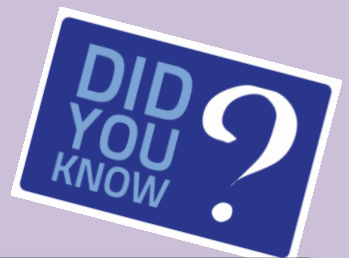


Click here to check your predictions with the
[Plant Sound Off Chant Video](#)
(1:04)



How Plants Grow –

Experiment and see if you can give the plant what it needs to stay alive:



Plants grow on all seven continents and in all of the Earth's oceans.

Plant Parts

Plants have many parts that help them to survive, grow, and reproduce.

[Click here for a song that introduces the basic parts of plants:](#)



*** Teacher note: This is a primary song – flower, stem, leaves, and roots (to the tune of “Head and Shoulders, Knees and Toes”) – kids could act out the parts – flower – hands up and out, stem – hands straight up, leaves – hands out, roots – hands pointing down (1:22)

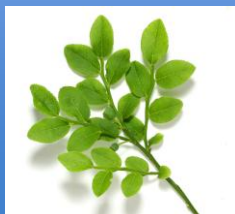
Most animals are able to move from place to place just like we can. Most plants stay in one place. Plants have **roots** that hold them in the soil. The **roots** are also used by the plant to get water and nutrients from the soil. Nutrients are things in the ground that help plants stay healthy and grow.



Next is the **stem**. The **stem** is kind of like our skeleton - it holds the plant up. It is connected to the **roots**, so the water and nutrients travel through it to the rest of the plant. It also takes food from the leaves to the roots.



Another important part of the plant is its **leaves**, which grow out of the stem. The **leaves** of the plant use water, carbon dioxide and sunlight to make food for the plant.

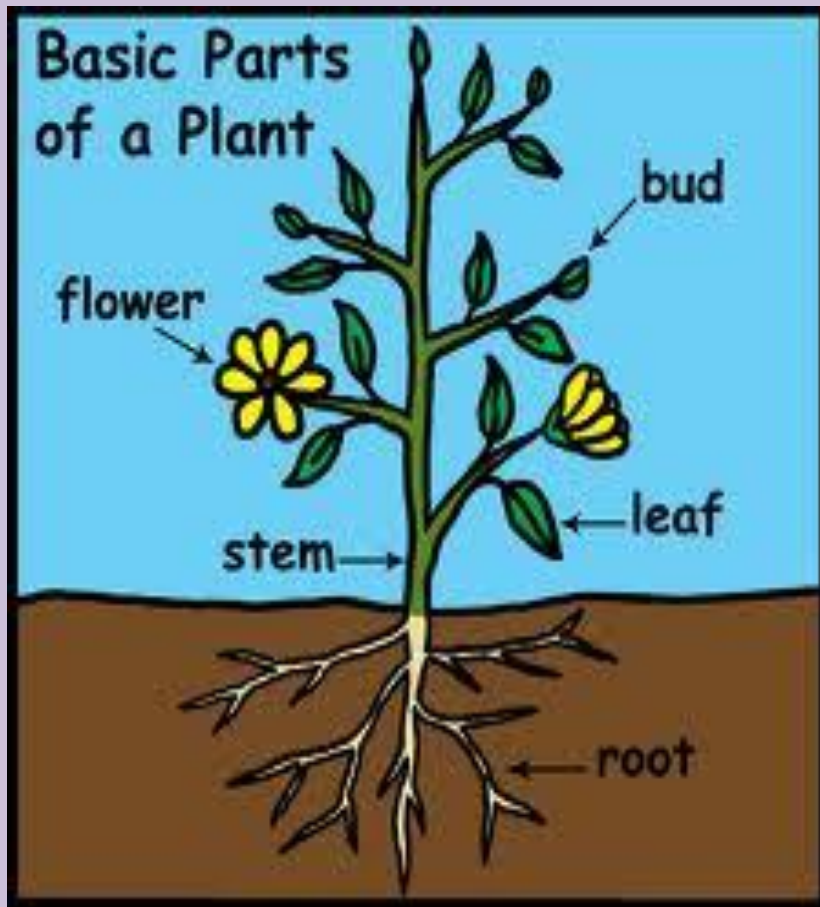


Some plants also have **fruit** that contains the **seeds**.



Some plants also have **flowers** that make the **seeds** they need for **reproduction** (making new plants).





OPTIONS:



Click for
Experiment directions -
What happens when you
plant a **seed**?

Follow the instructions to
see the different parts of
the plant come from the
seed you plant!

Please keep your data in
your science notebook.



Click here to learn more about how plants grow and
reproduce.



Teacher notes: (This is a video lesson from
Scholastic Study Jams on plant parts. It talks about **seed** and
cone plant **reproduction** - vocabulary includes: angiosperm,
fertilize, gymnosperm, germinate)



Plant part matching activity

Teacher notes: This activity asks the student to match a
vocabulary word with a definition. Words used are: **flower**, **stem**,
root, **fruit**, **leaves**, **seeds**, pollen, and cuticle.



Nature Walk:

****Teacher note:** It is helpful to take the walk yourself prior to taking your students on it. This will help you be able to find examples of the different parts of the plant as well as to find anything that you don't want them to touch or pick.

Have students work alone, with a partner, or in a small group to find a **root**, **stem**, **leaf**, **flower**, **fruit**, and **seed** of a plant. Ask them to also look for a **needle** and a **cone** from a tree.

Options:

1. Collect different plant parts in bags to categorize, classify, and draw in your science notebook when you get back to your classroom.
2. Take pictures of different plant parts to categorize and classify in the classroom.
3. Draw pictures of different plant parts under the different categories in your science notebook.

