PLANT A PLANT PERSON

Become a plant person by making a person out of plants.



Plant a Plant Person

Become a plant person by making a person out of plants.



About the Activity

Learn about the basic parts and needs of plants while you create your very own plant person. Once you learn how to take care of a plant's basic needs, you can grow so much!

This activity is part of our 4-H At-Home Garden Series. See the rest of the activities here.

Supplies

These simple supplies are all you'll need for this activity. Some of these, like the seeds, you may need to find at a plant store:

- Small cup (cup, yogurt container, water bottle, etc)
- Knee-high tights
- Fescue grass seeds
- Scissors
- Crafts for decoration (googly eyes, feathers, pipe cleaners, etc)



Topic: STEM, Biology

Time: 30 minutes











Plant a Plant Person -



Line the small cup with the closed end of the kneehigh tights tucked inside. Pour two tablespoons of fescue grass seeds inside so that it settles to the toe of the tights.

DID YOU KNOW? A plant has many different parts that work together, just as a person's body parts work together

- The plant roots carry water and nutrients to the plant
- The stem supports and carries water and food throughout the plant.
- Leaves use sunlight to make food for the plant
- Flowers are usually the bright, colorful part of the plant; when they are pollinated by insects or wind, they produce seeds, which are sometimes stored in fruit.
- A seed can make a new plant.



Pour soil into the tights on top of the seeds; fill to match the depth of the cup. Press lightly and tight a knot in the tights. Cut off any excess material you may have.

DID YOU KNOW? You can memorize the six basic needs of a plant by using the acronym, P.L.A.N.T.S.

- Place (in a container or a garden)
- Light (Sun or artificial light)
- Air (Oxygen and Carbon Dioxide)
- Nutrients (Nitrogen, Phosphorus, Potassium)
- Thirsty (Water)
- Soil (to grow roots in)



Flip over the filled tights, so the grass seeds are facing up. Decorate your "Plant Person" with any crafts you may have. Glue on some googly eyes, add some arms and a nose... have fun with it!

DID YOU KNOW? Plants can grow in many spaces - in the ground, a pot and even a crack in the sidewalk.



After the glue is dry, water the grass and soil. Make sure to place it under sunlight and continue to water it frequently so the soil stays moist. In 5-7 days, the seeds will grow from the end to form the hair of the plant person.

DID YOU KNOW? There are more nearly 400,000 species of living plants across the entire globe, and even some that grow in Antarctica! Scientists look at different plant parts, such as flowers, leaves, stems and fruits, and group together the plants that are similar – this is called classification, and without a classification system, identifying all of those plants in the world would be pretty difficult.



Enjoy your "Plant Person!" As the grass grows you can even trim it to give your plant person a haircut!

DID YOU KNOW? Plants need sunlight to make food. They make their own food in a process called photosynthesis, which happens mainly in the leaves. Plants combine carbon dioxide from the air, green pigment (chlorophyll) from the leaves, and sunlight to produce food. When plants make their own food through photosynthesis, they give off oxygen, which people need to breathe.



See how much you've learned about plants!

QUESTION 1

What do leaves do for a plant?

- a. Collect water for the plant.
- **b.** Make food for the plant using a process called photosynthesis.
- c. Release pollen for the pollinators.
- d. All of the above

QUESTION 2

What are the 6 basic needs of a plant?

- a. A place, light, air, nutrients, water, soil
- b. Water, light, wind, soil, medicine, music
- c. Bugs, water, light, soil, a place, clouds

QUESTION 3

Where can a plant NOT grow?

- a. In a pot
- b. In a crack of a sidewalk
- c. In the sky

QUESTION 4

How many different species of plants are there in the world?

- a. Over 1,000
- b. Nearly 400,000
- c. Over a million

QUESTION 5

What is the process called where plants make their own food?

