

The logo for Youthline features the word "Youthline" in a green, sans-serif font. A thin green arc curves over the top of the letters, starting from the top of the 'Y' and ending at the top of the 'e'.

Youthline

Environmental Education Lessons



STEM and Environmental Education Lessons

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Environmental Lesson Ideas

Pepper and Water Science Trick

This activity will stress the importance of thorough hand washing.

What you will need:

- Clear paper cup
- Dish soap
- Pepper

Step 1: Fill the container with about 4 oz of water.

Step 2: Shake pepper all over the water for 5-10 seconds.

Step 3: Have a student dip their finger in the water. They will notice that the pepper sticks to them. The pepper represents the COVID-19 virus (or other virus) when we don't properly wash our hands.

Step 4: Next drop a little bit of dish soap on the student's finger and have them dip it back into the container. The pepper will immediately float away from their finger. This gives children an accurate representation of how soap defends from COVID-19 (or other viruses).

The STEM behind the fun: Other than educating children on the value behind hand washing, it also teaches them about STEM principles. The reason why the pepper moves away so quickly when you use soap is because of surface tension. Water molecules (H₂O) like to stick together. The way that the molecules are organized creates tension at the surface of the water (this is also why the pepper floats). The addition of soap changes the water tension. The water wants to keep the surface tension so the molecules pull away from the soap, bringing the pepper with them.

Effects of Pollution on our Water Supply

Before the lesson mix up two cups of water, one with regular water and another that looks dirty (mix in dirt, plastic, paper, etc.). Ask students which one would be safe to drink? Why? Ask students how water in our environment can get dirty. Tell them that we all need clean water, air and land to live on. If we do not take care of our air, water and land, it might not be usable for everyone. Tell students that today we will learn about how water can be affected by pollution and how we can keep it clean.

What you will need:

- 8 large clear plastic containers
- 4 Tongs
- 4 Funnels
- 4 Coffee filters
- Bottle of vegetable oil
- Pieces of plastic



- Paper
- Dirt
- Water

Step 1: Arrange students into four groups.

Step 2: Fill four plastic containers 3/4 full of water.

Step 3: Students can add trash to the water (oil, paper, plastic and dirt).

Step 4: Students should note the changes to the water after each item is added, for example the dirt makes the water muddy, the oil floats on top, the paper falls apart into tiny pieces, plastic floats at the top, etc.

Step 5: Ask students for ideas on how it can be cleaned up.

Step 6: Use tongs to remove large pieces of trash.

Step 7: Filter the water into a new container to remove more trash.

Step 8: Ask students if they have removed all the pollution. (Some, but not all.)

Step 9: Since it is hard to remove all the pollution, brainstorm ways to prevent that water from being polluted in the first place.

Homemade Hand Sanitizer

What you will need:

- 1 cup of 99% isopropyl alcohol
- 1 tablespoon of 3% hydrogen peroxide
- 1 teaspoon of 98% glycerin
- ¼ cup distilled or boiled cold water

Step 1: Pour the alcohol into a medium-sized container with a pouring spout. The percentages on the labels of isopropyl alcohol refer to the alcohol concentration in them. You're dealing with almost pure alcohol if you've got 99.8%, whereas 70% means the bottle is only a little more than two-thirds alcohol, and the rest is water.

Step 2: Add the hydrogen peroxide.

Step 3: Add the glycerin and stir. This ingredient is thicker than both alcohol and hydrogen peroxide, so it'll take some stirring to combine everything. You can use a clean spoon for this or, if your container has a lid, you can put that on and shake it well.

Step 4: Measure and pour in the water. Measure ¼ of a cup of distilled or boiled cold water and add it to your mix. Stir.



Step 5: Sanitize your spray bottles and pour in your hand sanitizer. Spray some of your leftover alcohol into your bottles and let them sit until the alcohol has evaporated. Pour in your sanitizer.

The STEM behind the fun: Creating homemade hand sanitizer is a great way to showcase STEM to your kids. It allows them a real chemistry experience and helps create an effective agent for battling viruses and germs.

Rain Cloud Experiment

This activity will help students understand rain clouds.

What you will need:

- A large clear jar or glass
- Shaving cream (must be foaming shaving cream)
- Gel food coloring or washable watercolors
- Pipettes or droppers

STEP 1: In a small cup, combine the food coloring with some water. Make sure to mix it well.