Once you have gathered your plant part information, please summarize your information in your science notebook and compare and contrast what you discovered with your science buddy/group.



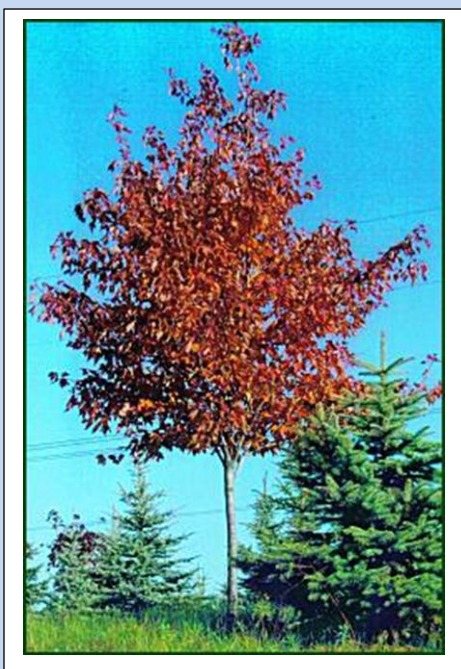
Grouping Plants

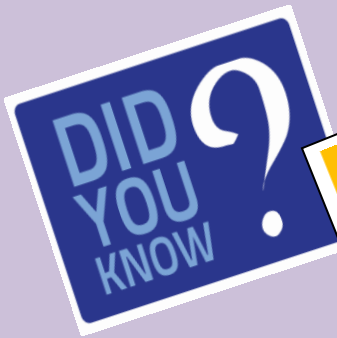
Plants can be grouped in many ways. They can be grouped by their size, seeds, leaves, flowers, if they have cones or not, and more.

Trees can be grouped by when they lose their leaves. Trees that lose all their leaves at about the same time each year are called deciduous trees. There are many different shapes and colors of leaves, and most of them drop off in the fall when there is less sunlight. In the spring, though, the tree life cycle continues when the trees grow buds that turn into new **leaves**.

Evergreen trees, which are also found in Minnesota, don't lose their leaves or **needles** all at once, and because of this, they stay green all year long. Some are called coniferous because they have **cones** made of **scales**, which hold their seeds.

Trees can also be grouped by the kind of leaves they have. One way to group trees is by deciding if they have flat **leaves** or **needles**. A **needle** is a thin, pointy leaf found on a coniferous tree. Other trees may have small round leaves, long thin leaves or large flat leaves, and many other shapes and sizes in between.





A plant that lives for one year is called an annual.
A plant that comes back year after year is called a perennial.



[Click here to use a website that shows ways to classify trees.](#)



Go on a walk and see how many deciduous and coniferous trees you see. Keep a tally graph in your science notebook as you go. Do all the deciduous trees look the same? Do all the coniferous trees look the same? What do they have in common? How are they different?



Seed Sort

**** Teacher notes:** For this activity you will need a variety of seeds, as well as cones, to observe and classify. These could be gathered by students and brought in. Students should sort a variety of seeds by color, shape, size, kind, etc. Students should choose the categories they are sorting in and note them in their science notebooks. They can then draw the seeds or write the names of the seeds which fit in each classification.

Characteristics of Plants

Just like you may have the same color eyes as your mom and freckles like your dad, many plants are similar to their parents because they **inherit characteristics** from both of them. An example of this is the color of a flower. If both of the parent plants have flowers that are red, the new plant's flower will also very likely be red. If one plant's flower is white and one plant's flower is red what color do you think the new plant's flower will be?

Plants also **acquire characteristics**. For example, if a plant has holes in its leaves made by insects, so that its leaves are different from the other plants of its kind, that is an **acquired characteristic** and will not be passed along in the plant's seeds. This means that the new plants that would grow from it would not have the same holes as the parent plant. In the same way, just because your mom has her ears pierced, that does not mean that you were born with holes in your earlobes.

Individual differences in plants may also help them to survive and reproduce. These differences also **inherited** from their parent plants. Some of these include differences in their roots, stems, leaves, needles, scales, flowers, fruits, or seeds, and how they respond to the world around them.

Example: Several red tulips are growing near each other. One of the tulips has roots that are able to reach down more deeply than the others to get water. When the soil gets dry on top, some of the other tulips wilt and start to die. The tulip with the longer roots is still able to get water, and continues to remain healthy. It has the **trait** for longer roots.



Plant Adaptations Video

CONCLUSIONS

What do you know about...

- ✓ parts of plants?
- ✓ how to sort plants into groups?
- ✓ how plants grow?
- ✓ why plants have different kinds of leaves, stems, seeds, and flowers?
- ✓ what parts of plants can help them survive?



What do you wonder...

ADDITIONAL RESOURCES

Plant videos from Learn 360:

What Do Seeds Do: A First Film (old but informative) 12:12

Kids in the Garden: Seeds - (British) - 5:43

Kids in the Garden: How Plants Work (British) - 5:30

Real World Science: Seeds and Plants - 11:51 - very good, extends beyond basics

What Do Plants Do: A First Film (old but informative) - 12:19

You Tube Video:

Magic School Bus: The Magic School Bus Gets Planted

Trade Books:

How a Seed Grows

Seeds by Wind and Water

All About Seeds

Magic School Bus Plants Seeds

Seeds

MN [Frameworks](#) for Science: This site includes vignettes, common misconceptions, suggestions for assessment and differentiation, along with the standards and benchmarks.

SCIENCE NOTEBOOK

[illegible]