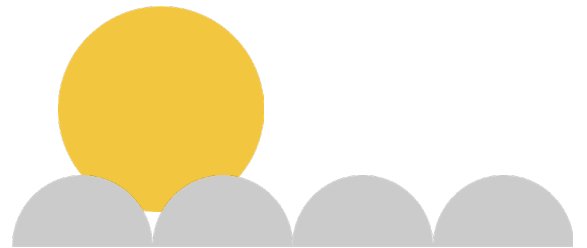


**W A T E R
F I R S T**

**DIGITAL WATER
JOURNEY**

STUDENT WORKSHEETS



PAGE

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HANDS-ON ACTIVITY: CREATE A MINI WATER CYCLE

Materials:

- 1 plastic sandwich bag
- A glass of water
- 1 black permanent marker
- Tape
- A sunny window
- Optional:**
 - Blue food colouring
 - 1 piece of white paper



Follow these steps to create your water cycle model:

1



Optional: Put the white piece of paper in your bag so you can see what you are drawing more clearly. Use your marker to draw a picture on your plastic bag. This will represent the water cycle. Draw a line for your water body (lake) at the bottom of your bag, and draw a sun and clouds at the top of your bag. Take the paper out if you used one.

2



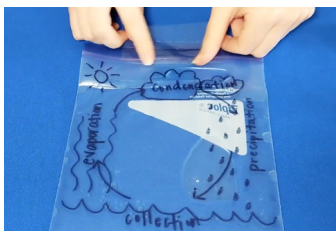
Add enough water to your bag to reach the line you drew for your water body (lake). *Optional:* Add a drop of blue food colouring to the water to see it better!

3



Close the plastic bag carefully. **Important: The experiment will not work properly if the bag is not sealed!**

4



Once your bag is sealed, put tape on the top of your bag. You may need extra tape depending on the weight of your bag of water. Tape it to a window with lots of sun through out

5



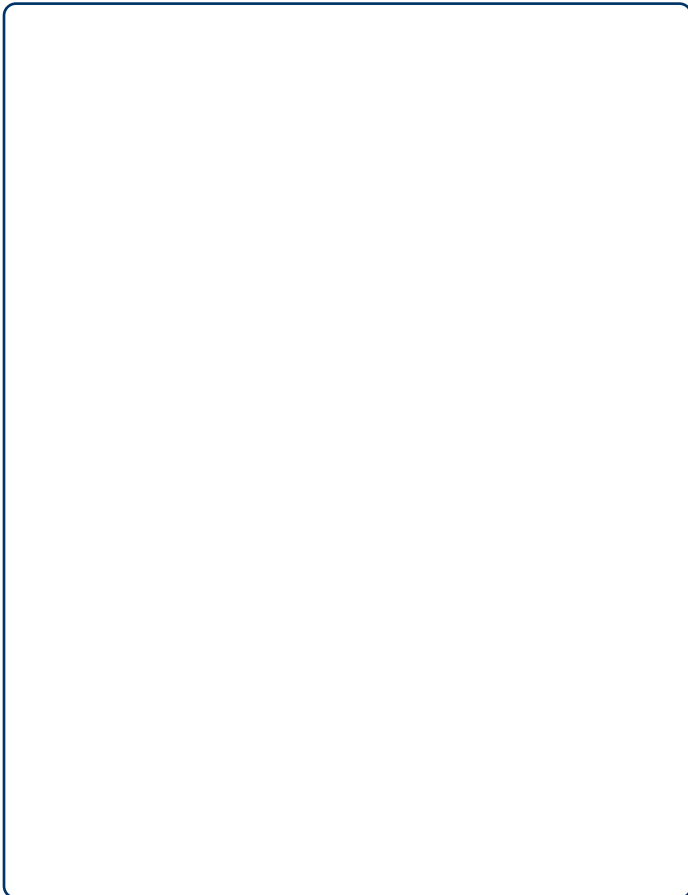
You should come back to your bag every hour to watch the water cycle in action. Leave your bag on the window all day for best results. Over the hours you should see the water turning into water droplets that will rain down the side of your bag.



PERSONAL REFLECTION: THINKING ABOUT THE WATER CYCLE

1

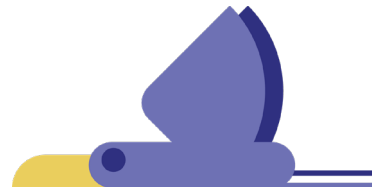
Based on the reading and your own observations, draw and label the water cycle.



2

Go back to your water cycle model in a bag. Check off these two things when complete:

- Add the terms to your bag or label another bag to place beside your first drawing of the water cycle.
- Take a photograph to share it with your teacher.



