



Hello, Hikin' Tykes!

I sure wish we could be together for this program, especially because it is one of my favorite topics AND it's in celebration of the 50th Anniversary of Earth Day. We can still celebrate our blue planet and explore. Use this Hikin' Tykes-Water DIY at Home Guide and send me a picture or short video of you learning how water travels in different forms within the water cycle. Hope to see you soon. Take care!

Miss Jenny

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You will need:

- Wi-Fi access and a device with video and audio capabilities to hear the songs and stories
- space to move around as a “water molecule”
- 3 cut-out circles (write the letter H on 2 circles and the letter I on the remaining circle), tape
- electric kettle or tea kettle, liquid water, ice cube, cup/mug that can hold hot liquid, plastic baggie to capture steam
- cotton ball- 1/child, small bowl with some water
- 12-20 oz. empty plastic bottle- 1/child, water, oil (baby or vegetable), food coloring, objects like beads, toys, pebbles, glitter that will fit through bottle's opening, glue, (optional) funnel, measuring cup
- outdoor space (optional)

To get your little one excited about the water cycle, play the following song and encourage movement—
Water Cycle Song 3:41 minutes “WOO-WOO!” Option: turn on CC, closed captions

<https://www.youtube.com/watch?v=TWb4KIM2vts>

This is a very special year because we are celebrating the 50th anniversary of Earth Day. The Earth is also known as the blue planet because $\frac{3}{4}$ of its surface is water. Water travels in different forms within the water cycle. Today we're going to learn about that, how to move like water molecules in those different forms, and go on a water cycle search. But first we'll start with a story.

Hey Water by Antoinette Portis 4:20 minutes <https://www.youtube.com/watch?v=u7XN3k6kcEg>

Did you notice from the story the different ways water can travel around?

Water is amazing in that it can change its form from gas to liquid to solid as it travels through the water cycle. Let's watch this video to learn more about how the water cycle works.

The Dr. Binocs Show 3:08 minutes <https://www.youtube.com/watch?v=ncORPosDrjI>

Wow! That's water-ful! Water is made of tiny things called molecules, so tiny we can't see them with our own eyes. We would need a super strong microscope. Have you ever heard water called H₂O? That's because a water molecule is made of two Hydrogen atoms and one Oxygen atom. Let's become water molecules. (Tape the circles onto each child.)



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Temperature determines the movement of these H₂O molecules, therefore determining which form water will become. When water is cold what happens to it? It freezes, often into ice, snowflakes, hail, and sleet!

Do you think when the molecules are cold that they move fast or super slow? They move super sloooow. *Let's move in slow motion.*

What happens to ice, water in its solid form, when the temperatures get warmer? It melts. Into what? liquid! *Let's flow around like warm water molecules.*

Now what do you think happens when warm liquid water molecules get really hot, hotter than 212 degrees F or 100 degrees C? Do they move faster or slower? They move so fast that they turn into vapor! *Let's move super-fast and crazy like hot gaseous water molecules.*

Ok, now the temperature is dropping. It's getting cooler. Do you think the water vapor molecules will slow down? They sure do and eventually they'll change back into liquid form so *let's move really fast then slow down until we flow around again like liquid water.*

If it gets cold enough, below 32 degrees F or 0 degrees C, these water molecules will change back into their solid form-ice. So, *move in slow motion again until you're barely moving at all.*

Move as molecules to this water cycle song 2:38 min. <https://www.youtube.com/watch?v=gBbFxl6Oy94>

Fantastic job on being water molecules! Let's do an experiment to see real water change into its three forms of solid, liquid, and gas. You'll need the electric kettle, water, a hot liquid cup/mug, a plastic baggie and an ice cube for this experiment.

Step 1: LIQUID to GAS, EVAPORATION Have your child pour some liquid water into the electric kettle. Turn it on and wait for it to boil. While that is happening, give each child a hot liquid cup and plastic baggie. Once the water in the kettle is boiling, ask them what form water is coming out of the top of the kettle? GAS!

Provide instruction for the next step.

Step 2: GAS to LIQUID, CONDENSATION Pour some hot water into their cup. They should put the baggie over the cup to catch steam. Once they've got some steam in their baggies, they should close the baggie and set it on their ice cube. What happens to the gas when it cools? GAS CHANGES INTO LIQUID.

Optional Step 3: LIQUID TO SOLID If you want to, place the baggie into the freezer and check in later in the day. Ask your child what water molecules do when move super slowly; what form do they change into? SOLID like the ice cube.

You can do this quick experiment about the water cycle using a cotton ball as a cloud.

Step 1: Give each child a cotton ball. Ask, how does the cotton ball cloud feel? dry or wet? soft? light or heavy?

Step 2: Give each child the small bowl with water. Dip the cotton ball in the water. The water from the bowl "evaporates" into the cloud cotton ball. Does the cotton ball cloud feel different or the same? dry or wet? light or heavy? The water has "condensed" in the cloud. When the water becomes too heavy for the cloud to hold onto, then it rains or precipitates.

Step 3: Let's squeeze our cotton ball cloud to make it "precipitate". See how the water collects back in the bowl? And then we could do this all over again, just like what happens in the real water cycle.

If you want to see the water cycle in action and find water in all its forms, you can look around outside. You may even want to take an ice cube with you and see what happens to it. Drop it on the ground, in a puddle, on a snowbank, on a rock or plant, or in a pond, lake or river if it's accessible to you.





Walk around playing I-Spy. Look for water in its three forms; ice, water, steam (including our own exhalations) and examples of water traveling within the water cycle; lake, clouds, dew, snow, ice, frost.

Isn't it amazing how water travels in its different forms within the water cycle? Let's travel back inside to make a watery sensory bottle. For this activity you will need the following—

Materials: empty plastic soda/water bottle, water, vegetable or baby oil, measuring cup, funnel, food coloring, glue, various items to put into the bottle; pebbles, sequins, beads, glitter, buttons. Be creative and have fun!

Directions: Fill each bottle $\frac{1}{3}$ water and $\frac{1}{3}$ oil. Use the measuring cup and funnel if those help in filling the bottle. Add a few drops of food coloring. Put the cap on. Shake. Take the cap off and add a few trinkets. Glue the top shut.



After you finish making your watery sensory bottles, you may want to shake them and your body around to this Water Cycle Song 2:39min., which summarizes what we learned today very nicely.

<https://www.youtube.com/watch?v=Oq8iCsV4woE>

I hope you enjoyed learning about the different forms of water and how it travels through the water cycle. Be sure to check out some more resources on the next page. And if you want to, please email me jsazama@lcfpd.org a photo or brief video of your child exploring the wonders of the water cycle or celebrating Earth Day. Note that the photo or video you send may be shared with the Public Affairs Department and posted on the Lake County Forest Preserves social media or used in future publications unless you tell me not to share it.

Please also provide any feedback about this Hikin' Tykes DIY at Home Guide experience to jsazama@lcfpd.org Until we can meet again, we educators are working hard behind the scenes to find ways to bring you alternative options in educational services. Your specific insight, feedback, and recommendations are appreciated.





Hikin' Tykes- WATER Resource List

Most books found at Cook Memorial Library, Libertyville

Resources with natural history & photographs

- ◆ *Investigate Water* by Charlotte Guillain
- ◆ *Let's Explore Water* by Henry Pluckrose
- ◆ *The Water Cycle* by Robin Nelson, first step nonfiction
- ◆ *Where Did the Water Go?* by Amy S. Hansen, My Science Library
- ◆ *Where is Water?* by Robin Nelson, first step nonfiction

Resources with natural history & illustrations

- ◆ *The Drop Goes Plop; a first look at the water cycle* by Sam Godwin
- ◆ *A Drop in the Ocean, the story of water* by Jacqui Bailey, Matthew Lilly
- ◆ *This is the Rain* by Lola M. Schaefer
- ◆ *Water: Up, Down, and All Around* by Natalie M. Rosinsky

Natural History Storybooks about Water or the Water Cycle

- ◆ *All the water in the world* by George Ella Lyon, Katherine Tillotson
- ◆ *A Raindrop's Journey* by Suzanne Slade
- ◆ *There Goes the Water-A Song About the Water Cycle*, Laura Purdie Salas
- ◆ *Water* by Emily Neye, All Aboard Science Reader, station stop 1

Websites

- www.capstonekids.com/sciencesongs audio file for *There Goes the Water*
- www.kidzone.ws/water/

Videos

- ◆ *The Little Raindrop* by Joanna Gray, Online Stories Read Aloud 5:03 min.
<https://www.youtube.com/watch?v=KnjiJw8ANnM>
- ◆ *Water is Water* by Miranda Paul, Read Aloud, Bedtime-Stories.org 9:26 min.
<https://www.youtube.com/watch?v=4b-ALD65trM>
- Earth's Water, Water Cycle, Science for Children 3:58 min.
<https://www.youtube.com/watch?v=-K5CDWGRxds>
- Water Cycle-Understanding the Process, Junior section 4:08 min.
<https://www.youtube.com/watch?v=FhZf1oID-no>
- The Water Cycle, Little Fox 2:00 min.
<https://www.youtube.com/watch?v=IZCB2PrOkuY>
- Water droplets adventure 6:48 min.
<https://www.youtube.com/watch?v=nIkRu9LL4sk>
- Water Cycle 2:07 min.
<https://www.youtube.com/watch?v=9pqh6tIEOhs>

Outdoor Exploration Activity and Lake County Nature Network* Suggestions

- ◆ Explore areas that have ponds, lakes, creeks, and rivers. Bring a trash bag and gloves to clean up any litter along the shoreline.

