

Week 6: Great Outdoors















July 29 - August 4

Explore the world outside your door and the incredible parks and waters that belong to us all.

Use the sheet below to mark off this week's activities as you complete them. See if you can get a BINGO!

Scan the QR code or visit www.michiganlearning.org/greatoutdoors to see the playlist of videos for this week.



Crush a soda can with DIY Science Time	 60 mins. of activity	 Read for 20 minutes	 Watch the sunset	Play catch outside
 Read for 20 minutes	 Watch Story Pirates	Make a composter	Watch DIY Science Time	 60 mins. of activity
 60 mins. of activity	 Watch Math Park	 HAVE FUN! (Free Space)	Watch InPACT at Home	 Read for 20 minutes
Watch Extra Credit	 Go swimming	 Watch Math Park	 Watch Story Pirates	Make leaf rubbings
Look for cool rocks	 Read for 20 minutes	Visit a new place	 60 mins. of activity	 Watch Math Park



MAKE A COMPOSTER!

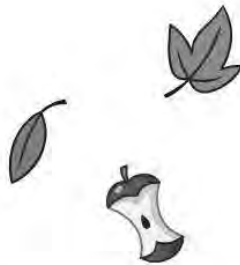
DIFFICULTY: EASY (REQUIRES ADULT ASSISTANCE)

What happens to a pile of old leaves outside when you add a dash of time, maybe some worms, and a healthy splash of moisture? Rich soil perfect for a garden just like Daisy's!



MATERIALS

- 1 empty two-liter soda bottle
- Sharp knife
- Nail
- Shredded newspaper
- Dirt (not potting soil -- use dirt from outside)
- Compost materials (such as grass clippings or vegetable scraps)
- Small handful of dead leaves
- Flat dish to hold composter
- Spray bottle with water



LET'S GET COMPOSTING!



- 1 Rinse the bottle and peel off the label.
- 2 Have a grownup cut off the top of the bottle as shown. Set the top aside.
- 3 Have the grownup use the nail to punch 8 to 10 small air and drainage holes along the sides and bottom of the bottle.
- 4 Put the bottle on the tray.



pbskids.org/naturecat

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- 5 Put some dirt, shredded newspaper and old leaves inside the composter. This is your compost starter.
- 6 Use the spray bottle to wet the compost starter. 
- 7 You're ready to add some stuff to your compost! (Try grass clippings, vegetable scraps, coffee grounds, or eggshells, but do not add dairy or meat.)
- 8 Turn the bottle top upside down and nest it in the open top of the bottle. It will act like a funnel for adding a little bit of water each day to keep the contents damp.
- 9 Place in a spot where sunlight can reach it. 
- 10 Stir every few days, keep the contents damp, and let it rot! As your compost breaks down, you can add more kitchen scraps or plant litter, as well as some more soil from outside to mix in.
- 11 Cover the top of your compost with a kitchen towel when not in use.



LET'S TAKE A CLOSER LOOK

- 1 As you check your composter each day, describe what you observe.
- 2 You may see fluffy mold growing. Some people are allergic to some types of mold, so keep your compost covered when you're not working with it.
- 3 Now take your rich, healthy soil, place it in a pot, add a seed and some water and grow your very own plant!



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Make Leaf and Bark Rubbings



What to Do:

1. Find some trees: Take some blank paper, masking tape (optional), and crayons outside. Look for several trees with different types of bark and leaves.

2. Feel the bark: Close your eyes and feel the bark of the trees. How does it feel? Which one is the smoothest? The roughest?

3. Make a bark rubbing: Use tape to hold a piece of paper on the trunk or hold the paper tightly. Lightly rub a crayon horizontally over the surface of the paper on the bark, just hard enough so that the bark's texture shows on the paper. Do this to other trees and compare the rubbings.

4. Make a leaf rubbing: Collect some leaves from different trees. Close your eyes and feel the leaves. How do they feel? Make leaf rubbings by putting the leaf on a piece of cardboard or a clipboard, covering it with the paper, and rubbing the crayon over it.

5. Make a matching game: Once you've made several leaf and bark rubbings, play a matching game with them. Mix them up and see if you can figure out which tree each leaf and bark rubbing came from.

What You Need:

- Trees
- Plain white paper
- Crayons with label removed
- Masking tape (optional)
- Cardboard or clipboard
- Paper bag for collecting leaves



Find more games and activities at pbskids.org/naturecat

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Environmental Science Issues

The video "Environmental Science Issues" discusses the importance of our environment and the steps that we can take to help protect it. Taking care of the environment is everyone's responsibility.