3

List 4 places where water collects:

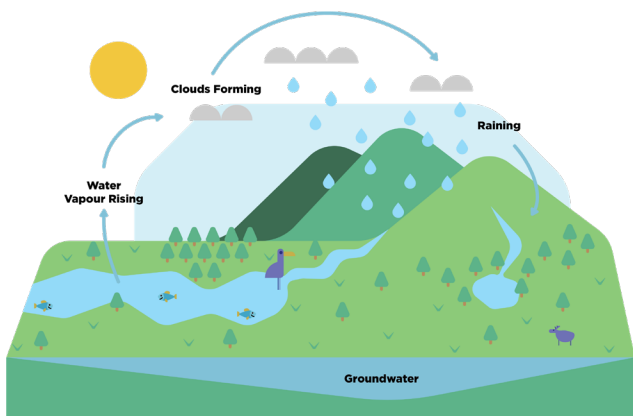
- o _____
- o _____
- o _____
- o _____

4

Predict some places where the water might go on the earth while it is in liquid form.

A JOURNEY THROUGH THE WATERSHED

One simple description of Earth is that it is made of **solids, liquids and gases**. Common solids on Earth's surface include rocks, dirt and snow. Popular gases we interact with include air and water vapour. And by far, the most common liquid on Earth's surface is **water**. Water covers about 71% of the Earth's surface. It is also in the ground, the atmosphere, and every living thing! But there is so much to add to that story, let's take a closer look at how water connects all things on Earth's surface.



The Water Cycle:

Observe water, minding its own business in a small puddle in a cornfield on a sunny day. It will not stay there all day. Water never stays in one place, it is constantly moving and changing forms on a wild journey across the earth called the **water cycle**. As the sun heats the puddle, the water changes state through **evaporation** — it changes from a liquid to a gas and rises into the air. When water is in this form we call it **water vapour**.

As the water vapour rises higher, the air becomes colder, causing the vapour to form droplets that hang in the air as a mist. This transformation is called **condensation** and is how clouds are formed. As the droplets join together and become larger and heavier, they fall back to the ground as rain, or **precipitation**.

As the water falls to the ground it is caught by a gentle bed of cattails in a wetland. The last step in the water cycle is **collection**, when the water comes together in a puddle, a lake or wetland.

Wild Watershed Ride:

As the raindrop drips off of the cattail onto the dirt, it sinks into the ground as newly formed **groundwater**. It travels gently and slowly until it is tossed out through a spring into a river where it picks up speed! Flowing over and around rocks straight to a waterfall, the water reaches the waterfall and soars through the air, plunging into the lake below. As it floats in the lake the water is heated by the sun, and it evaporates again to begin a new adventure!

This water just went on an adventure through a **watershed**. The watershed is like a rollercoaster or a never-ending highway for water that is powered by the water cycle. All the land on Earth is made up of watersheds. Streams and rivers take water into a larger body of water like a lake, or the ocean. We name the watershed after the place where the water is flowing to and every watershed looks different and has a different name.

There are many different journeys that water can take, even in the same watershed. For example, the water may find its way to a lake where the roots of the willow tree drink it up to grow big and strong. Like that tree, every community is part of a watershed. Communities depend on water for many things, from swimming to washing to drinking. In this way and many others, water connects us. We must make sure our water has a safe and clean journey through the watershed, to protect ourselves, and everything else that needs water too.



WATER SCIENCE GLOSSARY: SCIENCE WORDS!

Create the definitions for the words below using the reading and your own understanding.

If you need help, the definitions are on the next page, but these ones must be in your own words!

WATER: _____

SOLID: _____

LIQUID: _____

GAS: _____

WATER VAPOUR: _____

WATER CYCLE: _____

EVAPORATION: _____

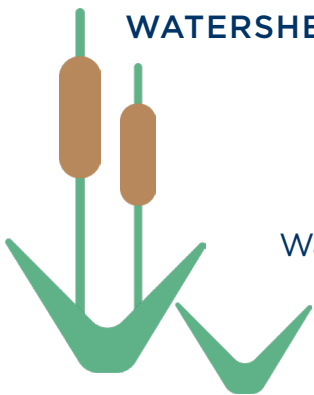
CONDENSATION: _____

PRECIPITATION: _____

COLLECTION: _____

GROUNDWATER: _____

WATERSHED: _____



DID YOU KNOW:

Water is the only substance that is found in the form of a liquid (water), a solid (ice), and a gas (water vapour) in nature.



WATER SCIENCE GLOSSARY: SCIENCE WORDS: DEFINITIONS!

WATER: The most important substance on earth.

SOLID: A state of matter in which the particles stay together in an organized structure creating a definite shape.

LIQUID: A state of matter in which particles move freely taking the shape of a container.

GAS: A state of matter in which the particles are well separated and move very quickly with no definite shape or volume.

WATER VAPOUR: The term used to describe water in gas form.

WATER CYCLE: The process of water changing state as it moves through the earth.

EVAPORATION: When water particles start moving super fast because of intense heat and become water vapour.

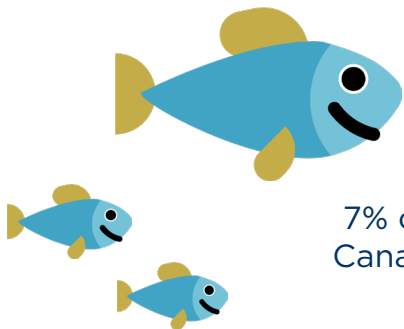
CONDENSATION: When water vapour joins together with other water particles and forms a cloud.

PRECIPITATION: When the water vapour becomes heavy and drops to the ground from the cloud.

COLLECTION: Where the water droplets form a larger body of water.

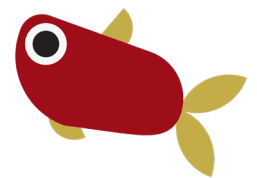
GROUNDWATER: The water held underground in the crack and pores of soil and rock.

WATERSHED: An area of land that leads all water above and below ground to the nearest larger body of water.



DID YOU KNOW:

7% of the world's total renewable freshwater is found in Canada's lakes and rivers. Canada has less than 1% of the world's population.



DIGITAL STORY INSTRUCTIONS: STEPS FOR SUCCESS

The one paragraph journey you wrote is going to become a digital story. A digital story is a movie or slide show. Follow these steps to make it easier.

- 1. Brainstorm:** Use your answers from the “Thinking about the Water” page, your science words, and your paragraph on the water journey as your brainstorm.
- 2. Research:** Choose a minimum of 5 things from the reading, your reflection or your water words to include in your story. Put your research on the next page before moving on.
- 3. Write:** Use your original paragraph and the additional research you have gathered to make a longer story or script for your digital story.
 - Your script will most likely be read as an audio voice over. Clearly indicate when words will be spoken.
 - Include image cues in your script to make the process easier for you. For example:
Pictured: A rain drop falling.
Narrator: “The pull of gravity was too much for Wilson the water drop and he plummeted to the ground.”
- 4. Plan:** Use the Story Board sheet to help you visualize what you want to create. You may use this before you write the script or as you write the script to help you organize your thoughts.
- 5. Create:** Take or find any pictures, videos or audio you want to use in your story. Remember to cite any image, audio, or videos you did not make yourself.
- 6. Tech:** Put it all together! Use iMovie or Google Slides to create a digital story.
 - (Talk your teacher if you are unable to use these options.)
- 7. Content:** Your movie should have a minimum of 7 clear images or elements that reflect each of your research boxes.
- 8. Share:** Everyone will share their digital water journey wit the whole class.
- 9. Assessment:** Peer assessments will be done for each story.



DIGITAL WATER JOURNEY RESEARCH

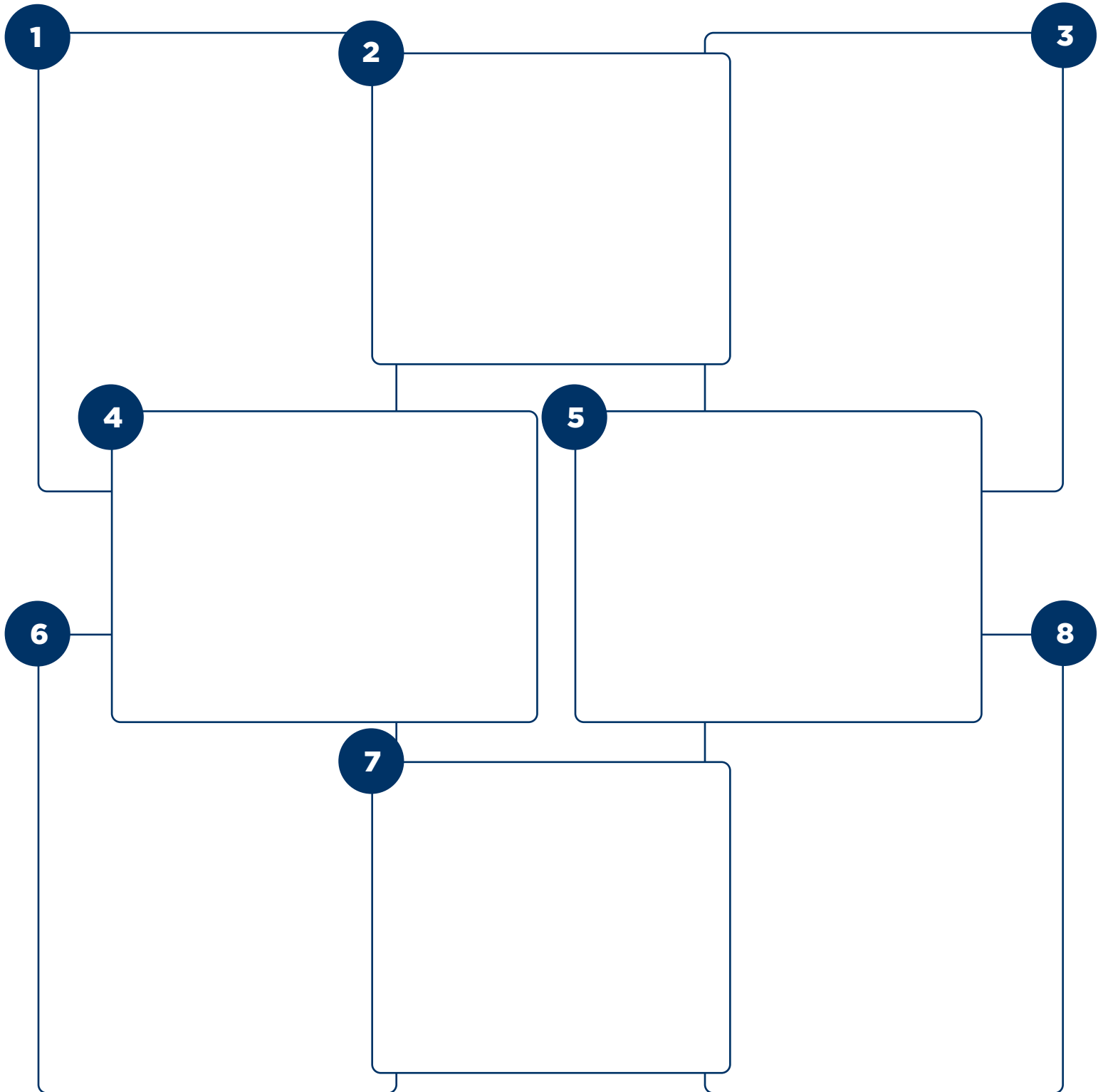
Choose a minimum of 5 things you want to include in your story from “Thinking about the Water”, your science words, and your paragraph. Research these things to help you explain the water’s journey through the watershed.

The diagram consists of four empty rectangular boxes with rounded corners, arranged in a staggered, overlapping fashion. The boxes are connected by thin lines: a vertical line on the left side of the top box connects to the top side of the middle box; a vertical line on the right side of the middle box connects to the top side of the bottom box; and a horizontal line on the left side of the bottom box connects to the left side of the middle box. This structure suggests a flow or a collection of related items.

WATER JOURNEY: STORYBOARD

Turn your research and script into a full visual story.

Include one image or colour for each box that matches your script. Use key words to help convey the story forward and connect to your script. Think of the images, audio and visuals you want to use.



A DIGITAL WATER STORY PUTTING IT ALL TOGETHER!

All that work you did is going to come alive!

Create: Take or find any pictures, videos or audio you want to use in your story. Remember to reference any images, audio, or videos you did not make yourself.

Tech: Use iMovie or Google-Slides to create a digital story (talk your teacher if you are unable to use these options).

Content: Your movie should have a minimum of 7 clear images or elements that reflect each of your research boxes and at least 2 words from the science words glossary.

Share: Everyone will share their digital water journey with the whole class. (Talk to your teacher if you have any questions and concerns).



PEER ASSESSMENT

Your teacher can provide you with scripts written by your peers. Write one point for each of the following about your peers' digital stories.

Solid - Something good about the story.

Liquid - Something you found interesting.

Gas - Something you didn't understand.

Name: _____

Solid: _____

Liquid: _____

Gas: _____

Name: _____

Solid: _____

Liquid: _____

Gas: _____

A DIGITAL WATER STORY PEER ASSESSMENT FORMS

Name:

Solid:

Liquid:

Gas:

Name:

Solid:

Liquid:

Gas:

Name:

Solid:

Liquid:

Gas:

Name:

Solid:

Liquid:

Gas:

Name:

Solid:

Liquid:

Gas:

Name:

Solid:

Liquid:

Gas:

