

Week 2: Under Water

July 1-7

Dive deep into oceans, rivers, and our own Great Lakes to discover what it takes to live beneath the waves.

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/underwater to see the playlist of videos for this week.

Watch Curious About Careers	 60 mins. of activity	 Read for 20 minutes	Watch Great Lakes Now	 Go swimming
 Read for 20 minutes	 Watch Story Pirates	Make density art	 Go fishing	 60 mins. of activity
 60 mins. of activity	Make a heatless lava lamp	 HAVE FUN! (Free Space)	Watch InPACT at Home	 Read for 20 minutes
Watch DIY Science Time	 Go swimming	 Watch Math Park	 Watch Story Pirates	Watch Extra Credit
Describe an animal that lives under water	 Read for 20 minutes	Build a pond viewer	 60 mins. of activity	 Watch Math Park

Density Art



1. Scan the QR code on this sheet to watch the video and follow along with Mister C.



helps you



2. You'll need:

- a. This printout
- b. Plain printer paper or canvas paper
- c. Food coloring
- d. Vegetable Oil
- e. Pipette or straw
- f. Pan

Discussion Questions:

Does the type of paper impact the art?

How can you manipulate the colors to make more colors than you originally had in the food coloring box?

What if you added something like glitter to the oil and water mixture?

Fun Fact:

Symmetry is used in photography to create beautiful images. Butterflies have a line of symmetry down the center of their bodies.



A POND WITH A VIEW

DIFFICULTY: EASY

While there is action all around a pond, what do you think is happening *in* the water? Ponds are filled with animal and plant life that have special qualities that help them spend all or most of their lives underwater. Make this pond viewer to bring on your next pond exploration!



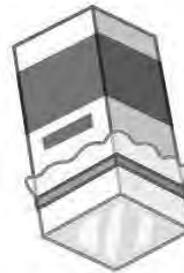
MATERIALS

- One-half gallon milk carton
- Scissors
- Waterproof, strong tape (e.g. duct tape) or a sturdy rubber band
- Heavy, clear plastic wrap



LET'S MAKE A POND VIEWER!

- 1 Have an adult cut off the very top of the milk carton and the very bottom to create a rectangular tube.
- 2 Tear off a sheet of plastic wrap and place it over one of the open ends. Fold down the plastic wrap... make sure wrap is smooth and tight for clear viewing.
- 3 Using the tape or the rubber band, secure the plastic wrap in place. Keep the plastic wrap as tight as possible so you have a flat viewing surface.



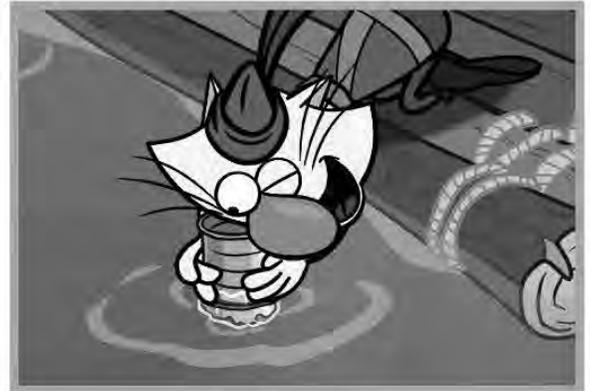
pbskids.org/naturecat

The PBS KIDS logo is a registered mark of PBS and is used with permission. © 2015 Spiffy Pictures. All rights reserved.



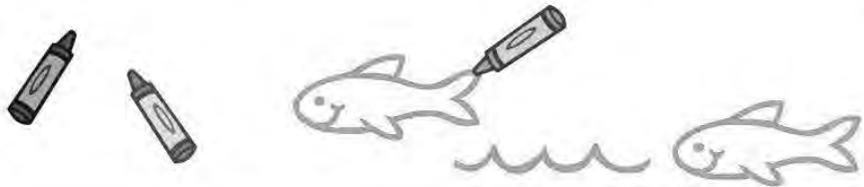
POND VIEWING TIPS

- 1 Splashing and stirring up mud will make it difficult to see into the pond. Be as still as possible when using your viewer.
- 2 Despite what NatureCat says, it is noble and fun to get wet! If the shoreline is murky, slowly wade out to your knees before using your viewer where it may be less murky.
- 3 Other ways to view: on a dock, over the side of a canoe, or in a stream, lake or tide pool!



LET'S TAKE A CLOSER LOOK

Describe a plant or animal that you see. Draw a picture of it, and ask an adult to help you identify and label your picture.



pbskids.org/naturecat

The PBS KIDS logo is a registered mark of PBS and is used with permission. © 2015 Spiffy Pictures. All rights reserved.

DIY Heatless Lava Lamp



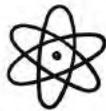
FUN FACT

Lava lamps were invented in 1948 and were originally called "Astro Lamps." The lava lamp made its television debut in the US in the 1960s on a show called "Doctor Who." Sales skyrocketed after this TV appearance!

MATERIALS

- 2-liter bottle
- Vegetable oil
- Water
- Effervescent tablets
- Food coloring
- Funnel

DIFFICULTY



DENSITY

Density is a measurement of the matter an object has within a given volume. Objects with more matter in a given volume have a higher density. Objects with less matter in the same amount of volume have a lower density. Density is found by dividing the mass of an object by its volume.

VISIT
DIYSCIENTIME.ORG
FOR MORE SCIENCE FUN!



What runs but never walks?

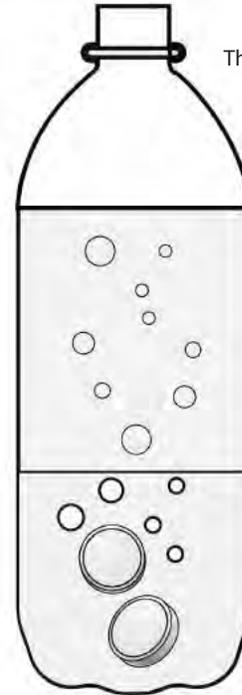
**Answer on the next page*

Copyright Alabama Public Television and Mister C, LLC 2021

DIY *Heatless Lava Lamp*

EXPERIMENT

- Step 1:** Gather your materials.
- Step 2:** Clean and rinse your empty 2-liter bottle.
- Step 3:** Pour 3 cups of water into your bottle.
- Step 4:** Add food coloring to the water.
- Step 5:** Gently pour vegetable oil into the bottle and observe how the water and oil interact.
- Step 6:** After allowing the water and oil to settle, drop pieces of the effervescent tablets into the bottle.
- Step 7:** Observe what happens!



*Joke Answer -
The water from your faucet!

WHY IT WORKS

The oil and water stay separate because they have different densities. The oil floats on the water because it's less dense than water. When the effervescent tablet sinks to the bottom, it mixes with the water and starts a chemical reaction that produces carbon dioxide, a gas that rises through the oil. When these bubbles rise, they pull some of the colored water up and through the oil. The gas eventually escapes at the top, but the water falls back down through the oil because it is more dense!

EXTEND YOUR LEARNING

- What happens if you add more pieces of effervescent tablet, or change the amount of water in the bottle?
- Try shining a light, like a flashlight, through the bottle. What can you see differently?
- Is there a limit to the number of times you can repeat the experiment?

WORKFORCE CONNECTION

Paint chemists are scientists who study the properties and use of paint. Most paints are made of the same basic ingredients: pigments, binders, liquids, and additives. How these ingredients interact due to their densities plays an important part in determining the way that paint performs. Paint chemists study things like how well a paint can cover a surface or how long a paint may be able to last outside in the weather.

it's Storytime CHALLENGE

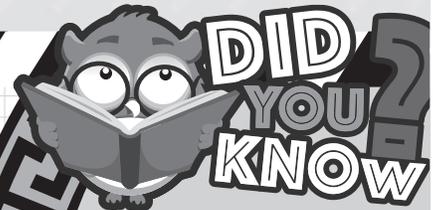
Glorious Great Lakes



Scan here for instructions from Live From the Opera House Episode 302: Under Water

- Cardboard
- Colored Paper
- Beach Rocks
- Glue
- Paper Towels
- Scissors
- Shaving Cream

My Design Ideas:



The five Great Lakes - Superior, Huron, Michigan, Erie and Ontario - span a total surface area of 94,600 square miles, making them the largest freshwater system in the world. More than 20% of the world's freshwater is in the Great Lakes!

POWER UP WORDS

- Peninsula
- Lake
- Fresh Water

CAREER LIFTOFF

- › Coast Guard
- › Environmental Engineer
- › Conservationist
- › National Park Service

How could I improve on my design for next time?



Learning Standards: 2nd grade

Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2-ESS2-2 MI Develop a model to represent the state of Michigan and the Great Lakes, or a more local land area and water body.

SHOW **NOT TELL!**

Emotion



What **emotion** would you like to "Show, Not Tell"? Pick one from the examples below, or just choose your own! If you're not sure what some of the words mean, look at the picture of the face for a clue.



Elated



Jubilant



Thankful



Gloomy



Sorrowful



Lonely



Anxious



Petrified



Startled



Frustrated



Furious



Irate



Amazed



Bewildered



Shocked



Inquisitive

Who is your character?	SHOW the emotion to the reader. What does the character SAY because they feel that way?
What emotion are they feeling?	