

WEEKS 5-8: THE GEOSPHERE

INTRODUCTION

National City's *16 Weeks of STEAM* is designed to offer families enrichment opportunities that focus on science, technology, engineering, art, and math with a special emphasis on conservation. As a city, we have partnered with organizations to provide a variety of resources, activities, and fun challenges that provide families with an awareness of our city's natural resources and ways to preserve them for future generations.

GRADE LEVELS

This program is designed for the whole family to get involved. We have made every effort to provide extensions and activities for children of all ages in grades K through 8th. Note that some children may need support to complete certain activities.

GEOSPHERE BASICS

The geosphere refers to the solid parts of the Earth and is part of the atmosphere, hydrosphere, and biosphere and the term is used to describe the systems of the Earth. We are going to focus on just a small segment of the geosphere in this unit. Our overarching theme will be through food! We begin by exploring the tiny seed. Then we will move to gardens and farming and finally conclude with a unit on cooking and the farmers market!



Our goal is to have your family have fun with experiments, crafts, music, and more while understanding how the Earth is a unique and special place. The geosphere is truly integrated with the hydrosphere and the atmosphere, two other topics that can be explored during the National City's *16 Weeks of STEAM*.

VOCABULARY

- **Geosphere:** Refers to the solid parts of the Earth; it is used along with the atmosphere, hydrosphere, and biosphere to describe the systems of the Earth
- **Seed:** A flowering plant's unit of reproduction, capable of developing into another plant.
- **Microgreens:** The shoots of salad vegetables such as arugula, mustard, etc... picked just after the first leaves have developed.
- **Seed Coat:** The protective outer coat of a seed.
- **Seed Embryo:** This is a part of the seed bud that contains the earliest forms of the plant's roots, stems, and leaves.
- **Monocots:** These are seeds that contain a single embryonic leaf.
- **Cotyledon:** An embryonic leaf in seed-bearing plants that will first appear from a germinating seed.
- **Dicots:** These seeds contain two embryonic leaves.
- **Germinate:** This is the process when a seed begins to grow and put out shoots.
- **Ecosystem:** Is a biological community of interacting organisms (plants, animals, etc..) and their physical environment.
- **Crops:** A cultivated plant that is grown as food, especially grain, fruit, or vegetable.
- **Nutrients:** A substance that provides nourishment essential for growth and maintenance of life.
- **Soil:** The upper layer of Earth in which plants grow.
- **Photosynthesis:** The process by which green plants and some other organisms use sunlight to create foods from carbon dioxide and water.
- **Farmer's Market:** A food market at which local farmers sell fruit and vegetables and often meat, cheese, and bakery products directly to consumers.

CONNECTIONS TO NGSS

K-1: Structures & Processes

2: Ecosystems: Interactions, Energy, and Dynamics

3-4: From Molecules to

Organisms: Structures and Processes

5: Earth and Human Activity

6-8: Ecosystems: Interactions, Energy, and Dynamics



VISIT & INTERVIEW



Visit the *National City 16 Weeks of STEAM* website for related field trips and interviews with project partners.

DIGITAL RESOURCES

To access all the digital resources shared in the next four weeks, visit the *National City 16 Weeks of STEAM* website or scan this QR code.

FEATURED PARTNERS



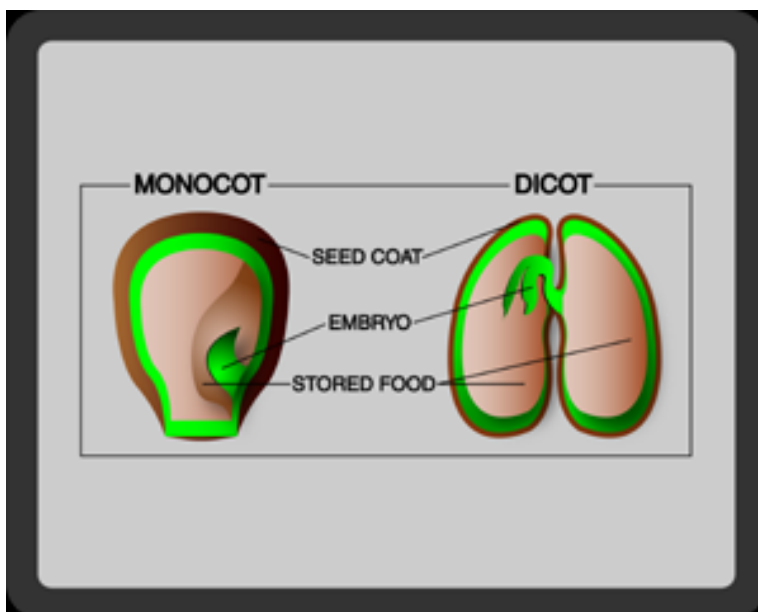
mundo
Gardens

WEEK 5 JOURNEY OF A SEED

Introduction

The tiny seed is fascinating! It comes in different shapes and sizes and it even transforms during germination. In our geosphere unit, we will study the earth's systems. If you participated in the hydrosphere, you will notice that it is part of the geosphere. In the future, we will study the atmosphere which is also a part of the geosphere.

We begin week 5 by studying seeds and how they appear to magically grow into plants. Each seed has a **seed coat** and an **embryo** containing tiny seed leaves, a stem, and roots. This is all sustained by **stored food** until the plant grows leaves that can make food. The seed coat protects the embryo while providing a temporary food supply. Most seeds are either **monocots**, having one **cotyledon** (the first leaf to appear from the embryo), or **dicots**, having two cotyledons. Seeds will remain inactive until the right conditions happen for them to germinate and grow.



<http://www2.york.psu.edu/~sg3/ist311/games/team3/index.html>

All seeds require oxygen, water, sunlight, and the proper temperature range in order to germinate. Different seeds have different requirements...from light to water.



WONDER

What are the characteristics of seeds and how do they change during germination?

HOME LEARNING ACTIVITY OH MY SEED!

Watch one of these videos!



- Grades K-3: [How Does A Seed Become A Plant?](#)
- Grades 4-8: [Seed dispersal -- The great escape](#)



Take these action steps to learn!

- Give each person participating a small packet of seeds.
- Pass out the Seed Organizer and discuss how all seeds are different.
- Have each person organize the seeds into groups according to the way they look. Each person can decide to sort them based on size, shape, color, or texture.
- Using the prompts on the Seed Organizer, have each person describe their seeds and explain how they sorted them.



Materials:

- Assorted vegetable seeds (Prior to the activity obtain a variety of seeds with different colors, textures, and sizes)
- Seed Organizer
- Cup of water
- Hand lens
- Glue
- Toothpicks
- Plastic bag
- Paper towel
- TapeSpray
- Bottle
- Container for growing plant
- Soil

- Ask the kids:
 - What kind of plants do you think they will be?
 - How big will they get?
 - What color will they be based on the color of the seed?
 - How long do you think it will take to germinate?
- Tape the bag to a window that gets sunlight for a few hours during the day.
- Be sure to spray the paper towel with water each day.
- Once the seed germinates into a tiny plant, you can carefully place it into a container with soil. Consider using a pot or even a large empty gallon milk jug. (Make sure to cut the top off!)
- Check the soil each day and spray it as needed to keep it moist to the touch. Make sure you place it where it can get plenty of sunlight.
- Watch the plant grow. Consider measuring and documenting the changes of the growing plant.
- Once your plant has matured, try eating it!



Check out this [time-lapse video](#) of spinach seeds in action!



HOME LEARNING EXTENSIONS



EXPLORE

Place random seeds in different containers and guess what kind of plants they are based on the characteristics.



INVESTIGATE

Place some plants in a dark area and see how they compare with those that get sunlight.



WONDER

If you are growing veggies, what do the different seeds taste like once they become a plant?

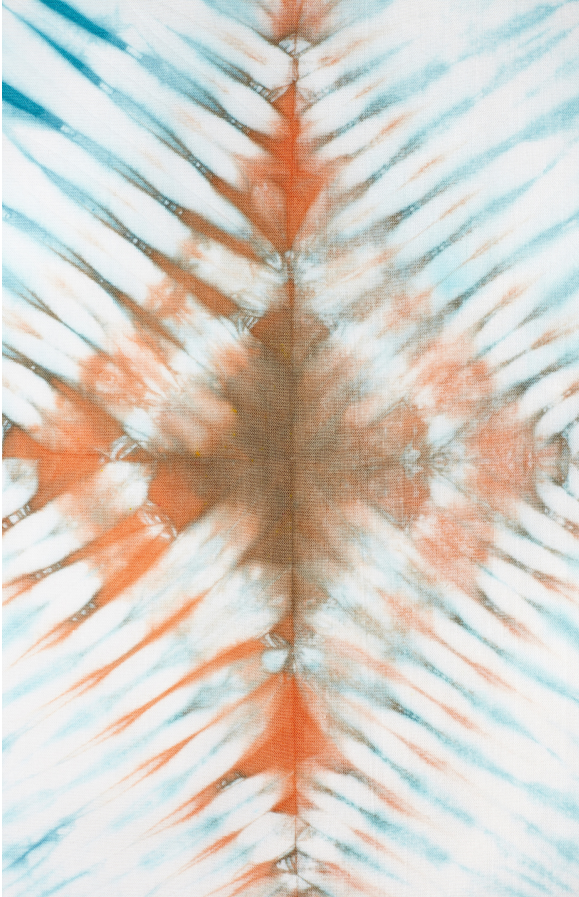
VISUAL & PERFORMING ARTS ACTIVITY VEGGIE TIE DYE

Learn how plants can create a dye for fabric. *NOTE: For younger children, we recommend doing this activity with an adult!*

Try using the following plants/fruits to produce the colors below:

RED/PINK	Pomegranates, beets, raspberries, blueberries, cherries, avocado skins
ORANGE	Carrots, orange peels, yellow onion skins
YELLOW	Lemon peels, celery leaves, sunflowers
GREEN	Spinach, parsley, peppermint leaves, artichokes
BLUE/PURPLE	Blackberries, red cabbage, grapes, blueberries, hibiscus
BROWN	Tea, Coffee, Acorns





Start Designing !

- Cover the work area with newspaper or plastic sheeting to prevent dyeing countertops.
- Put gloves on to prevent dyeing hands.
- Chop the chosen plant into small portions. (If the plant is tough, have an adult smash it with a hammer.)
- Prepare your fabric by washing it, but don't dry it! It must be wet for the dye to stick.
- If you are using a fruit to dye the fabric do the following:
 - Simmer the fabric in $\frac{1}{4}$ cup salt and 4 cups of cold water
- If you are using vegetables to dye the fabric do the following:
 - Simmer fabric in 1 cup of vinegar and 4 cups of water
 - Boil for one hour
 - Rinse with cool water.

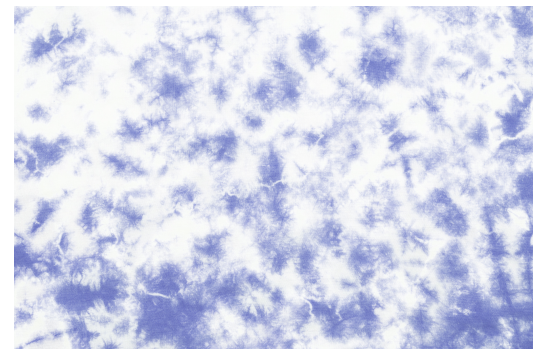
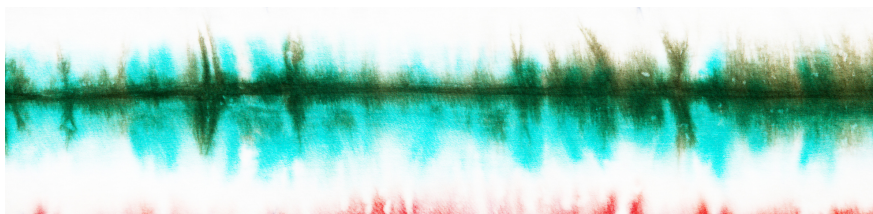
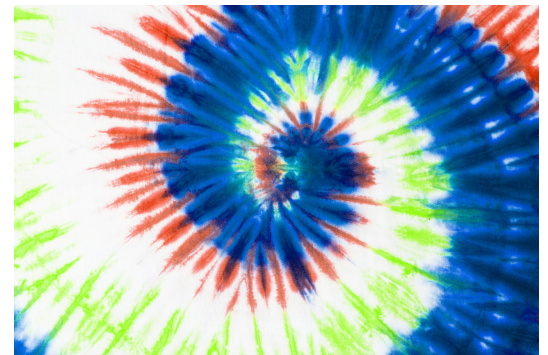
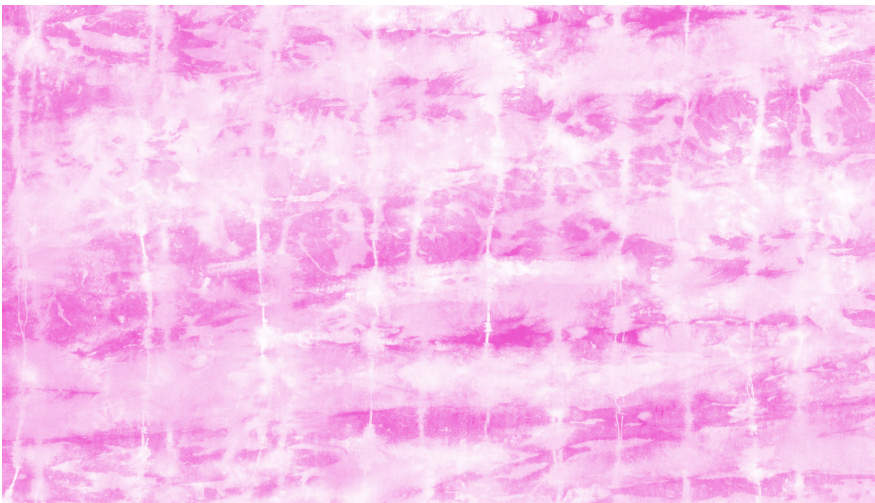
Materials:

- Small saucepans
- Knife (with adult supervision)
- Cotton White T-shirt or other cloth to Tye Dye (be sure to use natural fabric like cotton and look for fabric that is white or light)
- Strainer
- Large mixing bowl
- Measuring cup
- Funnel
- Glass jars
- Wash buckets (or an old pot or container)
- Rubber bands
- Disposable Gloves
- Water
- Salt
- Vinegar
- Plant Ingredients (see the table above for color choices)
- Microwave

- Next, add your chopped plant ingredients into the small saucepan (not the one pan you used to prep your fabric). Cover the ingredients with twice as much water as fruit or vegetable. Place on medium heat and bring to a simmer for one hour.
- Turn off heat on dye mixture and let it return to room temperature.
- Pour the cooled dye through the strainer into a mixing bowl.
- Then funnel the dye into a glass jar or directly into the wash buckets.
- Place rubber bands on fabric to make a design of where the dye won't color.
- Place fabric into wash buckets with dye and soak until it reaches the desired color.
- Place the fabric into a microwave safe container and heat in the microwave for two minutes, on High.
- Remove carefully and allow to cool completely overnight.



- The next day, rinse under cool water and hang to air dry.
- To further heat-set the dye, run the item through the dryer on high for about 1 hour.
- To clean, launder only by hand in mild detergent and separate from other laundry.



WEEK 6 GARDENS & YOUR IMAGINATION

Introduction

Anyone can grow a garden! You don't have to have a large yard to have a garden as they come in all shapes and sizes. Gardens are important because:

- Gardening can provide exercise and is something you can do your whole life.
- Gardens provide an important source of food for insects and animals... as well as people!
- Gardens build community as people love spending time in them.
- Eating fresh food from a garden tastes better.
- Being outside in the sun provides an important source of vitamin D which is good for the bones and heart.

A garden can be plants that include fruits and vegetables and/or ornamental plants. In this activity, we are going to create a mini garden that can be made in any container and needs only water and sunlight. We will give you a list of recommended plants and materials and the rest is up to you.

WONDER

*What planning goes into a garden?
What kind of care and maintenance
does a garden need to thrive?*



HOME LEARNING ACTIVITY OH MY SEED!

Container Ideas:

You can choose all types of containers for your garden. (NOTE: Be sure if you choose one that isn't completely sealed that you line it with some plastic and poke holes for water drainage.) You don't have to spend money as you might already have something at home. If you don't, consider visiting a thrift store, discount market, or flea market to find one of these types of containers. The older the better! Remember that recycling is good for the environment!

- Used egg carton
- Empty Pots
- Old Pot
- Old Wagon
- Old Bathtub
- Birdbath
- Suitcase
- Galvanized Bucket
- Wine Barrel
- Galvanized Horse Trough
- Any container that will hold soil and allow you to design and plant your garden.



Materials:

- Container
- Potting Soil (enough to fill your container almost to the top)
- Paper
- Pencil
- Garden Shovel
- Water
- Spray Bottle for small containers
- Plants of your choice (see options)
- Decorations of Your Choice (see options)
- Scissors or a Pruning Tool

Plants to Choose From:

We recommend if you plan on eating from your garden that you stick with all edible plants so you don't accidentally grab a plant that could make you sick. If you don't plan on eating your plants, then feel free to choose from any of the categories. For the purpose of this activity, we have only recommended edible plants.

