

RIDE THE WATER CYCLE

**A STORYTIME ABOUT THE
WONDERFUL WATER CYCLE**

LESSON PLAN



Wisconsin Water Library
UNIVERSITY OF WISCONSIN-MADISON

MAY 2020

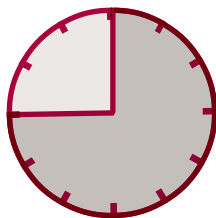
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A STORYTIME ABOUT THE WONDERFUL WATER CYCLE

LESSON PLAN

The objective of this lesson is to introduce children to the basics of the water cycle through song, reading aloud, and science and craft activities.

This lesson plan works well with children in preschool through second grade. The lesson lasts between 45 minutes to an hour, based on the number of books read. To orient the children to what it means to be a scientist, think scientifically and “do science,” use the “[A Scientist Is...](#)” and “[Scientific Method](#)” handouts available at the end of this lesson plan.



SING

Begin with your favorite welcome song.

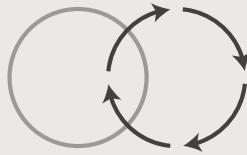
SCIENCE CHAT

Begin by asking the children to look around the room for things that are shaped like a circle. There may be a clock on the wall or a pattern in the carpet.



WATER CYCLE BRAINSTORM

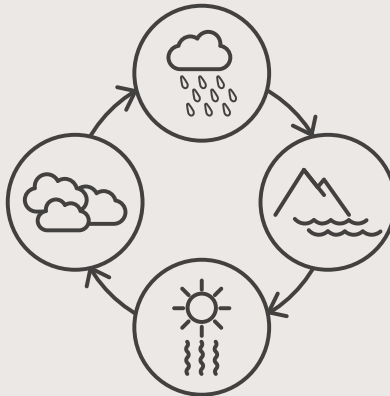
What is a cycle? It sounds like the word “circle” and works like a circle.



Where do we hear the word cycle? Bicycle, Tricycle! Bikes have two or three wheels, and the word “cycle” comes from a Greek word meaning “circle” or “wheel.”

Did you know that water moves in a circle/cycle?

Today we’re talking about the **WATER CYCLE**. The water cycle is the way water travels from the Earth, through the air, to the clouds and back the Earth. It moves in a circle, like a wheel.

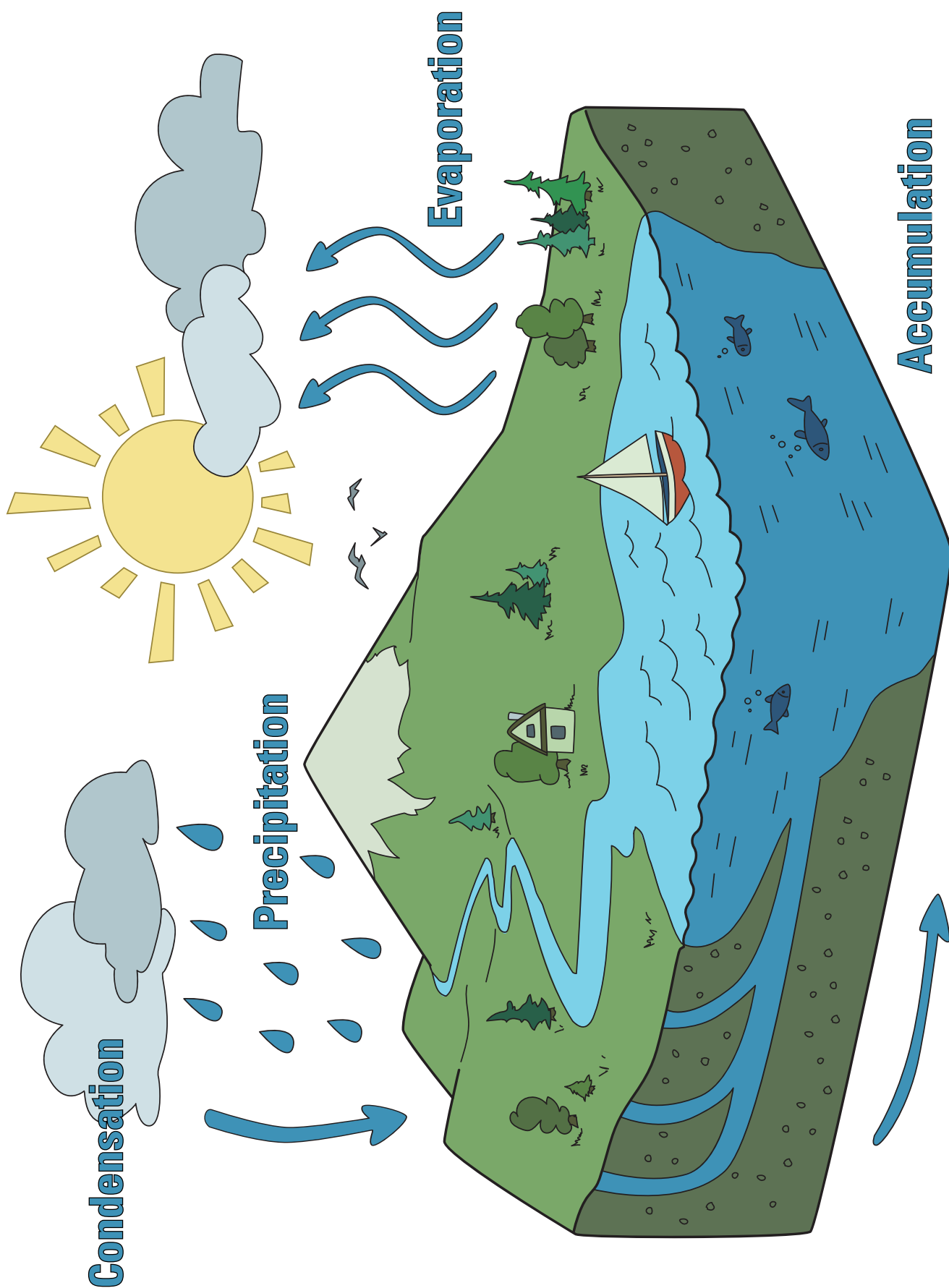


Water can be liquid like in the lakes, vapor like mist in the air, vapor in the clouds, and then back to earth as a liquid in the form of rain or a solid as snow or hail.

Finally, have the children fill in the blank out loud:

“WATER CAN BE _____.”

Use pictures at the [end of this lesson plan](#) to demonstrate.



READ

Here are some suggestions from the Wisconsin Water Librarians, but feel free to swap out with your own or visit our subject-specific reading list: [The Water Cycle](#).

Book descriptions are excerpted from the Cooperative Children's Book Center (CCBC), Kirkus Reviews, Publishers Weekly, Booklist, the Bulletin of the Center for Children's Books and Children's Literature.

[Water in the Park](#) (2013) by Emily Jenkins, illustrated by Stephanie Graegin.

"From sunrise to sunset on a scorching summer day, people (and animals) use the water found in a park in many different ways. 'Tup tup. Tup tup.' A cat drinks from a puddle. Dogs splash in the pond to stay cool. Children clean their sticky fingers or build a sand castle complete with moat. ... Every hour is told in small moments ... [b]ut perhaps the most fun is searching Graegin's incredibly detailed illustrations. ... Water may flow in abundance through these pages, but this title is an outpouring of observation that repays careful readers richly." (Kirkus starred-review) **For ages 3-6.**

[Agua, Agüita = Water, Little Water](#) (2017) by Jorge Tetl Argueta, illustrated by Felipe Ugalde Alcántara, translated by Gabriela Baeza Ventura from Spanish.

"A first-person narrative in Spanish and English tells the story of the water cycle. Agüita (Little Water) starts the journey deep inside Mother Earth, gradually working its way to the surface, where it forms as a drop of morning dew. It eventually makes its way into a river and then into the sky. Argueta's poetic text moves from the smallest drop to an ever-expanding personification of water. Ugalde Alcántara's textured paintings suggest Aztec-inspired symbols, and the text itself appears in Nahuatl at the back of the book." (CCBC) **For ages 3-6.**

[Water Can Be](#) (2014) by Laura Purdie Salas, illustrated by Violeta Dabija.

"An imaginative picture book describes water in tangible terms that are intriguingly varied with each season. The rhyming narrative begins in spring, when water can be a 'tadpole hatcher' (pond) or 'picture catcher' (puddle with reflection). In summer water can be a 'drink cooler' (ice) or 'rainbow jeweler' (rain). ... The rhyming couplets provide creative ways of looking at water in each season, while the illustrations ground the ideas with concrete images." (CCBC) Highly Commended, 2015 Charlotte Zolotow Award **For ages 4-7.**

[Water](#) (1995) by Frank Asch.

Simple sentences accompany magnificent watercolor illustrations in this book that stresses the importance of water in everyday life. A lovely introduction to water in its various forms. **For ages 4-7.**

[All the Water in the World](#) (2011) by George Ella Lyon, illustrated by Katherine Tillotson.

"A poetic, informative, and thought-provoking picture book looks at water from a global/environmental perspective but never loses sight of the personal for children ... George Ella Lyon's lyrical narrative begins with the water cycle: rain to river to ocean to clouds to rain again. Some places have a wealth of rain and water, while others have little or none. ... Katherine Tillotson matches Lyon's lively and lyrical prose with lovely illustrations showing water abstractly — swirls and swaths of blue — and also a very real

presence — or absence — in scenes from life on earth ...” (CCBC) Highly Commended, 2012 Charlotte Zolotow Award **For ages 4-8.**

Water is Water: A Book about the Water Cycle

(2015) by Miranda Paul, illustrated by Jason Chin.

“The rhyming text is expanded into a visual story by illustrations of a brown-skinned boy and girl interacting with the water cycle through the seasons as they wait for the school bus in the rain, skate on a frozen puddle, squelch through spring mud, and enjoy late summer cider. Supplemental pages describe the complete water cycle again, including relevant terms like evaporation, condensation, and precipitation ...” (CCBC) Highly Commended, 2016 Charlotte Zolotow Award **For ages 4-9.**

The Snowflake: A Water Cycle Story (2003) by Neil Waldman.

“A snowflake lands on the peak of a mountain in January. Over the course of the next 11 months, the snowflake changes both location and form. Blown into a mountain pond in February, it melts in March, a tiny droplet that sinks into an underground stream. ... By December, it’s a snowflake once more. Each two-page spread in this detail-rich, lyrical book of information follows the snowflake’s transformation over the course of a month. The brief text describing the snowflake’s activity each month is accompanied by a sweeping, stylized painting.” (CCBC) **For ages 4-8.**

Water Dance (1997) by Thomas Locker.

“In this poetic soliloquy, water proclaims its many manifestations as it courses through its never-ending cycle: ‘In white-silver veils I rise as mist; I float, I drift as clouds; I rise up as gleaming power-filled towers as a thunderhead; I am still and deep as a lake.’ Locker’s ... traditional landscapes and seascapes illuminate natural splendors with the same serenity and awe found in his previous books ... A supplement by Candace Christiansen adds

scientific explanations of the water cycle ...” (Publishers Weekly) **For ages 4-10.**

A Drop of Water: A Book of Science and Wonder

(1997) by Walter Wick.

“Here’s a book for every child who’s ever spent a rainy day watching raindrops drip down window panes or plip plop into puddles. Wick’s remarkable photographs freeze these and other dramatic watery moments in time so that children can observe the nature of water, close-up. A brief accompanying text explains the science behind these wonders ... An appendix offers practical advice for readers who want to replicate the simple experiments Wick used to set the stage for his photographs. An exemplary work of science for young children.” (CCBC) **For ages 4-11.**

The Magic School Bus Wet All Over: A Book About the Water Cycle (1996) [TV tie-in book adaptation] by Pat Relf, illustrated by Carolyn Bracken.

“Ms. Frizzle’s class is learning all about water. And when Wanda suggests they take a trip to Waterland, Ms. Frizzle gets that funny look in her eyes. ... Instead of taking her class to the water theme park, she takes them on a seriously wet and wild ride through the water cycle. Join the class as they evaporate, condense, rain, make their way back to the ocean — only to evaporate all over again.” (Back cover summary) **For ages 5-8.**

A Drop of Water (2006) by Gordon Morrison.

“The drop of water on a child’s finger may have begun in a rain cloud over a mountaintop, collected in a high forest stream, traveling down through bogs, woods, swamp, marsh and farmer’s pond before continuing into the meadow brook the child explores. Illustrated with detailed pencil-and-watercolor drawings of each ecological niche, this gentle circular story emphasizes the interconnectedness of all nature ... Carefully crafted and beautifully executed, this is a splendid addition to the

science bookshelf.” (Kirkus, starred review)
For ages 5-10.

The Water’s Journey (1989) by Eleonore Schmid.

“The author/artist ... gives a direct, simple, and sequential description of how melting snow moves through increasingly larger bodies of water to reach the ocean, evaporate in the sunshine, and start the cycle of precipitation again. Schmid uses soft colors in gentle and effective pictures, giving variety by contrast of rural and urban scenes. Her paintings convey effectively the change of seasons and settings.” (The Bulletin of the Center for Children’s Books) For ages 5-9.

A Drop Around the World (1998) by Barbara Shaw McKinney, illustrated by Michael S. Maydak.

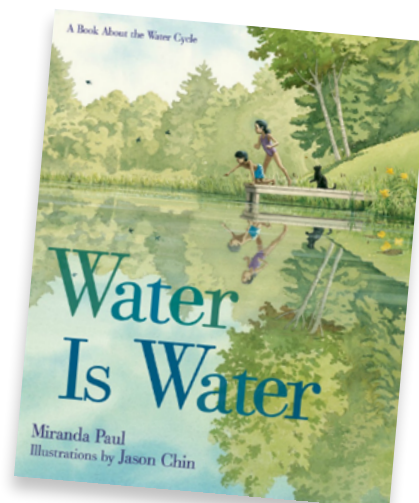
“A drop of rain is a drop of life — a drop of eternity. From stream to snow ... from stratus cloud to subterranean crack, water links the world in a living flow. McKinney and Maydak take us on an ‘out of sight’ journey from Maine to Mumbai with just one raindrop, as it touches plant, animal and human life all around the world. [R]eaders will see the world, inside and out, from solid, liquid and vaporous viewpoints.” (Back cover summary) For ages 5-12.

Explore Water! 25 Great Projects, Activities, Experiments (2011) by Anita Yasuda, illustrated by Bryan Stone.

“Part of the ‘Explore Your World’ series, Yasuda takes young readers on a wild water ride. ... This energetic book looks at where we find water, the water cycle, water and weather, water works — including waterpower — water pollution and conservation, and water in art. The writing is clear and enticing. The 25 projects have a variety of levels of difficulty. ... The illustrations are fun. ... Many students will enjoy this book as they learn water basics.” (Children’s Literature) For ages 6-9.

One Well: The Story of Water on Earth (2007) by Rochelle Strauss, illustrated by Rosemary Woods.

“‘Without water, nothing can survive.’ The urgent conservation message in this clear, handsome, oversize picture book is rooted in the idea of One Well, the fact that all ‘water on Earth is connected,’ and that ‘the water you drank today may have rained down on the Amazon rainforest five years ago.’ Each large, double-page spread tackles one broad topic — for example, how water is recycled, or its distribution on Earth — with boxed insets adding information about various species in various places — from coral reefs to the Bering Glacier in Alaska. ...” [A teacher’s guide with lesson plans based on the picture book is also available]. (Booklist, starred-review) For ages 8-11.



SING

We have three favorite water cycle songs!

The Water Cycle Boogie

SING TO ANY TUNE THAT GETS YOU AND THE CHILDREN MOVING

Evaporation,

Condensation,

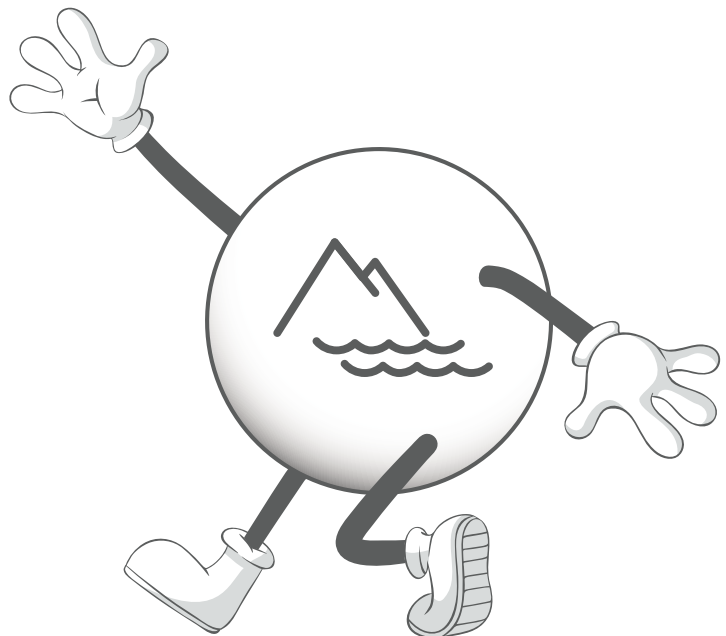
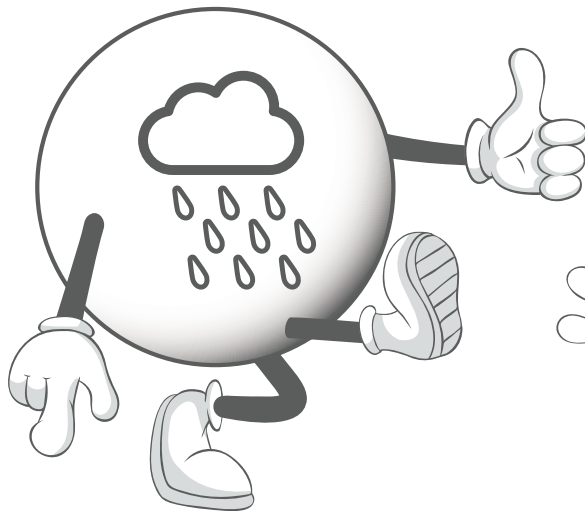
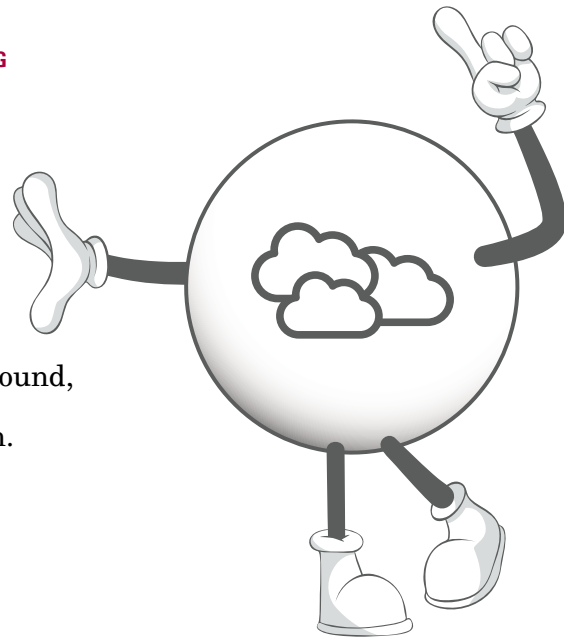
Precipitation,

Accumulation.

And the water cycle boogie goes 'round and round,

And the water cycle boogie goes up and down.

REPEAT twice (*or your choice*)



Water Travels in a Cycle

TUNE: "SHE'LL BE COMING 'ROUND THE MOUNTAIN"

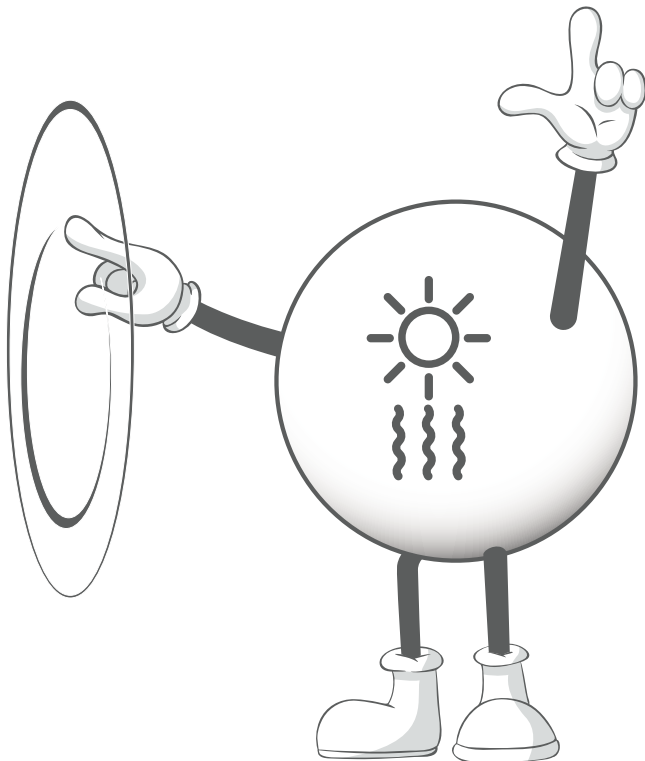
Water travels in a cycle, yes it does
(use pointer finger to make a big circle)

Water travels in a cycle, yes it does
(repeat finger circle)

It goes up as evaporation
(moves hands up to the sky)

Forms clouds as condensation
(make a cloud overhead with arms)

Then comes down as precipitation, yes it does!
(sprinkle with fingers while bringing arms down in front of you)



The Water in the Cycle

TUNE: "THE WHEELS ON THE BUS"

The water in the cycle goes round and round
Round and round
Round and round
The water in the cycle goes round and round
All through the year

The water in the pond stays very still
Very still
Very still
The water in the pond stays very still
All through the year

The sun makes the water evaporate
Evaporate
Evaporate
The sun makes the water evaporate
All through the year

The clouds in the sky are made of water
Made of water
Made of water
The clouds in the sky are made of water
All through the year

The rain on the ground falls drip, drop, splash
Drip, drop, splash
Drip, drop, splash
The rain on the ground falls drip drop splash
All through the year

The water in the cycle goes round and round
Round and round
Round and round
The water in the cycle goes round and round
All through the year

MOVE

With this activity the group will make the sound of a thunderstorm building and then moving away.

(Rub hands together)

It's getting kind of misty out here

(Pat the floor with hands)

I'm starting to feel raindrops, maybe I'll get an umbrella

(Clap hands)

It's really starting to rain!

(Stand up and stomp while clapping)

Oh no, it's a thunderstorm

(Clap hands)

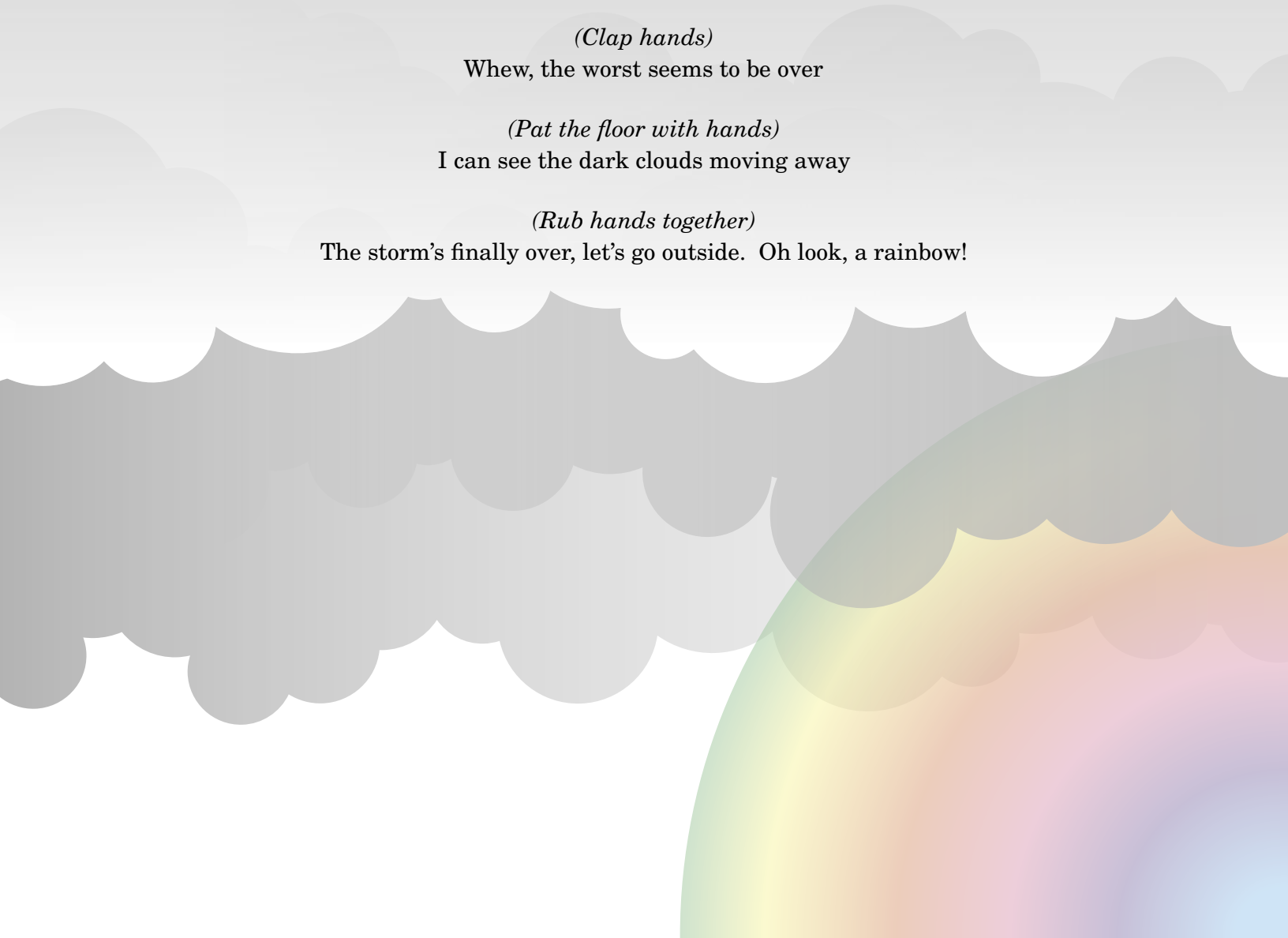
Whew, the worst seems to be over

(Pat the floor with hands)

I can see the dark clouds moving away

(Rub hands together)

The storm's finally over, let's go outside. Oh look, a rainbow!



DO SCIENCE

SHAVING CREAM RAIN CLOUDS

We have done this activity on and off for years. It's a bit messy but a big hit with children.

Adapted from: funlearningforkids.com/rain-cloud-jar-science-experiment

Supplies needed:

Shaving cream (foam, not gel)

Water

Food coloring (various colors)

Eye droppers or pipettes (to dispense colored water solution)

Small, open-mouth containers for mixing water and coloring

Glass containers (jars, cups, vases) 14 ounces or larger

1/4 measuring cup



Photo from funlearningforkids.com



Photos from funlearningforkids.com

How to:

- ① Put 2 ounces (1/4 cup) of water in each of the small containers and mix in the food coloring (20 drops) so that you have three or four different containers with colored solutions. (Note: the more concentrated the coloring, the faster the “rain” will fall.)
- ② Pour water into your large glass containers, leaving about 1 or 2 inches at the top for the shaving cream. (Note: the thicker the shaving cream layer the longer it will take for the “rain” to come down.)
- ③ Using the eye dropper or pipette, drop colored water onto the shaving cream “cloud,” until you get the desired rainfall effect; use different colors as desired. (Note: droplets closer to the edge of the container penetrate the “cloud” more quickly.)

DO SCIENCE

CLOUD IN A JAR DEMONSTRATION

Adapted from: Laura Candler's "[Cloud in a Jar](#)"

Supplies needed:

Heavy, wide-mouth glass jar (1 gallon or larger)

Large (gallon), clear plastic bag to hold ice

Thick rubber band that fits snugly around the mouth of the jar

Kitchen matches

Ice cubes

Very hot water

How to:

- ① Before the demo begins, warm up the glass jar with some hot water. Have at hand: ice cubes in a plastic bag, a thick rubber band and kitchen matches.
- ② Just before adding the very hot (boiling) water, swirl the warm water around to get rid of condensation on the inside of the jar and empty the water.
- ③ Add several cups of near-boiling water to the glass jar.
- ④ Light the kitchen match and drop it into the jar so that it extinguishes itself and produces some smoke.
- ⑤ Quickly cover the jar opening with the bag of ice so that some of the ice cubes hang down into the jar.
- ⑥ Flip the lip of the plastic bag over the outside of the jar opening and fix it there with the rubber band so the bag seals the jar opening.
- ⑦ Allow the children to come close to the jar so they can observe the warm moist air condensing on the bag of ice. If they wait long enough, water droplets will form that are heavy enough to fall/precipitate. (Note: remind them that this is water vapor cooling and condensing on the bag and not water leaking from the bag of ice.)

Questions and discussion:

How do the different steps in the cloud demonstration represent what happens in the natural water cycle?

The heating of the water represents the energy of the sun, which causes water to evaporate. The warm, moist air in the jar that comes into contact with and then condenses on the bag of ice represents warm moist air rising from the Earth's surface and then cooling with altitude. When the moist air cools, it forms condensation and clouds. The smoke from the match represents the microscopic particles in the atmosphere around which water droplets form. The water droplets that accumulate and then fall from the bag represent precipitation in the form of rain.

How is the demonstration different from the way actual clouds form in nature?

The natural water cycle does not include a microwave or stove to heat water; there are no ice cubes in a bag high up in the atmosphere; and no kitchen matches are necessary.

Ask the children to identify which parts of the demonstration showed evaporation, condensation and precipitation.

CRAFT

MAKE A WATER CYCLE WHEEL

Have the children illustrate and collage the four parts of the water cycle — evaporation, condensation, precipitation and accumulation.

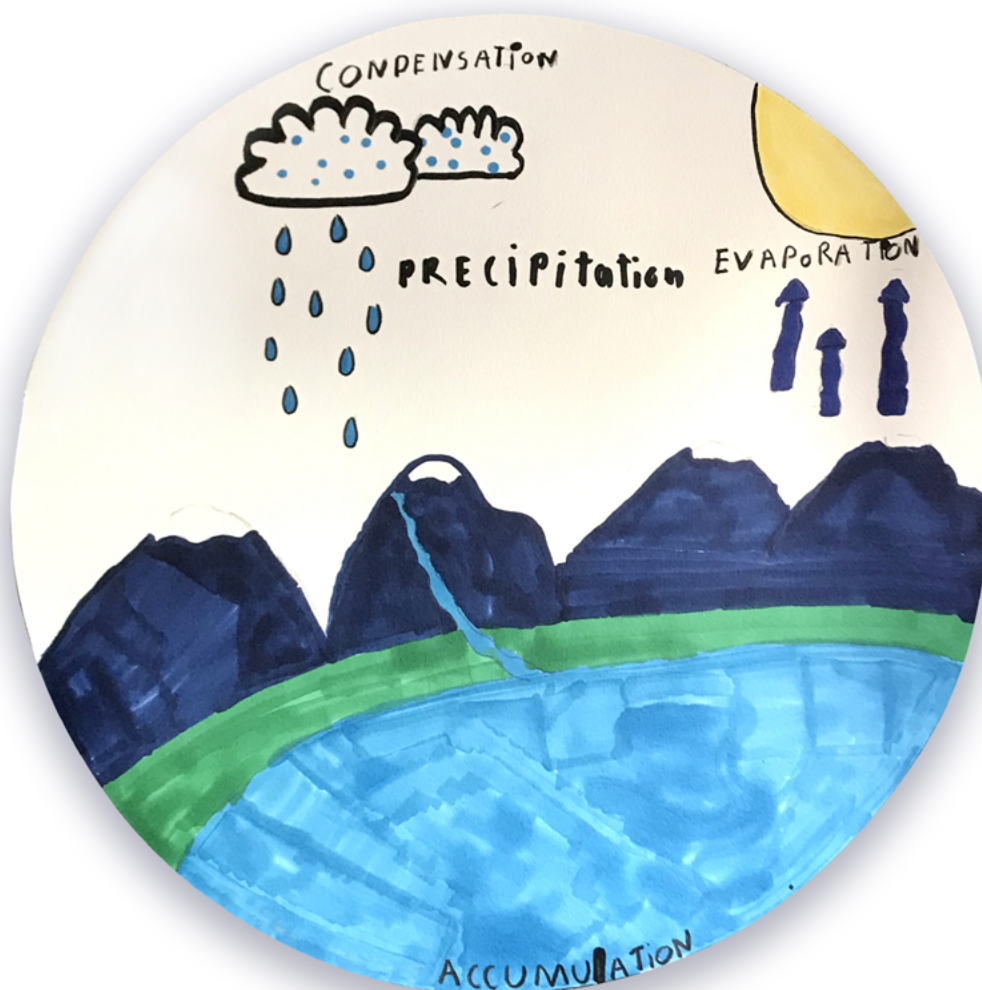
Supplies needed:

1 large paper circle per student, with four equal-size sections

Crayons or colored pencils

Glue

Craft items for gluing



LEARN MORE ABOUT

THE WATER CYCLE

Britannica entry for the water cycle: [britannica.com/science/water-cycle](https://www.britannica.com/science/water-cycle).

See also Britannica School (via [BadgerLink](#)): school.eb.com/levels/elementary/article/water/390625

Environmental Protection Agency (EPA) activities/games grades

3.epa.gov/safewater/kids/kids_k-3

See also (all grades): 3.epa.gov/safewater/kids/gamesandactivities

EPA interactive (flash animated) games featuring Thirstin:

3.epa.gov/safewater/kids/flash/flash_qagame.

See also (word scramble game): 3.epa.gov/safewater/kids/flash/flash_wordscramble

Hands-on Water Cycle Fun (water cycle activities and teaching resources):

lauracandler.com/mini-water-cycle-fun

National Atmospheric and Science Administration (NASA) educational information/resources related to the water cycle (includes K-12 lessons, activities, articles, websites, and videos): gpm.nasa.gov/education/water-cycle

NASA short video “Earth’s Water Cycle” (for older audiences):

youtube.com/watch?v=oaDkph9yQB8

National Geographic Society Education collection of water cycle material:

nationalgeographic.org/encyclopedia/water-cycle

National Geographic Kids “The Water Cycle!”:

natgeokids.com/za/discover/science/nature/water-cycle

National Oceanic and Atmospheric Administration (NOAA Office for Coastal Management) presentation of the water cycle for grade 3:

coast.noaa.gov/data/SEAMedia/Presentations/PDFs/Grade%203%20Unit%204%20Lesson%202%20The%20Water%20Cycle.pdf

National Science Foundation short video on the water cycle (for older audiences):

youtube.com/watch?v=al-do-HGulk

National Weather Service/NOAA the hydrologic cycle through lessons and activities:

weather.gov/jetstream/hydro

Natural Water Cycle video game and curricula from South East Water Australia:
educationsoutheastwater.com.au/resources/natural-water-cycle-game

PBS Learning Media (lessons, science activities, video clips):

wpt.pbslearningmedia.org/search/?q=the+water+cycle&selected_facets=&selected_facets

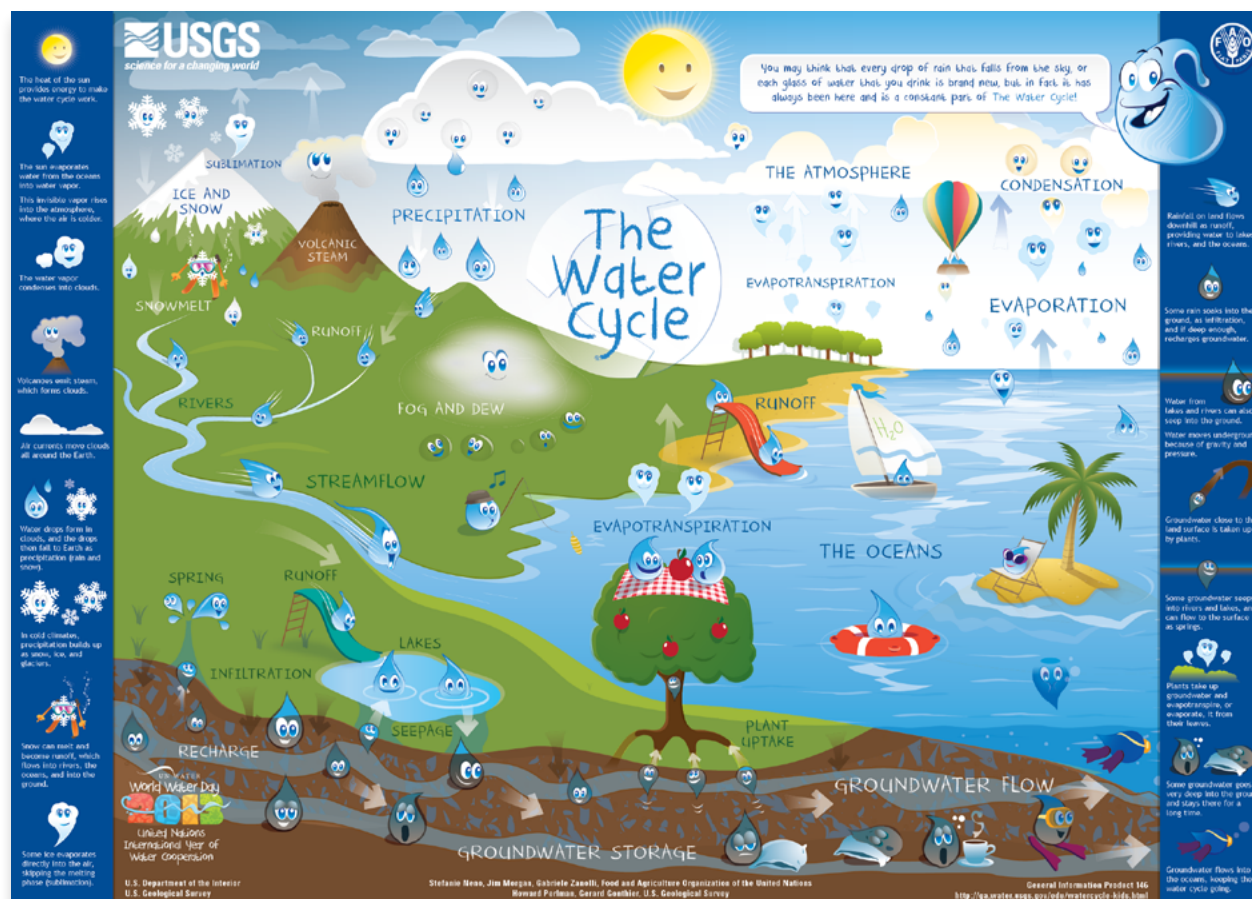
See also PBS Biome in a Baggie activity (video): wpt.pbslearningmedia.org/resource/tdc02.sci.life.stru.baggiezoom/biome-in-a-baggie/#.W1iOP7gnZaQ

The Royal Meteorology Society (UK) resources, curricula, and experiments about the water cycle, weather and climate:

metlink.org/other-weather/miscellaneous-weather/depth-water-cycle-met-office

The United State Geological Survey (USGS) water cycle diagram for schools:

water.usgs.gov/edu/watercycle-kids



Stefanie Neno, Jim Morgan, Gabriele Zanolli, Food and Agriculture Organization of the United Nations
 Howard Perlman, Gerard Gonthier, U.S. Geological Survey

SCIENTIFIC METHOD



A SCIENTIST IS SOMEONE WHO...

- Observes and wonders
- Asks questions
- Listens to ideas of others
- Conducts experiments
- Shares their ideas and discoveries
- Explores the world around them
- Uses tools to solve problems

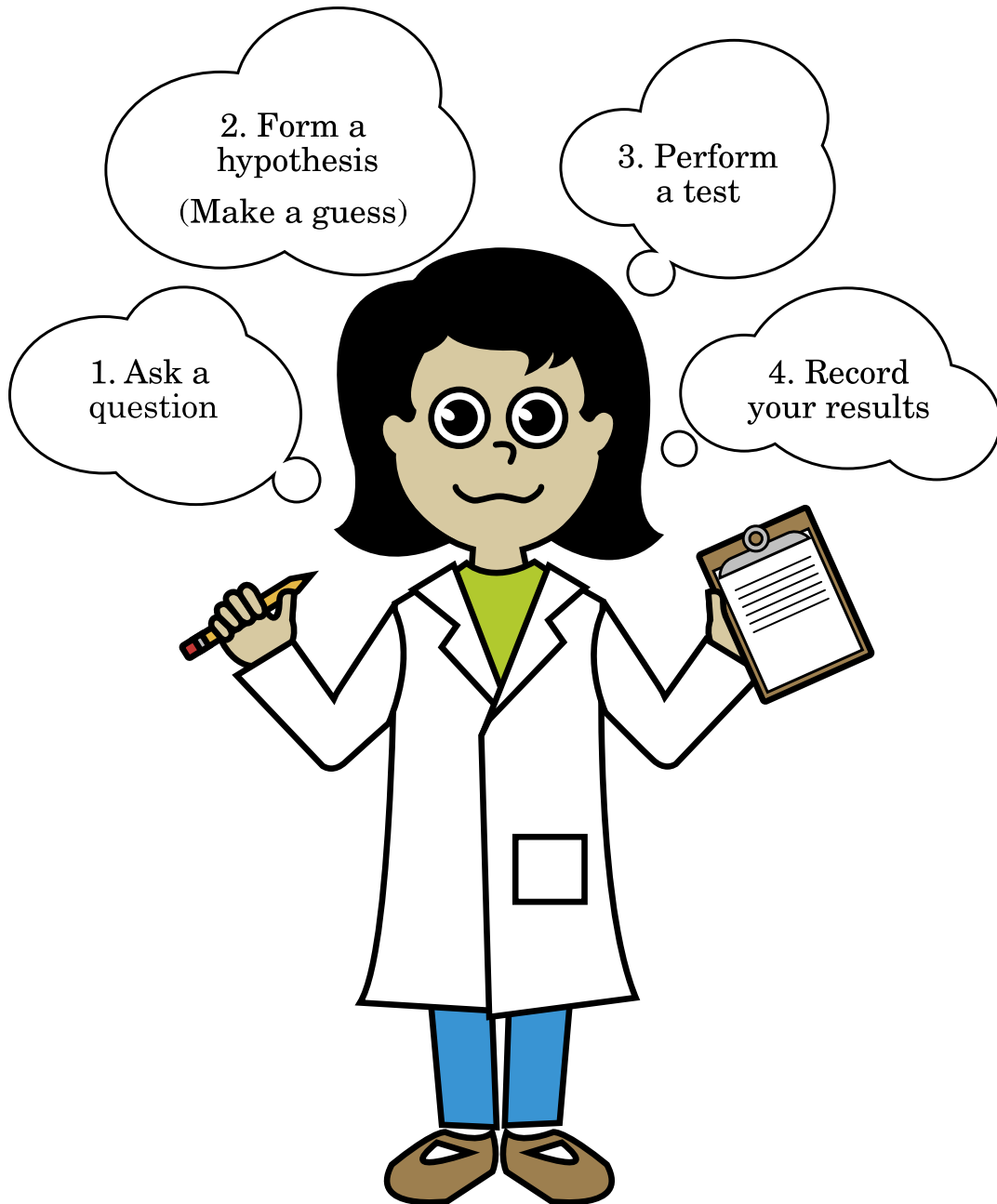
A SCIENTISTS SAYS...

- I agree with you because...
- I disagree with you because...
- Why do you think that?
- So, what you're saying is...
- Can you tell me more?
- Can you give me an example?
- How could we test that?
- That reminds me of...



SCIENTIFIC METHOD

THINK LIKE A SCIENTIST





Rain



Lakes



Ocean



Fog



Dew



Clouds



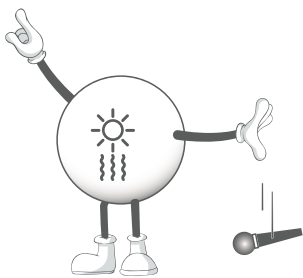
Snow



Waterfall (Eau Claire River)



Rainbow



Publication number: WISCU-E-20-006

This work was funded by the University of Wisconsin Sea Grant Institute under grants from the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and from the State of Wisconsin. Federal grant number NA180AR4170097, project number C/C-1.