

 **FUN**damental
Experiments 



Plants



by Ellen Lawrence

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Contents

Let's Investigate Plants.....	4
Can plant roots find water?	6
How does water get to a plant's leaves?	8
What happens if a plant can't make food?.....	10
What happens to a leaf if there's no sunlight?....	12
What do plants release from their leaves?	14
What seed shapes float in the wind?	16
How many seeds are in some fruits?.....	18
Discovery Time.....	20
 Plants in Your World	 22
Science Words	23
Index	24
Read More	24
Learn More Online.....	24
About the Author.....	24



Let's Investigate Plants

From tall trees in a forest to potted plants on a windowsill—plants are all around us. Plants make the **oxygen** we need to breathe. They also give us food, such as apples, nuts, and wheat. Inside this book are lots of fun experiments and cool facts about plants. So grab a notebook, and let's start investigating!



Check It Out!

There are about 500,000 different types of plants on Earth. Plants come in lots of shapes, sizes, and colors, but many have the same basic parts.

Flowers

Flowers produce seeds and are often brightly colored.

Seeds

Inside every seed is all the material needed to grow a new plant.

Branches

The plant parts that grow out of a tree's trunk and connect to its leaves and flowers are called branches.

Leaves

Leaves make the food and energy a plant needs to help it live and grow.

Trunk

A tree's main stem is called a trunk.

Stem

A plant's stem carries water and nutrients from the roots to the rest of the plant.

Roots

A plant's roots take in water and nutrients from the soil. They also hold a plant in the soil.

Observe the different plants growing in a yard or a park. Choose a plant and draw it in your notebook. Then label its parts.

Can plant roots find water?

A plant needs water to survive. To find water, its roots grow down into the soil. What happens if a plant's roots can't find enough water? Let's investigate by growing **seedlings**.

You will need:

- A small spade
- A plastic container that's about 4 inches (10 cm) deep and 6 inches (15 cm) long
- Potting soil
- Six bean seeds
- Water
- A marker
- A notebook and a pencil

1

Use a spade to fill a plastic container with potting soil to about 1 inch (2.5 cm) below the container's rim.

2

Place two rows of three seeds at opposite ends of the container. Cover the seeds with a thin layer of soil.



3 Place the container in a sunny spot near a window and water the soil to keep it moist.

4 Once the seedlings are 1 inch (2.5 cm) tall, choose one seedling from each end of the container and gently pull out the others. Label the two remaining seedlings A and B.



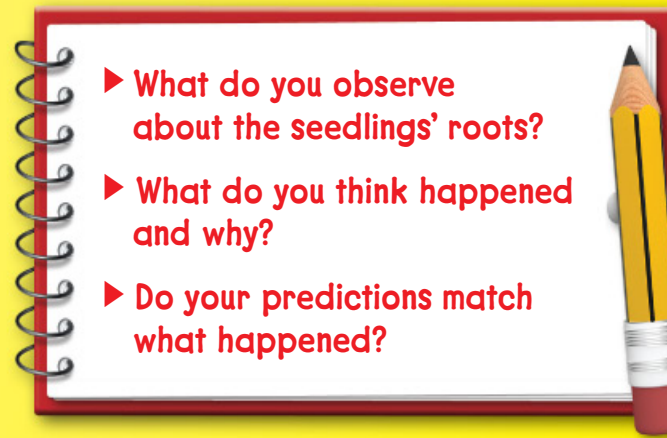
5 Every other day, water the soil in seedling A's half of the container, but don't give seedling B any water.

► **What do you think will happen to seedling B?**

Write down your **predictions** in your notebook.

6 Keep watering seedling A every other day for four weeks.

7 After four weeks have passed, use your fingers to gently scoop the soil away from the two plants so you can see their roots.



- **What do you observe about the seedlings' roots?**
- **What do you think happened and why?**
- **Do your predictions match what happened?**

(To learn more about this investigation and find the answers to the questions, see pages 20–21.)