STEP 2: Fill the large jar or glass with water until it is about 3/4 full.

STEP 3: Place the jar and the cups of colored water on the table. Place a pipette in each cup of colored water.

STEP 4: Right before the students are ready to do the experiment, spray a bunch of shaving cream in the jar until it is just a small bit above the top of the jar. Make sure it completely covers the surface of the water.

STEP 5: Get your students to pick up the colored water with the pipette or droppers and squirt it on the top of the shaving cream and repeat. As they are doing this, get them to pay close attention to what is going on underneath the "cloud". The colored water will fall through the shaving cream and flow through the water below... just like rain!

The STEM behind the fun: Be sure to explain that the shaving cream represents the clouds and the water represents the air. As clouds become more saturated, they become very heavy. When the water is released it rains.

For more information click on this link: [Why Does It Rain?](#)

Volcano Science Experiment

What you will need:

- Ketchup or tomato paste
- Vinegar
- Dish soap
- Baking Soda



- Play Dough
- Small bottle
- Funnel

Step 1: Place about 2 tablespoons of baking soda into a bowl. Add about 10 drops of dish soap on top of the baking soda and about ¼ cup of ketchup or tomato paste. Mix together gently with a spoon so you don't make too many suds.

Step 2: Cover the bottle with play dough and place it on a tray. Carefully pour the baking soda mixture into the bottle using a funnel.

Step 3: Add vinegar to the bottle slowly, a little at a time. If you use too much vinegar, the eruption will not be as great.

Tornado in a Jar

What you will need:

- Mason Jar
- Dish soap
- Glitter

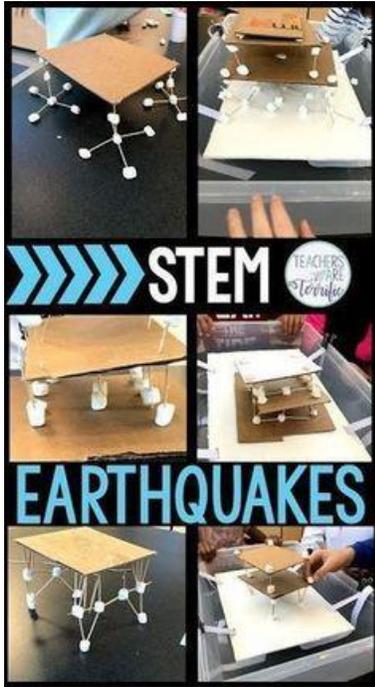
Step 1: Fill the jar mostly full of water. Drop no more than two drops of dish soap into the mixture.

Step 2: Add a tiny sprinkle of glitter and close the lid.

Step 3: Shake in a circular motion to reveal your tornado

The STEM behind the fun: A tornado (vortex) is formed in the center of a jar when you shake it up. This is due to centripetal force, which forces the water toward the center of the jar. The reason you can see it when you add dish soap is because the soap suds slightly, making the vortex more visible. The glitter is just for fun.

Earthquake Challenge



In this challenge, students will be using materials to design a three-story structure that can withstand being shaken in a mild earthquake simulation. The structures are built using only three materials, must be at least three floors tall, resemble a building (not a tower), and be stable enough to keep standing.

What you will need per group:

- Toothpicks (1 small box)
- Mini marshmallows (8 oz. cup)
- Cardboard pieces (3)
- Ruler
- Scissors
- Stopwatch (optional)

Step 1: Introduce the challenge by talking about the earth and its layers. How do earthquakes occur? What do engineers do to make a structure withstand the forces of an earthquake? Explain to the students that they will be building a structure that must stay intact during a mild earthquake (shaking time of 15 seconds.)

Step 2: Constraints of the Earthquake Challenge

- You may only use the supplies above.
- You must build a structure that will survive a mild earthquake simulation of 15 seconds.
- The structure will rest on top of the earth (a layer of gelatin or other structure like sand, or a structure like the one in the picture.) The structure is not attached to the earth layer.
- The structure must be at least 3 floors tall.
- You will build the structure completely before placing it on the earth layer for testing.

Step 3: Plan. How will you make the structure stable?

Step 4: Build your structure.

Step 5: Test your structure by sitting it on the earth layer and shaking.

Step 6: You may improve your structure after testing it.

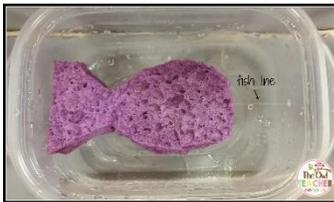
Step 7: Your final structure will be presented and tested with the entire class. Describe what happened during your presentation and earthquake simulation.

Step 8: Reflect: Was your structure successful? Why or why not? What was your favorite part of this challenge? What was the hardest part of this challenge?

Polluting a Fish

What you will need:

- Reusable plastic bowl container
- Sponge cut out in the shape of a fish
- Fishing line
- Pollutants in different containers
 - Soil
 - Raisins
 - Green food coloring for fertilizer
 - Salt
 - Garbage – holes from paper punch
 - Dish soap for acid rain
 - Coffee grounds
 - Syrup for oil



Step 1: Create a water environment with the plastic bowl and fish with a fishing line attached. Add the water.

Step 2: Read the story of Freddie the fish taking his journey in the river downstream and being exposed to various pollutants along the way. Each time Freddie was being exposed to a toxin, pour in a new item into the water environment. As you progress downstream, Freddie's environment will be getting filthier and more dangerous for him. Through this activity talk about how Freddie must be feeling.

Story of Freddie the Fish:

- This is Freddie the Fish. He is a happy fish that lives in crystal clear water, enjoys the shade of the tall trees along the river bank and gets lots of insects to munch on each day. How do you think Freddie feels?
- One day, Freddie wondered what was beyond his little part of the river. He decided to go on a little journey and explore. He heads on downstream. He is ready to see the world.
- Along the river, Freddie first comes across a spot where bulldozers are taking out trees and clearing land. Soil and dirt roll into the river because there are no tree roots to hold the soil in place. Poor Freddie gets soil in his gills. Without the trees, Freddie notices he is feeling warmer. (Pour in the soil)
- As Freddie continues down the river, he spots some black and white animals moving closer and closer to the river. While these animals are getting a drink, they drop a "present" into the water for Freddie. Freddie is not impressed with the smell or that the sediment is being stirred up. (Pour in Raisins)



- As Freddie rounds the corner, he has to dodge a golf ball that nearly lands in the river. The golf club likes to keep their courses looking nice, so they use a lot of fertilizer. Unfortunately, when it rained last, it caused it to run off into the river. (Pour in green food coloring)
- Freddie noticed that this area had a lot of tall plants growing and actually was starting to feel smothered. However, Freddie is a trooper and charged on. He was determined to see all the river had to offer.
- After a while of swimming, Freddie began to notice a salty taste to the water, and he started to feel the sting of salt in his gills. All the salt that was used on the roads had worked its way into the river. (Pour in salt.) How do you think Freddie is feeling?
- Freddie continues on and passes a picnic site at a local park. As he was passing, the wind began blowing litter into the river from the park. (Pour in paper)
- Freddie is starting to feel a bit distressed, but he keeps moving on. It begins to rain, and Freddie notices this rain is different. It turns out this rain is acid rain caused by the air pollution. (Pour in dish soap)
- Along the river edge, Freddie comes across an old abandoned factory. There are a lot of toxic pollutants and rusty materials seeping into the river. This creates a sludge in the river. Freddie tries to swim through it. (Pour in coffee)
- After struggling, Freddie finally gets through the toxic pollutants in the river. Along the side of the river, Freddie notices a man dumping oil from his car into the river. The oil gets into his gills and he starts to have difficulty breathing. He gasps and takes his last breath. (Pour in syrup)

Step 3: Brainstorm what could have been done differently with each pollutant so Freddie could have had a healthier environment.

Step 4: After discussing the impact humans have on Freddie's environment, discuss how it impacts the Earth. You can use this idea as a possible additional activity.

Water Filtration Activity

What you will need:

- 2 glass jars
- Sand
- Gravel
- 3-4 coffee filters
- Dirty water
- A plastic cup with a hole cut in the bottom



Step 1: Fill the jar full of dirty water.

Step 2: In the plastic cup line the bottom with coffee filters then place a layer of clean sand followed by a layer of gravel.

Step 3: Place the cup into an empty jar. Pour the dirty water into the cup so it can filter down through the gravel, sand and coffee filters.

Step 4: Look at the difference in the water before and after. The filter collects all of the dirt and particles in it making the water much cleaner.

More Pollution Activity Ideas

[Click here.](#)

Weathering and Erosion

Students will explore the science of weathering and erosion to understand how Earth's surface changes.

What you will need:

- Photo of a tree growing out of a rock

Station 1:

- Sugar Cubes
- Plastic tray
- Plastic bag (Ziploc)

Station 2:

- Water and watering can
- Potting soil or sand
- Clear basin

Station 3:

- Coarse sand paper
- Limestone, calcite, or other soft stone

Step 1: Show the students a picture of a tree growing through a rock. Ask the students to describe what they see in the image. Focus on the crack that is formed from the plant growing. Ask students to think of other places they have seen cracks in the Earth's surface. Examples include: potholes, road or sidewalk cracks, etc. Let the students know that weathering causes these changes. Explain that they will be exploring the process of weathering and erosion.

Step 2: Set up the stations.

Step 3: Explore.

- [Station 1: Physical Weathering](#)

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- Focus Question: Why did the sugar cubes crush?
- Have students model the process of physical weathering using sugar cubes. Place a tray on the table and put six sugar cubes in a plastic bag. Put this plastic bag containing the sugar cubes on the tray. Have the students press down on the sugar cubes so that they crush apart.

- Station 2: Water Erosion and Deposition
 - Focus Question: Which part of the demonstration models erosion and which part models deposition?
 - Take a clear basin and fill one side of the basin with a steep slope of soil. Have the students take a watering can and pour water over the steep slope. They should see water and soil falling down the slope. They should also see evidence of deposition based on where the soil settles on the other side of the basin.

- Station 3: Wind Erosion
 - Focus Question: What happens when sand travels in the wind as it is constantly blasted against a rock?
 - Place a rock on the table with coarse sandpaper. Have students sand the rock for a few minutes to demonstrate wind erosion with sand.

Step 4: After the students complete all of the stations, talk about the differences between weathering and erosion. Many factors cause weathering. Explain that Station 1 provided a visual of what happens to soft pieces of rock during weathering. Station 2 demonstrated what happens during water erosion, and Station 3 showed what happens when the wind blows particles such as sand against rock over a period of time.

Learning About Trees

<http://firstieland.com/learning-about-trees/>



Talk about the importance of trees on our environment and all the things we get from trees. Let the students participate in one of the following activities.

Activity 1: The students each wrote one thing that we get from trees on a paper leaf that we attached to a tree chart. Examples include: paper, boxes, pencil, rubber, eraser, wood, shade, oranges, lemons, apples, money, chairs, oxygen, sap, animal homes, etc.

Activity 2: Paper bag trees

Step 1: Using paper lunch bags, cut strips about halfway down the bag about ½ inch apart.



Step 2: Pull the strips apart and twist tightly to form the branches of the tree.

Step 3: Twist the bag around to form the trunk and attach to a sheet of paper.

Step 4: Have the students add leaves to their trees. Have them write some of the things that we get from trees on the leaves.

Step 5: (Optional) Have the students add details to their project like animals, flowers, etc.

Cloud in a Jar (Two different Methods)

<https://www.giftofcuriosity.com/weather-science-how-to-make-a-cloud-in-a-jar/>

The science behind the fun. A cloud is formed when water vapor condenses into water droplets that attach to particles in the air (dust, pollen, smoke, etc.) When billions of these water droplets join together, they form a cloud.

Method 1: How to Make a Cloud in a Jar Using Hairspray

What you will need:

- A jar with a lid
- 1/3 cup hot water
- Ice
- Hairspray

Step 1: Start by pouring the hot water into the jar. Swirl it around a bit to warm up the sides of the jar.

Step 2: Turn the lid upside down and place it on the top of the jar. Place several ice cubes onto the lid, and allow it to rest on the top of the jar for about 20 seconds.

Step 3: Remove the lid. Quickly spray a bit of hairspray into the jar and then replace the lid with the ice still on top. Watch the cloud form.

Step 4: When you see a good amount of condensation form, remove the lid and watch the cloud escape into the air.

Step 5: Explain how it works. When you add the warm water to the jar, some of it turns to water vapor. The water vapor rises to the top of the jar where it comes into contact with cold air, thanks to the ice cubes on top. Water vapor condenses when it cools down. However, a cloud can only form if the water vapor has something to condense on to. In the case of this activity, the water vapor condensed onto the hairspray.



Method 2: How to Make a Cloud in a Jar Using a Match (This method will work best for most countries.)

What you will need:

- A jar with a lid
- A match
- A balloon with the bottom cut off (so you can get the balloon over the mouth of the jar)
- Warm water
- A Flashlight

Step 1: Pour enough warm water into your jar to cover the bottom ½” of the jar.

Step 2: Light a match, then hold the lit end in the jar for a few seconds to allow smoke to enter the jar. Then remove the match (or you can simply drop it into the jar. The flame will extinguish when the match hits the water).

Step 3: Quickly cover the opening of the jar with the cut balloon.

Step 4: With this next step, the goal is to change the air pressure in the jar by gently pushing and releasing the balloon. Be gentle as you do this to ensure that the balloon does not come off the top of the jar. With your finger, gently push the balloon into the jar a little bit to increase the air pressure in the jar. Then release. As you release, you should notice a cloud instantly form inside the jar. You may want to shine a flashlight at the jar to help you see the cloud more clearly.

Step 5: Repeat pushing and releasing several times and you will see additional clouds form.

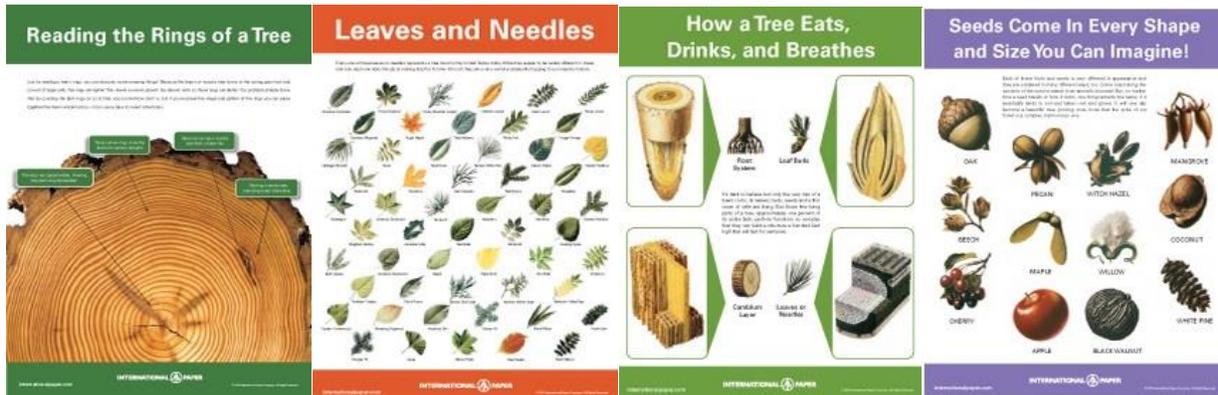
Step 6: Explain how it works. When you add the warm water to the jar, some of it turns to water vapor. When you press on the balloon, you increase the air pressure in the jar, which results in warmer air. When you release the balloon, you decrease the air pressure in the jar, which results in cooler air. As the air cools, the water vapor in the jar condenses. The condensed water vapor is able to collect on the smoke particles from the match and you see the cloud form.

Books about Clouds:

- Clouds by Anne Rockwell
- Explore My World: Clouds by Marfe Ferguson Delano
- The Cloud Book by Tomie de Paola
- Shapes in the Sky: A Book About Clouds by Josepha Sherman

Poster Downloads

<http://www.internationalpaper.com/company/publications-and-resources/life-of-the-forest-posters>



- History of a Tree as Seen Through Its Rings
- Can You Tell Which leaves & Needles Go To Which Tree?
- A Tree Breathes Through Its Leaves & Roots
- Seeds Come in Many Different Sizes & Shapes

For a fun craft idea using natural wood slices, [click here](#).

Photosynthesis

<http://www.primarythemepark.com/2015/02/photosynthesis-kids/>

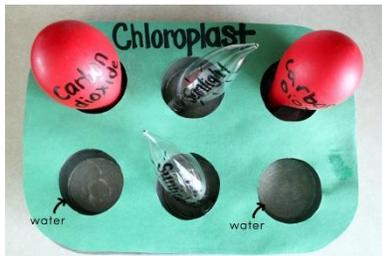
What you will need:

- A small muffin tin
- Green construction paper
- Balloons (two red, three white)
- Black Sharpie
- Two light bulbs
- Water
- Sugar

Step 1: Explain that plants are living things. All living things need food for energy. Our bodies get energy from the food we eat. Plants get their energy another way.

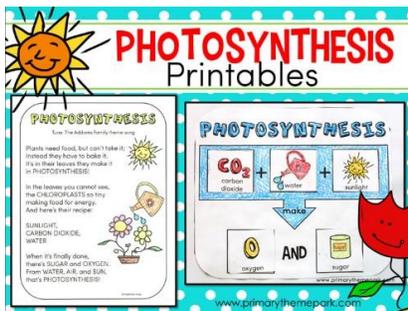
Explain that the word photosynthesis is made up of two parts. (Photo, meaning light and synthesis, meaning to put together, compose, arrange.) During photosynthesis plants are using light to create energy.

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Step 2: Cut holes from the green construction paper and place over the muffin tin to create a chloroplast model (the green plant cell). Chloroplasts only need three items to create energy: Water, carbon dioxide and sunlight. Place water into two of the holes. Add 2 lights bulbs to represent sunlight and two small balloons to represent sunlight. Explain that you are going to cook up some energy for the plants.

Step 3: Have students work on the top half of the photosynthesis worksheet.



Step 4: While the students are working on the worksheet. Take the muffin tin and fill it with sugar and small balloons. Show the students the new tin. Let them know that the three ingredients turned into two very important things: sugar and oxygen. The sugar is the plant's food and source of energy. Oxygen is not important to the plant so it releases it into the air. Oxygen is vital to us. We breathe in this oxygen that the plants give off.

Step 5: Have the students complete the photosynthesis worksheet.

Step 6: Teach the song, Photosynthesis. It is sung to the tune of Addams Family.

Layers of Earth Activity

<https://www.thechaosandthelutler.com/archives/layers-earth-hands-science-activity/>

What you will need:

- 5 colors of modeling clay

- Waxed dental floss



Step 1: Form a ball to represent the inner core. We chose red to represent the intense heat of the inner core.

Step 2: Roll out a circle of another color and wrap around the ball and gently roll. This next layer represents the outer core.

Step 3: Each subsequent color will need more modeling clay than the last. You will need a color to represent the low mantle, another for the upper mantle and the outer later for the crust.

Step 4: Once your ball of five layers of modeling clay is complete, use a piece of waxed dental floss to cut the ball down the middle, revealing all the layers underneath.

** Be sure not to press too firmly together so that the colors don't mix.

Making Groundwater

<https://www.thechaosandtheclutter.com/archives/simple-science-making-groundwater>

What you will need:

- 2 large clear glasses or vases
- Sand
- Gravel (aquarium gravel works well)
- Water
- Container to pour water



Step 1: In each of the glass containers, layer sand and gravel alternating between the two until they are about $\frac{3}{4}$ of the way full. This will create an aquifer. An aquifer is the layers of rock, soil and sand that contain water.

Step 2: Slowly pour water into one of the containers. Have the students observe how the water is making its way through the small openings as it goes down. In the first container, continue pouring the water until the container is full (above the aquifer).

Step 3: Continue to slowly pour water into the second container, stopping about an inch BELOW the top of the aquifer. The level of the water in the second container is the water table. Below that, the aquifer is saturated. The glass of the container in this demonstration acts as impermeable rock.

Step 4: Create what would happen if it were to rain by very slowly adding a bit more water to the second container. Have your student observe and talk about what is happening. This demonstrates the recharging of groundwater.



Step 5: Keep the containers for a few weeks so the students can see that in the first one, there was never any room for more water, but in the second, the ground soaked up more of the water and as time passed, we were able to add a bit more water at a time as long as we never filled it above the top of the aquifer.

Creating a Wormery

<https://runwildmychild.com/wormery/>

Fun Facts About Worms: Charles Darwin called earthworms “the intestines of the soil,” since worms can eat up to 75% of their own body weight every day, turning waste into rich and fertile soil. Worms play a crucial role in the environment by breaking down organic matter like leaves and grass into things that plants can use. When they eat, they leave behind castings that are a very valuable type of fertilizer. Here are a few other fun facts about worms:

- There are over 6,000 different types of earthworms
- Worms have no bones or skeletons
- Worms do not have ears, a nose or eyes, but do have cells that can detect light
- The mouth of a worm is covered by a flap of skin so the worm doesn’t swallow everything
- Worms have a mouth, but do not breathe through it – it is just for eating
- The worm has 5 simple hearts, a stomach, and a gizzard
- The gizzard contains tiny rocks and sand that mash up the worm’s food, because worms don’t have teeth to chew it up
- An earthworm can have over 100 segments between its two ends
- Each segment has tiny little bristles that help the worm move and hold on to things
- All worms have a complete set of both male and female organs on the inside so there are no boy or girl worms

What’s a wormery? A wormery is a place where worms can grow, compost and make more worms. A wormery will recycle food waste into superb fertilizer for your garden or yard. Wormeries are also great for growing and storing worms to use for bait when fishing. Wormeries can also be used at home or in classrooms for observing the life cycle and work of worms. After a few days/weeks, the worms and soil can be returned to your yard or garden.

What you will need:

- A container with a lid
- Shredded newspaper or bedding
- Soil, sand, rocks/gravel
- Worms

Step 1: Choose the proper container. There are many different containers you could use to make your wormery – anything from a bucket to a Rubbermaid container to an old Styrofoam cooler. Worms are active on the top layer of soil, so your container doesn’t need to be very deep. A lid will keep the



wormery dark and prevent any worms from escaping. Just make sure to poke or drill some small holes in the container and lid to ensure they get plenty of air.

Worms like the dark, so if you're going to be keeping your wormery for a while, make sure you use a container that will keep the soil dark. However, if you're building a wormery specifically for kids to observe the worms, use a transparent glass container or plastic jar/bottle (an empty 2-liter soda bottle works great) and cover it with dark construction paper during the time while the kids aren't watching them.

Step 2: Prep the wormery. Put a small layer of rocks or gravel at the bottom of your container. This helps with drainage and gives the wormery a solid base to prevent it from tipping over. Next, shred up some black and white newspaper to place in the bottom of the container as bedding (or you can buy worm bedding). Spray the bedding with enough water to dampen it, but make sure it's not too wet. It should feel like a damp sponge or wrung flannel. Once the bedding is made, add some gardening soil or worm compost and give it a good mix. Finish by putting some dead leaves or vegetable scraps on top of the soil. If your dirt mixture is really dry, add some water to your container as well – just enough to make the soil damp, but not soggy.

Step 3: Find your worms. This is the part that kids love the most! Let your kids search and dig for worms to add to your wormery. Search damp and dark spots in your yard or local park. Lift up rocks, look under bushes, dig beneath piles of leaves. Worms will be easier to find and closer to the surface after a light rain. You might even find them trying to cross the sidewalk. If you can't find any, you could always snag some at a local bait shop or even order them online. Red worms work the best for wormeries, but if you're building this mainly for observation or fun, use any worms you can find.

This is an excellent time to talk to kids about how to handle the worms and the anatomy of worms. Let the kids touch them, hold them and observe them. Talk about how important it is to be gentle and respectful of your worms. Don't let small kids injure the worms or cause any undue stress or damage to them.

Step 4: Add your worms. Add the worms to the top of the bin and allow them to dig down. Do not try to assist them with burrowing because it will scare them. It can take up to a day for all of the worms to burrow down. Any worms that do not go down after being there for a day or two are dead or weak and should be removed. If you think you've found a dead worm sprinkle it with a little bit of warm water. If that doesn't revive them, the worm is dead or dying and should be left out of the wormery.

Step 5: Feed your worms. Once you've found worms and added them to the wormery, you'll need to feed them occasionally. Worms can eat up to two times their body size every day so always feed them according to the amount they'll eat. However, worms can last their entire lives feeding only off of nutrients in the soil so food is always extra. Have your kids save their fruit and veggie peels and scraps to feed the worms. This is a fun way for them to care for the worms while also finding a use for the scraps. Let kids add scraps such as apple cores, banana peels, or pears to the wormery daily. Do not use meat, poultry, fish, dairy, potato chips, candy, oils, oranges, lemons, and limes because these are not



good for the worms. Food will grow mold if left uneaten for a while if you find a piece of food that is moldy remove it. If you don't want to use actual food scraps, you can also buy worm food.

Step 6: Keep them damp, dark and cool. Worms prefer cool temperatures, so keep them indoors in a cool dark place. A basement or a refrigerator is perfect. In addition to adding food periodically, make sure you add some moisture so the soil/bedding doesn't dry out. Compost will be ready in 2-3 weeks. If you have a transparent wormery for the kids, observe it indoors for a few days and then carefully dump it outside in a shady spot in the early morning.

Additional Ideas to teach students about composting and worms. [Click here.](#)

Composting

<http://www.acottonkandilife.com/gardening-composting-toddler-school-uni/>

You will need five baskets filled with the following materials (40% green and 60% brown):

- Basket 1 – sticks for filtration – 1-part brown
- Basket 2 – Dry Leaves – 1-part brown
- Basket 3 – Green spinach leaves – 1-part green
- Basket 4 – Compostable food from breakfast – 1-part green
- Basket 5 – organic potting soil that you layer between all of the parts
- Compost Container. For ideas on how to build a compost container, click [here.](#)
- Book, [Compost Stew](#) by Mary McKenna Siddals

Step 1: Read the book, [Compost Stew](#) by Mary McKenna Siddals. Tell them that today they are going to make Compost Stew in the garden. Explain there are many reasons to make a compost: it saves resources, saves money, reduces our impact on the environment and improves your soil.

Step 2: Begin layering the compost using the items listed above.

Step 3: Take turns "stirring the stew." As the book teaches, "put it in a pot . . . and let it rot."

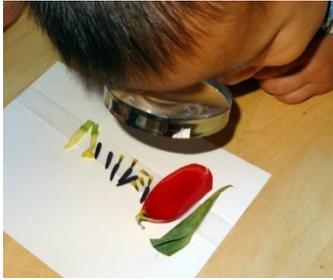
For other compost ideas: [Click here.](#)

Flower Dissection: Hands on Botany

What you will need:

- A flower for each student (tulips or gladiolas work well)
- White cardstock paper cut in half for each student
- Scotch tape. Secure it so the students can stick each part of the plant on it.

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Step 1: Pass out the flowers. Have the students tear off the leaves and talk about what they are called.

Step 2: Take off and talk about the petals. Add to the strip of tape right next to the leaf.

Step 3: Once the petals are off, show the pistil and stamen. Explain that the stamen is the “male” part of the flower since they contain the pollen. The pistil is the “female” part of the flower since it contains the eggs that

get fertilized by the pollen. Add the stamen and pollen to the tape strip. Talk about how the pollen needs to go down the pistil to reach the eggs.

Step 4: Pass around a magnifying glass and allow the students to look more closely at the various parts of the flower.

Step 5. Place another strip of tape on top of the parts so they stay in place.

**** The following PDF's are located in the Youthlinc Google Drive. Shareable Link's are listed below. If the links change or are moved, please contact the Local Service Director.**

Reduce, Reuse, Recycle Activity

https://drive.google.com/open?id=1Xwt-z_v6HnJB2G142LgofymmJYF8ntxH

Recycle Sorting Activity

<https://drive.google.com/open?id=1sIgd9TXdXoCCxhDiKY2QdyqdQmt6g51d>

Earth Day Word Search 1

https://drive.google.com/open?id=1xHVdHad_7F3D3bmpHgtko8xxtWAeQue6

Earth Day Word Search 2

<https://drive.google.com/open?id=1-RzyOdy1bDgckelbm1F2UIKzJ9xDmiKg>

Earth Day Cootie Catcher

https://drive.google.com/open?id=1Wcl_Fek6rueQptW59KjzkdeiHQnSC_Dn

Earth Day Bingo

https://drive.google.com/open?id=1U_VoQyCvkvkSwVRF0frrkZw5qq0OQWpp

Recycle Board Game

<https://drive.google.com/open?id=1yp11pxKtANx-uexVnZuV5jkKxeAFoiX->

Earth Day Activities Flip Book

https://drive.google.com/open?id=1STzjn6fu2s46g4awM6URG5_mQaj7uNSY



Earth Day Activity

https://drive.google.com/open?id=1p9eZoavTpg2C_9BJPQ3d50I7CIMbY974