Try This!

Use the space below to draw your favorite environment. It might be a beautiful beach, a tranquil park, a wild forest, or anywhere that you would love to be. Then answer the questions that follow.

My Favorite Environment



What makes this your favorite environment?

What threats does your favorite environment face? For example, what might happen if someone came and cut down the trees or dumped trash on the beach?

What could you do to help protect your favorite environment?

DIY Can Crush



FUN FACT

Implode is the opposite of explode. When something implodes, it quickly collapses inward. Buildings are often imploded when they need to be demolished so that the destruction doesn't hurt nearby buildings or surroundings.

MATERIALS

- An adult helper
- Stovetop or burner
- Empty soda cans
- Large bowl of ice
- Water
- Tongs

DIFFICULTY



AIR PRESSURE

Air is EVERYWHERE! Air is the invisible gaseous substance that surrounds all of the Earth. There are five layers to Earth's atmosphere and gravity is pulling down on the air molecules in each layer. That pulling is what creates atmospheric pressure.

VISIT
DIYSCIENTIME.ORG
FOR MORE SCIENCE FUN!



What do you call the study of soft drinks?

*Answer on the next page

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*Joke Answer -
Fizz-ics!

DIY Can Crush



EXPERIMENT

Step 1: Gather materials.

Step 2: Fill a large bowl halfway with ice water.

Step 3: Add an 1/8 cup of water to the bottom of the can (just enough to cover the bottom).

Step 4: Place the can on the center of the burner. Once it's stable, turn the burner on high until it has steamed for at least 1 minute.

Step 5: Use your tongs to grasp the can so that you can safely flip the can over and into the ice water.

Step 6: Quickly flip the can over and place into the ice water so that the opening is submerged. Be careful to not splash hot water as you flip the can.

WHY IT WORKS

As the water in the can heats up, it changes from a liquid to a gas, making water vapor. The water vapor pushes the air out of the can. Once the can is upside down in the ice water, the hot water vapor is trapped inside and quickly cools after it's submerged in the ice water. The water vapor condenses leaving empty space in the can. The air outside of the can has pressure, exerting 14.7 pounds of pressure per square inch on the can! Without the air inside of the can, the air pressure is unequal and the outside air easily crushes the can.

EXTEND YOUR LEARNING

- What would happen if you used room temperature water instead of ice water?
- What happens if you use a different sized can?
- What happens if you don't heat your can up before turning over into the ice water?
- Does the size of your ice impact the experiment?

WORKFORCE CONNECTION

Aerospace engineers have to understand how pressure and a lack of pressure (vacuum) both affect the performance of aircraft and spacecraft inside and outside of the Earth's atmosphere. Aerospace engineers design and test aircraft and spacecraft as well as missiles and satellites to learn how air impacts flight. Aerospace engineers recently were able to test how the air pressure on Mars affects the flight of a drone!

it's Storytime CHALLENGE

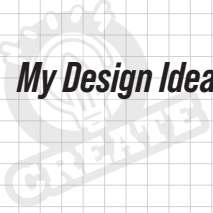
Growing Seeds



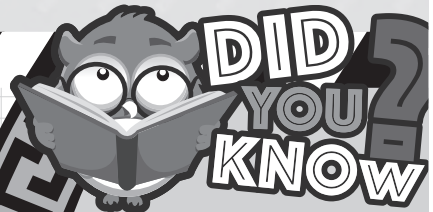
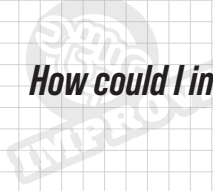
Scan here for instructions from Live From the Opera House Episode 306: Great Outdoors

- Cardboard Egg Carton
- Potting Soil
- Seeds
- Scissors
- Used Coffee Grounds
- A Waterproof Plate or Tray

My Design Ideas:



How could I improve on my design for next time?



Humans use more than 2000 different types of plants to create various delicious food items in our meals!

Seeds can be as tiny as a grain of sand or bigger than a fingernail.

POWER UP WORDS

- Seed
- Root • Stem
- Flower

CAREER LIFTOFF

- › Gardener
- › Farmer
- › Florist
- › Agricultural Engineer
- › Forester



Learning Standards: Kindergarten

K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.