- Herbs (all types) - These are great to cook with and come in all shapes and sizes.
- Thyme Seedlings: Aromatic and pleasing to look at, Thyme adds a woody texture to your fairy garden with small green leaves.
- Cherry Tomatoes - Cherry Tomatoes are wonderful to add to your salad and also add a pop of red color to a fairy garden.
- Lettuce - Lettuce is a great choice for creating a scene because there are so many types and colors.
- Nasturtiums - These are a flower and edible as well! They are great on a salad. They come in bright jewel colors.

Other fun options include:

- Peppers
- Spinach
- Green Onions
- Strawberries
- Kale
- Chives
- Basil
- Parsley
- Oregano
- Rosemary

For Very Large Containers:

- Miniature Lemon Tree
- Miniature Fig Tree
- Zucchini
- Summer Squash
- Cantaloupe



Optional Decorations:

First, look around your home for items that might be good for your garden theme (toys and other small items might work). You don't have to spend a lot of money! Ideas include:

- Action Figures
- LEGOS
- Small Dolls
- Rocks
- Marbles
- Shells
- Fish tank decorations
- Small bottles
- Small pebbles
- Lids



Craft stores and online marketplaces can have some kits or individual pieces for your garden too Don't forget your local dollar store. Oftentimes there are some great options for decorations there.



Watch this [how-to video](#) for extra inspiration!



Take these action steps to learn!

PREPARE

- Make sure your container is clean.
- Check for any major cracks or gaps. Determine if you need to line it or repair it in some way.
- Decide what plants you will add to the container and how big they will grow.
- Collect the decorations for your container.



PLAN

- Consider where you will place the container. Find a place that has good sunlight and easy access for you to water and check on it.
- Plan out your garden by creating a sketch of how you would like it to look. This doesn't have to be perfect! Think about placing larger plants in the back

PLANT

- Fill the container with potting soil up to about 2 inches from the top.
- Test: Place plants and items on top of the soil to see how things look. Rearrange them if something doesn't look right.
- Take a quick photo so you remember where everything will be placed. This is also good documentation of your process.
- Plant the bigger plants first by digging a hole using your garden shovel. Carefully remove your plant from its pot and place into the hole. Bring the soil up around the base of the plant and pat the soil around it.
- Once the plants are in, add the decorations to complete your scene.
- Gently water your garden using a hose, spray bottle, or a watering pot.
- For the first week, you will want to water every day using the sprayer or spray bottle if it is a smaller container. You can then check the soil by placing your finger gently in up to your knuckle to test if it is dry or wet. If it is dry it needs water!

- Be sure to take pictures of your garden!
- As time goes on you will need to trim your garden using scissors or pruning tools. If you have followed the edible garden plan, you can use these trimmed pieces to add to your recipes.



HOME LEARNING EXTENSIONS



EXPLORE

Try creating new recipes with the plants in your edible garden. If you planted herbs you can compare and contrast the difference between the spices (dried version) and the fresh.



INVESTIGATE

Would a bigger container allow for the plants to grow bigger or would they stay the same?



WONDER

How do gardeners get inspired to create their garden designs? Think of some of the bigger gardens you might have seen or visited. What might have inspired them? You can also visit some famous gardens virtually [HERE](#).

VISUAL & PERFORMING ARTS ACTIVITY CREATION LAB FOR YOUR MINI GARDEN

Now that you have designed and built your garden, you may want to change the design a bit or have different decorations that you can change out. In this activity, we will show you how to craft new decorations to go in your garden. The goal is to not buy anything new but reuse things you already have or find. Be sure to ask first!

Start Designing!

Design and create thematic elements for your mini garden out of “found items!”

The following are suggestions on how to think about creating and designing an element for your garden. There is no right way to do it. Try it out and see how it comes out. Be inspired by these and create your own designs!

- Create a House
- Build a Pathway
- Design a Pond
- Build a Bridge



Recommended for General Creation (you don't need them all)

- Glue
- Glue Gun w/ Glue Sticks
- Paint
- Markers
- Crayons
- Cardboard from boxes that come in the mail
- Old paper bags
- Old disposable containers (i.e. yogurt, butter)

Things you might have and are good for creating with:

- Fabric (could be from old clothing or something else)
- Popsicle sticks
- Small rocks
- Pebbles
- Yarn
- Sand
- Colorful Wrapping Paper
- Newspaper
- Old toys (see the ones we previously listed)



Recommended for General Creation (you don't need them all)

- Glue
- Glue Gun w/ Glue Sticks
- Paint
- Markers
- Crayons
- Cardboard from boxes that come in the mail
- Old paper bags
- Old disposable containers (i.e. yogurt, butter)

To plant a garden is to believe in tomorrow.

AUDREY HEPBURN

RELATIONSHIPS IN FARMING ECOSYSTEMS

Introduction

Have you ever wondered where the food in the grocery store comes from? Really wondered? Farming is a key part of how we get our food. Farms have their own ecosystems made up of all of the living and nonliving things in an area. The farm ecosystem is different from other ecosystems because humans control a lot of the interactions among the things they farm.

Crops grow by using nutrients in the soil, water, and sunlight. Many animals are also raised on farms and require food to graze on. The main resource for all ecosystems is the sun's energy.



 **WONDER**
What elements make up the ecosystem of a farm in North America?

HOME LEARNING ACTIVITY FARM ECOSYSTEM MEMORY GAME



Watch one of these videos!

- Grades K-3: [On The Farm - Educational Video](#)
- Grades 4-6: [Nutrient Cycling](#)
- Grades 7-8: [Incredibly Abundant 1-Acre Permaculture Homestead Tour](#)
- Tour every kind of farm in this [360-degree video series!](#)



Take these action steps to learn!

In this activity, students will learn about the elements in the farm ecosystem. They will play a memory-matching game to discover all the elements.

- Print out a set of the [Farm Memory Game Cards](#).
- Have either the child or the caregiver cut out the game cards
 - K-2 version: Match the pictures
 - 3-8 version: Match the picture to the text description
- Lay all the cards facedown and in a grid on the table.
- The goal is for each person to make a match. Take turns flipping over 2 cards. If you make a match, go again. If you don't make a match, flip the cards back over and the next person takes a turn.
- The person who has the most matches at the end wins the game.
- Check the matches using this [Answer Sheet](#).



Materials:

- [Farm Memory Game Cards](#) (print out one copy)



EXPLORE

Find a local farm and see if you can tour it. If you can't go in person, can you find one that will let you do a virtual tour?



INVESTIGATE

What do you imagine a farm to sound like? What do you think you would see on a farm? Imagine a visit or remember a time you've been on a farm in real life and tell someone all about it.



WONDER

What kinds of farms can you think of? Do farms do just one type of job or do you think they do more than one?

HOME LEARNING EXTENSIONS

VISUAL & PERFORMING ARTS ACTIVITY MIXED MEDIA FARM COLLAGE

Farms are a great place to be inspired for drawing or other types of art. If you look at many museums of art, you will find a great many famous artists who have inspired by farms.

Start Designing!

Students will create a farm collage using both organic and inorganic shapes, patterns, and materials.



Watch this [video](#) for extra creative inspiration!



<https://i.pinimg.com/236x/a7/b2/24/a7b22402ea531ab9a8d2ce25d55aa16f.jpg>

- Start by visiting the [Google Arts and Culture digital collections](#) of farms across the globe.
 - Click and explore the different artifacts.
 - Notice shapes and colors that appear in multiple places.
 - Notice patterns and different materials that appear.
 - What is similar about farms across the globe?
 - What is unique about farms in different areas or in different collections?
- List the different shapes, colors, patterns, and materials that you noticed in the Google Arts and Culture collections on a piece of scratch paper.
- Look through magazines or newspapers and cut out elements that match the list you made.
- Go outside and search for organic materials that match the list you made.
- Search the internet for images or words that match the list you made.
- Collect all your elements and lay them out in a collage on your paper.
- Arrange them into a unique shape or simply lay them out in an interesting pattern or scene. Once you place them, glue them into place.
- Once the glue dries, hang up your collage in a special space and enjoy your art!



Materials:

- Craft Glue
- Pencil
- Thick White Paper (cardstock or poster paper)
- A variety of craft paint (optional)
- A few paint brushes (optional)
- Colored pencils or crayons (optional)
- Old Magazines, Newspapers, and other media you have permission to use
- Outdoor plants (ask if you can use a small cutting of a plant for your art work)

WEEK 8 FARM TO TABLE

Introduction

In this unit, we have learned a little about how the geosphere is a key part of how we get our food. We started with tiny seeds and then explored at-home gardening. Last week, we learned about farming as its own ecosystem. To wrap up the unit, we are going to explore cooking with local ingredients!

Many farms will have a booth at local farmers markets or they may have their products at a local grocery store. Eating fresh food that is grown locally is not only better for you, but it also tastes better.



WONDER

Where can I find locally grown food? What are some of the things I can make with it?

HOME LEARNING ACTIVITY FARMERS' MARKET FUN

Watch one of these videos!



- Grades K-2: [A visit to a local farmers market](#)
- Grades 3-5: [Farmers' Market Math | Adventures in Learning](#)
- Grades 6-8: [The Most Amazing Farmers Market!](#)



Take these action steps to learn!

- Explore the recipes available [here](#) and make a list of the items you need to buy at the local farmers' market.
- Visit a farmers' market and reference your copy of the Farmer's Market Scavenger Hunt.
- As you complete the Scavenger Hunt, take out your shopping list and visit the farmer's booths to see if they have the items you are looking for.
- Be sure to talk with the farmers as you visit and ask them questions about farming.
- Try samples if you are able to. Don't be afraid to try something new. You might like it.
- Finish up your shopping and then return home to follow your recipe to make your yummy dish!



Materials:

- Find a local farmer's market to visit
- Print out a copy of this [Scavenger Hunt](#)
- Select Your Recipe - Click [HERE](#) to find recipes of Google "easy farmers market recipes" to find more.
- Make a list of the items you will need to buy



EXPLORE

Learn more about **becoming a farmer.** What does it take to sell at a farmers market? What do you think you would like to sell if you were to do so?



INVESTIGATE

Do you think that the farmers who go to the farmers' market go to more than one? How do they compare?



WONDER

What else might the farmers do with their products? How might they work with their local community to sell their products?

VISUAL & PERFORMING ARTS ACTIVITY FARMERS MARKET ART POSTER

Start Designing!

Create a poster inviting people to visit a local farmer's market.

Materials:

- Fruits and vegetables
- Knife (with adult supervision) to cut the fruits and vegetables
- Washable containers for paint
- Poster Paper (1 piece for each child)
- Eco Paint (various colors)



VISUAL & PERFORMING ARTS ACTIVITY FARMERS' MARKET ART POSTER

Get inspired and create a poster inviting people to visit a local farmers' market.

Start Designing!

- Cut fruits and vegetables into interesting shapes (adult or older child) with a knife
- Put a small amount of paint on a washable container (1 container for each paint color). You can use old yogurt containers or something similar.
- Layout your poster paper. You might want to sketch a farmer's market scene or something else with a pencil. Or you can make this abstract art.
- Dip the produce into one of the paint colors. Make sure you don't have too much paint on the fruit or vegetable.
- Press the fruit or the vegetable to the poster paper. Then, carefully lift off the paper.
- Repeat with different fruits and vegetables until you feel it is done.
- Let the poster paper dry.
- Write the name of the farmer's market and what days of the week they are open at the top. Think of an inviting message to encourage people to come and visit.



Materials:

- **Fruits and vegetables**
- **Knife (with adult supervision) to cut the fruits and vegetables**
- **Washable containers for paint**
- **Poster Paper (1 piece for each child)**
- **Eco Paint (various colors)**



RECOMMENDED BOOKS

This book list is designed to pair with the Geosphere 4-week unit. We have curated books for grades K-8th. Reading at home is critical to developing interest and knowledge. You can find these books and similar books like these at the Public Library and online.

TIPS

- Set aside a daily time to read to, with, or have your child read independently
- Help your child explore new types of books (it is okay for older children to read picture books!)
- Have older siblings read to younger children
- Discuss the stories and information together

Picture Books (All Ages - Picture Books are Great for the ENTIRE Family)

- [**The Things About Bees, A Love Letter**](#) by Shabazz Larkin Shabazz -- Larkin's The Thing About Bees is a Norman Rockwell-inspired Sunday in the park, a love poem from a father to his two sons, and a tribute to the bees that pollinate the foods we love to eat. Children are introduced to different kinds of bees, "how not to get stung," and how the things we fear are often things we don't fully understand.
- [**The Magic School Bus Plants Seeds**](#) -- Ms. Frizzle's class is growing a beautiful garden. But, Phoebe's plot is empty. Her flowers are back in her old school! So, the class climbs aboard the Magic School Bus. And, of course, the kids don't only go back to Phoebe's school, but they go inside one of Phoebe's flowers! Follow the kids' adventure and learn how living things grow.

- **Seed School** by Joan Hulub -- Welcome to the wondrous world of seeds! Just like people, seeds come in all shapes and sizes. In Seed School by Joan Holub, you'll meet the charming cast of characters who—with the help of soil, water, and sunshine—grow into vibrant fruits, vegetables, and flowers.
- **The Curious Garden** by Peter Brown -- While out exploring one day, a little boy named Liam discovers a struggling garden and decides to take care of it. As time passes, the garden spreads throughout the dark, gray city, transforming it into a lush, green world.
- **Secrets of the Garden** by Kathleen Zoehfeld & Priscilla Lamont -- Alice's family plants a vegetable garden each spring, and this budding naturalist reports all she sees about how the plants grow, what insects come to eat the plants, and what birds and animals come to eat the insects. It's the food chain, right in her own backyard!
- **Oh, Say Can You Seed? All About Flowering Plants** by Bonnie Worth - A Cat in the Hat Learning Book -- With the able assistance of Thing, 1 and Thing 2 — and a fleet of Rube Goldbergian vehicles — the Cat in the Hat examines the various parts of plants, seeds, and flowers; basic photosynthesis and pollination; and seed dispersal.

Non-Fiction

- **Grades K-4: Soil, Seeds, Sun, and Rain! How Nature works on a Farm!** -
- Where does food come from? Does it come from the mountains or the springs? Who harvests them and puts them on the table? This educational resource aims to answer all the basic questions a child might have about food. Inside the pages are interesting discussions that deserve a place in your child's knowledge bank.

- **Grades 3-6: Mini Farming** by Alexandra Davis -- This book is more than perfect for those who have always wanted to have their very own organic garden. You can learn everything there is to know about sustainable gardening practices, helping you explore your passion all the way through. As you will begin reading, you will discover that organic gardening is not that difficult as you might have perceived it. Plus, the end result is represented by fresh and healthy produce that you can serve to your family.
- **For everyone: Fairy Gardening 101** by Fiona McDonald -- Learn which types of plants and containers are most successful for a fairy garden, as well as how to develop a focal point for your enchanted mini Eden. All you need is a few miniature plants, some thoughtfully placed accessories, a fairy or two, and a love of whimsy and imagination.
- **For parents & older students: The Kitchen Counter Cooking School** by Kathleen Flinn -- After graduating from Le Cordon Bleu in Paris, writer Kathleen Flinn returned with no idea what to do next, until one day at a supermarket she watched a woman loading her cart with ultra-processed foods. Flinn's "chefternal" instinct kicked in: she persuaded the stranger to reload with fresh foods, offering her simple recipes for healthy, easy meals. The Kitchen Counter Cooking School includes practical, healthy tips that boost readers' culinary self-confidence, and strategies to get the most from their grocery dollar, and simple recipes that get readers cooking.





SUGGESTED MUSIC PLAYLIST

This music playlist is designed to pair with the Geosphere 4-week unit. We have curated ambient songs, soundscapes, popular music tracks, and instructional songs for grades K-8th. Listening to music deepens emotional connections to the learning and can create a mood for exploration.

We have linked to all these songs inside Spotify or you can search for them on YouTube.

TIPS

- Set aside a daily time to listen to the music & sounds with your child or have him/her listen independently.
- Help your child explore new types of sounds at different times of the day & during different activities.
- Discuss the sounds and lyrics together as a family -- How do they make you feel? How do they connect to the learning theme and topics?

SOUNDSCAPES / AMBIENT TRACKS

- *Farm Sounds: Sounds of Farm Animals and Domestic Animals (Album)* -- [Track 13: Sounds from Eating Grass in the Pasture](#)
- *Digiffects Sound Effects Library* -- [Track 10: Old Barn Ambiance with Rain](#)

INSTRUCTIONAL / HISTORICAL TRACKS

- *A Western Adventure Album (Album)* -- [Track 2: Don't Fence Me In](#)
- *Owl Singalong (Album)* -- [Track 14: Garden Song](#)
- *Cha Cha Slide DJs (Album)* -- [Track 8: Chicken Dance - \(Chicken Chicken\)](#)
- *Story Time for Kids (Read Aloud)* -- [LEGO City Work This Farm!](#)
- *Our Farm Adventures - a podcast for children by children (Podcast)* -- [Baby lambs everywhere!](#)
- *By Kids, For Kids Story Time (Podcast)* -- [The Farmer and the Money Lender](#)