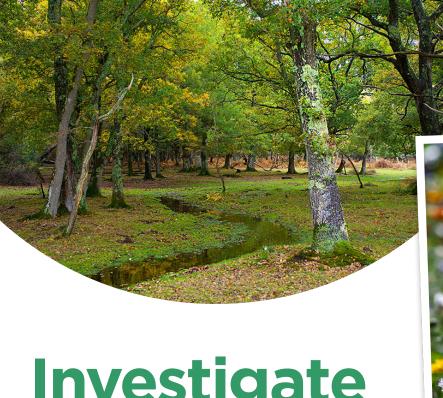
- a. Radiation
- b. Photosynthesis
- c. Crossfit

Reflection Questions

Bonus questions to inspire wonder:

- Why is it important to classify plants?
- Why do we need plants in this world?
- How are plants and humans alike? What basic needs do they need?





Investigate & Explore

Take your new knowledge to the next level.

Plants are a vital part of Planet Earth. They are the beginning of the food chain, providing food for both animals and people. They also make the world beautiful: Trees give shade during the summer and protect us from the wind in winter; shrubs, vines and flowers beautify our homes and provide a place for wildlife, like birds and insects to live. Plants are also used to make clothing, medicine and shelter for people. They also enhance the very

air we breathe by providing the oxygen our bodies need. Look around your house and see how many things around you are made out of plants. Take a walk outside and see all the different plants that grow, and the different places they can thrive!

Brought to you by:











TEST OUT HYDROPONICS

Growing plants without dirt? Learn about the strange-but-true science of hydroponics.



Test Out Hydroponics

-

Growing plants without dirt? Learn about the strange-but-true science of hydroponics.

About the Activity

Having good soil and water are vital to having a good garden. But did you know that some plants can grow with no soil? Let's test this out by growing soybeans in a test tube with only water, and not a speck of dirt.

This activity is part of our 4-H At-Home Garden Series. See the rest of the activities here.





Supplies

These simple supplies are all you'll need for this activity. Some of these, like the seeds, you may need to find at a specialty or plant store:

- Seed-starter tray
- Plastic, flat-bottom test tubes
- Rockwool cubes
- Plant labels
- Pipette
- Permanent marker
- Soybean seeds
- Water

Grades: 3-8

Topic: STEM, Biology

Time: 30 minutes



Test Out Hydroponics -



Gently tuck the soybean seeds in the rockwool cubes. Place them in the seed -starter tray.

DID YOU KNOW? There are three main parts to soil: sand, silt and clay. Good soil has a healthy mix of all these soil types! Rockwool is used to germinate seeds and to transplant them into hydroponic systems!



Carefully water them using the pipette, which can help you deliver precise amounts of water to your plant. Make sure the whole rockwool cube is moist.

DID YOU KNOW? Hydroponics is a way to grow plants using only water! Gardeners and horticulturists often mix in nutrient-rich water, instead of soil.



Label your plants and place them in the seedstarter tray.



Put the lid on the seed-starter tray and adjust the humidity.

DID YOU KNOW? Our planet Earth is sometimes called the "water planet" because most of it is covered with water. That's good for us, because all living things need water to live. All the water on the Earth is the same water we have used over and over again, thanks to the water cycle.



Place your seed starter tray inside your house near a sunny window. Make sure to label your test tubes with the name of the seed and the date you planted it in the test tube.



The seed will take about 3-7 days for it to germinate.



After about one week, the seeds are ready for the next step, which is to use the pipette to draw water from a cup or a bowl and fill the test tubes.



Carefully place the rockwool with the seedling into the test tube. The top lip of the rockwool should rest on the edge of the test tube. You might need to add more water in the test tube, to make sure the bottom of the rockwool is touching the water.

DID YOU KNOW? The key to watering plants is being patient and gentle. Try to avoid watering the stem, leaves and flowers, and instead, direct the water at the roots. The roots are what carry the water.



Finally, place the test tubes back by a sunny window. Make sure to maintain the water level in your test tube so your soybeans continue to have water!

DID YOU KNOW? About 97 percent of Earth's water is salt water and another 2 percent is locked in ice! That leaves us with only 1 percent to provide fresh drinkable water.



Enjoy your very own Test Tube Hydroponics!

Test Your Knowledge

See how much you've learned about seed starting and hydroponics!

QUESTION 1

Why is the planet Earth sometimes called the "water planet?"

- a. Because it rains a lot.
- b. Most of the planet is covered in water.
- c. Because everything is the color blue.

QUESTION 2

What are the 3 main parts of soil?

- a. Sand, silt, clay.
- b. Rock, dirt, water.
- c. Clay, Sand, leaves.

QUESTION 3

When watering your plant, which plant part should you water?

- a. The leaves
- b. The flowers
- c. The roots

QUESTION 4

Of all water that is found on Earth, what percent of it is fresh, drinkable water?

- a. 97%
- **b.** 25%
- c. 1%

QUESTION 5

What is it called when you grow plants using only water and no soil?

- a. Water System
- b. Hydroponics
- c. Irrigation system

Reflection Questions

Bonus questions to inspire wonder:

- Why does the planet Earth only have 1% fresh water?
- · Why do we need water in this world?
- Do you think hydroponic gardening is a good way to feed the world?



Take your new knowledge to the <u>next level</u>.

The water you used to brush your teeth with this morning may have been some of the same water that rained on your great-great-grandparents' heads or that dinosaurs drank millions of years ago. All the water on the Earth is the same water we have used over and over again, thanks to the water cycle.

The next time you pour a glass of water or take a shower or bath, think about all the places that water may have been before!

Brought to you by:











RECYCLE, GARDEN, REPEAT

Add some color into your life by planting flower seeds in recycled containers.





Recycle, Garden, Repeat

Add some color into your life by planting flower seeds in recycled containers.



About the Activity

Make the world a better place by recycling containers from around your home and using them to plant a flower garden. Beautify your balcony, porch, windowsill, garden bed, and landscape with colorful flowers. Flowers can even transform the side of the highway and help natural pollinators like butterflies and bees!

This activity is part of our 4-H At-Home Garden Series. See the rest of the activities here.

Supplies

These simple supplies are all you'll need for this activity:

- Recyclable container
- Seeds and/or transplants
- Plant label
- Scissors
- · Permanent marker
- Soi
- Water
- Optional: Crafts (paint, ribbons, stickers, etc.)



Topic: STEM, Biology **Time:** 30 minutes







Find a recyclable container in your house. You can use an empty milk carton, a can, water bottle, egg carton, or a tire wheel... the choices are endless!

DID YOU KNOW? A flower is the reproductive part of the plant, and they are designed to make not only fruits, but seeds. These seeds produce the next generation of plants!



If your recycled container once had food in it, make sure it has been washed with soap and water.



If you need to trim your container to size or add drainage holes in the bottom, use scissors to make any necessary cuts.



Pour soil into the container. Water the soil so that it is moist.

DID YOU KNOW? The color, shape and even the smell of the flower attracts pollinators that travel from flower-to-flower picking up and leaving pollen behind. The flower needs to be pollinated to make fruits and seeds.



If you are planting seeds, poke a hole into the soil using your finger. Place a few seeds inside the hole, and gently cover the seeds with soil. If you have a transplant, dig a larger hole in the middle of your wet soil, and carefully take out the transplant out of its original pot. Place the transplant inside the hole, and gently cover the roots with soil.

DID YOU KNOW? The difference between a fruit and vegetable is quite simple! All fruits come from flowers. Vegetables come from any part of the plant other than the flower.



Water your soil again to help with seed germination and root development. Place a plant label in the container so you don't forget what you're growing.

DID YOU KNOW? Did you know that some flowers are edible? Some flowers you can eat include hibiscus, pansies, lavender and roses!



After the container is dry, decorate your recycle container with any craft materials you have such as paint and stickers!



Enjoy watching your plant grow. Don't forget to water and give it sunlight!

DID YOU KNOW? It takes so much energy for a plant to create flowers. What you want to do is to regularly "deadhead" flowers. Deadheading is a very important garden chore that involves removing flowers that have bloomed or are dead. It's very good for the plants, so they can focus their energy on keeping themselves healthy by growing bigger!



Test Your Knowledge

See how much you've learned about plants!

QUESTION 1

Which part of the plant produces the fruits and the seeds?

- a. The stem
- b. The flower
- c. The leaves

QUESTION 2

What attracts a pollinator to a flower?

- a. The color
- b. The shape
- c. The smell
- d. All of the above

QUESTION 3

What is the difference between a fruit and a vegetable?

- a. Fruits tastes better than vegetables
- b. Vegetables are greener than fruits
- c. Fruits come from a flower, while vegetables comes from any part of the plant other than the flower

QUESTION 4

Are some flowers edible?

- a. Yes!
- b. No!

QUESTION 5

What is an important garden chore that you should do when taking care of flowers?

- a. Smell them everyday
- b. Deadheading
- c. Cutting the leaves off

Reflection Questions

Bonus questions to inspire wonder:

- Why do flowers need to be pollinated?
- Why is it important to recycle, reuse and reduce trash?

 What other recyclable containers can you use to plant your flowers in?





Investigate & Explore

Take your new knowledge to the **next level**.

All fruits come from a flower, but that cannot happen unless it was pollinated. Flowers provide food for our pollinator friends, animals and even humans. So next time you see a flower, see if you spot any pollinators!

Without plants, we could not live. Look around your house and see how many things around you are made out of plants.



Brought to you by:











GROW YOUR OWN HERB GARDEN

Learn about growing herbs and vegetables at home in a container garden.



Grow Your Own Herb Garden

30 minutes | Grades: 3-8

Learn about growing herbs and vegetables at home in a container garden.

About the Activity

It can feel great to grow your own food, so let's do some container gardening and grow our own bountiful harvest - and learn a little bit about vegetables and herbs along the way.

This activity is part of our 4-H At-Home Garden Series. See the rest of the activities here.

Supplies

These simple supplies are all you'll need for this activity. Some of these, like the seeds, you may need to find at a plant store:

- Plant pots
- Seeds and/or transplants
- Plant labels
- Permanent marker
- Soil
- Water
- Optional: trellis or plant cage
- Optional: fertilizer



Topic: STEM, Biology

Time: 30 minutes



Grow Your Own Herb Garden -



Find a plant pot. When choosing your plant pot, make sure you select one that offers plenty of space for the plants to grow. You won't want to overcrowd the plants.

DID YOU KNOW? Container gardening is when you plant in a container or a pot, and not in the ground. Many (but not all) plants that grow in-ground can also thrive in a pot!



Pour soil into the pot, and water the soil.

DID YOU KNOW? Some vegetables need a trellis or a cage to grow upright and support their tentacle-like vines! For example, cucumbers need a trellis in order to spread out and grow large enough to produce their fruit.



If you are growing seeds, poke a hole into the soil using your finger, place the seeds inside the hole, and gently cover the seeds with soil. If you have a transplant, carefully take out the plant out of the plastic pot. Dig a hole as deep as the plastic pot the plant came with, place the transplant inside the hole, and gently cover the roots with soil.

DID YOU KNOW? Herbs are plants that have been used for thousands of years for medicines, for seasoning dishes, and for their great aromas. Around the world, people from different cultures have planted herbs that can grow well in their area. People use herbs to season their food to avoid adding too much salt. That's why certain foods from some countries have a special flavor!



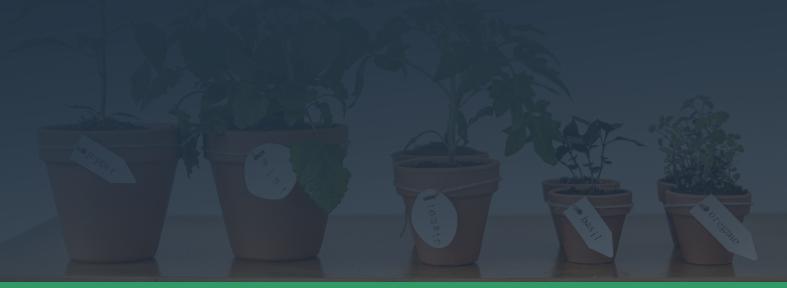
Water your soil again. Place a plant label in the container.

DID YOU KNOW? A tomato is not a vegetable, it is a fruit! Tomatoes come from a pollinated flower. Many people are confused by this, because the U.S. Supreme Court labeled tomatoes as a vegetable for taxation purposes back in the 1890s.



Enjoy your plant! Don't forget to water and give it sunlight!

DID YOU KNOW? Aside from nutritional purposes, herbs can also help with mental relaxation as aromatherapy.





See how much you've learned about gardening with vegetables and herbs!

QUESTION 1

Which of the following is a vegetable?

- a. Tomato
- b. Carrot
- c. Apple

QUESTION 2

What is it called when you grow plants in a container or a pot?

- a. Container gardening
- b. Potting
- c. Harvesting

QUESTION 3

What are NOT ways that people use herbs for?

- a. To season food
- b. Aromatherapy
- c. To make gasoline

QUESTION 4

Plants like tomatoes and cucumbers need support from this:

- a. Dogs
- b. A trellis or a cage
- c. A tree

QUESTION 5

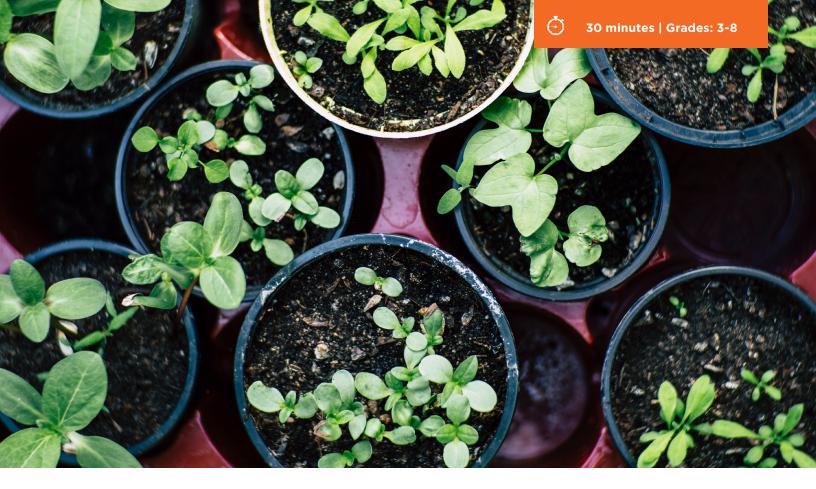
Which of the following is an example of an herb?

- a. Basil
- b. Cucumber
- c. Pecans

Reflection Questions

Bonus questions to inspire wonder:

- What are some ways people use herbs?
- Can you think of a vegetable that might actually be a fruit?
- · Why do you think container gardening is so popular today?



Investigate & Explore

Take your new knowledge to the next level.

You don't always have to plant in the ground. Container gardening has become very popular because it saves space and can be easily customized for your favorite container designs. Vegetables and herbs can easily be grown in containers that have enough space for the plants. Next time you go shopping for plants, make sure to check on the label to learn how big it gets.



Brought to you by:



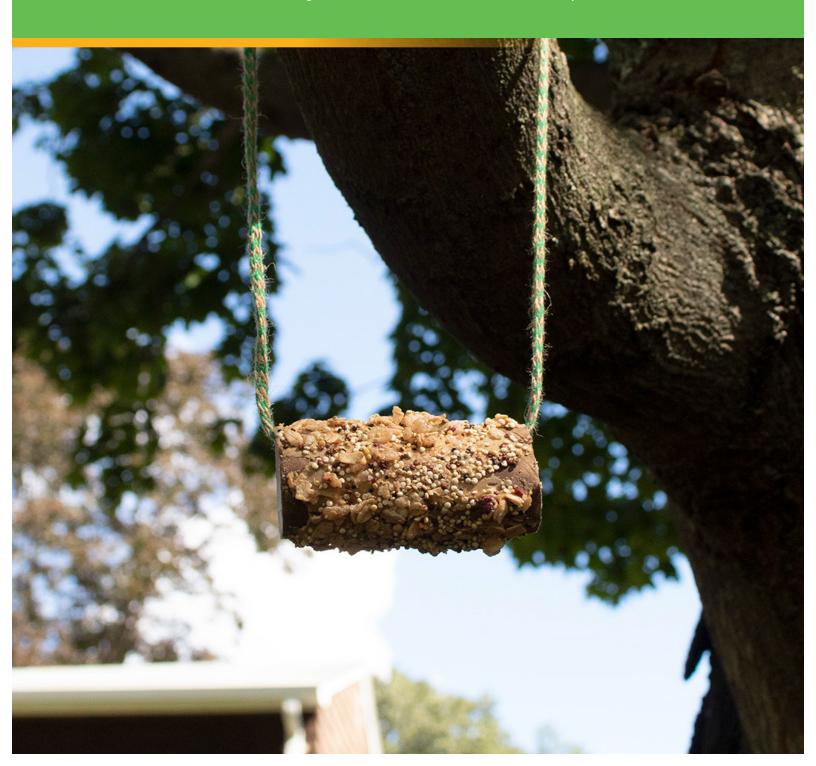






BUILD YOUR OWN BIRD FEEDER

Make a bird feeder out of recycled materials to foster both plants and wildlife.



Build Your Own Bird Feeder

-

Make a bird feeder out of recycled materials to foster both plants and wildlife.



Wildlife and gardening go together like s'mores at a campfire. Without plants, wildlife would not exist, and without wildlife, plants would not exist. They work together and support the circle of life. Learn how you can support both by making a bird feeder using recyclable and compostable materials.

This activity is part of our 4-H At-Home Garden Series. See the rest of the activities here.



Supplies

These simple supplies are all you'll need for this activity. Some of these, like the seeds, you may need to find at a plant store:

- Toilet paper roll or paper towel roll
- Peanut butter or glue
- Bird seeds
- Yarn/string
- Plate
- Butter knife



Grades: 3-8

Topic: STEM, Biology **Time:** 30 minutes





Build Your Own Bird Feeder -



Set up your workstation with a plate and a butter knife.

DID YOU KNOW? Did You Know? Decomposers like earthworms and Roly-Poly bugs are so important for gardening because they decompose organic materials and break it down in the best soil you can get, usually called "Black Gold."



Pour the bird seeds on to the plate.

DID YOU KNOW? Some examples of pollinators are bees, bats, butterflies, hummingbirds, and even lizards! They play an important role in gardening, because if a flower is not pollinated, plants cannot produce fruit or seeds.



Grab your toilet paper or paper towel roll and cover it with peanut butter using a butter knife. If you do not have peanut butter, glue will work too!

DID YOU KNOW? Toilet paper and paper towel rolls are made of cardboard, which is totally compostable! In fact, cardboard is one of the decomposer's favorite snacks!



After your roll is covered in peanut butter or glue, completely cover it with the bird seeds so the seeds stick to the surface.

DID YOU KNOW? Plants provide shelter for wildlife; they can be a place to lay eggs, an important food source, and protection from other predators or severe weather and fruits, and group together the plants that are similar – this is called classification, and without a classification system, identifying all of those plants in the world would be pretty difficult.



Put a piece of yarn or a string through the roll, and hang it somewhere near your garden, like from a tree branch!

DID YOU KNOW? Wildlife can spread plant seeds through their scat or poop. If you ever see a strange plant growing in a strange area, it probably got there from an animal's scat.



Hang back, and watch the birds flock to your recycled bird feeder!

DID YOU KNOW? If you ever see a pollinator like a bee or a butterfly in your garden, don't bother them, and don't be afraid! Their job is to gather food and to pollinate. They are not out there to hurt you!

See how much you've learned about wildlife in the garden!

QUESTION 1

Which is NOT a decomposer?

- a. Earthworm
- b. Snake
- c. Roly-Polys

QUESTION 2

Which of the following is a pollinator?

- a. House cats
- b. Hummingbirds
- c. Hamsters

QUESTION 3

Which of the following is compostable?

- a. Plastic
- b. Rubber
- c. Cardboard

QUESTION 4

Wildlife can spread plant seeds through scat or poop.

- a. Yes, definitely.
- b. No, it cannot.

QUESTION 5

What should you do if you see a pollinator in the garden?

- a. Disturb the pollinator
- b. Scream
- c. Leave it alone

Reflection Questions

Bonus questions to inspire wonder:

- How do wildlife and plants benefit each other?
- Can wildlife that could hurt plants? If so, how?
- · What would happen if no one pollinated plants? Think of everyday items that would be affected by it.





Investigate & Explore

Take your new knowledge to the **next level**.

Our actions influence so much in our environment. It's up to us to help our plants and wildlife. Let's learn to appreciate nature!

If you see a bee, let them work so that way we can continue to have food on our plate and clothes on our back. If you see trash heading for a water source, pick it up and keep plants and animals from getting hurt.



Once your garden is up and growing, spend time looking at it to see all the different kinds of wildlife that interact with your garden!

Brought to you by:









GET INTO GREENHOUSE GARDENING

Build your own greenhouse and learn about the importance of gardening around the world.





Get Into Greenhouse Gardening

Build your own greenhouse and learn about the importance of gardening around the world.

About the Activity

Gardening continues to be one of the most popular hobbies in the world, and different gardening styles emerge as technology evolves. We will show you how to build a mini greenhouse while learning about why gardening is important in our lives.

This activity is part of our 4-H At-Home Garden Series. See the rest of the activities here

Supplies

These simple supplies are all you'll need for this activity. Some of these, like the seeds, you may need to find at a plant store:

- Seed starter greenhouse or a to-go food container with a clear lid
- Seed packet
- Soil
- Water
- · Optional: safety pin
- Plant labels
- Permanent marker



Topic: STEM, Biology

Time: 30 minutes







Grab your seed starter greenhouse or a to-go food container with a clear lid. Fill them with soil. Moisten the soil with water.

DID YOU KNOW? Greenhouses are great for starting new plants. They can offer protection from harsh weather, reduce pests, and extend the growing season.



Using your fingertips, poke a small hole where the seed will be planted. Gently cover the seed with soil. Water the soil again to help with germination.

DID YOU KNOW? Gardening is one of the most popular stress relievers. For a lot of gardeners, it is a time where they are able to relax their minds and escape the busy world we live in.



Place the lid on your greenhouse. If it includes a humidity dial, increase the humidity by turning the knob. If you are using a to-go container, check if it has holes on the lid. If not, use a safety pin to poke holes in it to help with airflow.

DID YOU KNOW? You can practice conservation through gardening. Limit your water usage by collecting rainwater to water your plants, or water plants in the morning or late afternoon, instead of mid-day to avoid evaporation when the sun is highest in the sky.



After you place your lid on your greenhouse, place it next to a sunny window. You may begin to see moisture inside the lid!

DID YOU KNOW? If you like gardening, there are so many careers out there for you! A horticulturist is a person who is an expert in growing and managing plant production. An environmental engineer works to minimize and manage hazards to the environment. There are many more jobs like these... take a look online to see what might interest you!



Make sure to check everyday if the soil is moist, and water lightly if necessary. Enjoy watching the seeds grow in your mini greenhouse.

DID YOU KNOW? It really does take hard work to make food, and we can appreciate all the gardeners and farmers that are providing food to our table.

DID YOU KNOW that by 2050, our population will hit 10 billion people? We will need more gardeners like you to grow food, so we have enough food to feed the population.



Test Your Knowledge

See how much you've learned about gardening!

QUESTION 1

Gardening is one of the most popular stress relievers.

- a. True
- b. False

QUESTION 2

Which of the following protects plants from harsh weather, reduces pests, and extends the growing season.

- a. A greenhouse
- b. An umbrella
- c. A roof

QUESTION 3

How can you conserve water in your garden?

- a. Give them fruit juice instead
- b. Use rainwater for watering
- c. Water during the heat of the day

QUESTION 4

What is a horticulturist?

- An expert on growing and managing plant production
- b. An expert on birds
- c. An expert on insects

QUESTION 5

How many people will we need to feed by the year 2050?

- a. 1 million
- b. 1 billion
- c. 10 billion

Reflection Questions

Bonus questions to inspire wonder:

- What are some benefits to gardening?
- What kind of careers are there for people that like gardening, other than farming?
- Can you think of any unique ways to grow a garden?



Investigate & Explore

Take your new knowledge to the **next level**.

No matter how little space you have, you can always find a way to plant a garden. Plants can thrive in many different areas, and both indoors and outdoors, in full sun or full shade, in moist or dry areas, and in- or above-ground... this is possible all over the world!

Next time you see a tree or plant you like, find out what kind of plant it is, then do some internet sleuthing to see where it comes from and where it grows best!



Brought to you by:







