WEATHER JOURNAL

You will need:	Pen, pencil, markers, Weather observation grid,	And... your eyes.

What to do: Record weather data every day for this week, ideally at the same time and same place.

TIPS:

- Document your findings, including recording the temperature and noting the wind direction.
- Choose the most appropriate icon for the day, and describe the weather characteristics on the accompanying data sheet.
- Be sure to look up at the sky and observe the clouds!
- What does today's weather make you feel like? What do you like doing in this type of weather?
- Turn the page and draw a picture that relates to today's weather.

Cloud Identification Key

Which cloud is it?

Look carefully at your cloud. Answer the questions below and follow the instructions. When you reach a cloud name in bold, that is the type of cloud you are observing.

1. Does it Rain?

No → go to number **2**.
Yes → with thunder, lightning, & heavy rain – your cloud is a **cumulonimbus**.

Yes → but only drizzly, with small raindrops – your cloud is a **nimbostratus**.

2. Is it a high wispy cloud, like a horse's tail?

No → go to number **3**.
Yes → your cloud is a **cirrus.**

3. Is it flat & layered, puffy & bumpy, or some of both?

Flat & layered → go to number **4**.
Puffy & bumpy → go to number **5**.
Both → If your cloud is a nearly solid layer of large puffs (the size of your fist or larger), your cloud is a **stratocumulus.**

Created by Dr. Tina Cartwright,
Marshall University

4. Determine how high and how thick your flat layered cloud is.

If your cloud is high, thin, and the sun is shining casting distinct shadows, it is a **cirrostratus.**

If it is thicker, the sun is dimmer, and there are hardly any shadows, it is an **altostratus.**

If it is a low cloud, so low it's hard to see the bottom and it covers most of the sky, it is a **stratus.**

5. Hold your hand up toward your cloud. Look at the size of the puffs. Compare them to your hand.

If the puffs are the size of your fingernail (very small), your cloud is a **cirrocumulus.**

If the puffs are the size of your thumb (medium-sized), your cloud is an **altocumulus.**

If the puffs are the size of your fist (large), your cloud is a **cumulus.**

WEATHER JOURNAL

WEATHER OBSERVATION GRID

Date & Day	Temp.	Wind direction	Icon	Describe the weather	Clouds	Today's weather... reminds me of / makes me feel / is ideal for doing...

CLOUD IDENTIFICATION KEY

Did you document clouds in your weather journal yet? If so, how did you describe them? Do clouds all look the same? In this investigation you will learn to identify them using a dichotomous key.

You will need:	Clouds Key.
What to do:	Look up at the sky and spend a few minutes observing the clouds. What do you notice? Describe what you see, including the clouds as well as their movement and location in the sky. Use the following key to try to identify the kinds of clouds in the sky today, and include the name of the clouds in your weather journal if you have one!
TIPS:	● Start with question 1, and let your answers choose the path on the key, until you end with the name for the type of cloud.

BUILD A WEATHER VANE

There are several different types of weather instruments that you can build to use at home. Recording data in this way can help you understand weather patterns and this can support making predictions about the forecast ahead. One instrument that has been used for thousands of years is a weather vane, and there are many different sizes and shapes possible.

You will need:

Cardboard and card box
Scissors
Glue and tape
Pen, pencil, paint or markers
Thin stick

Something to hold the vane, such as a plastic cup with a hole in the bottom or an empty flower pot with small rocks, sand or soil to hold the vane steady

What to do: For your weather documention, you will build a weather vane to track wind speed and direction.

TIPS:

- Draw an arrow roughly the size of your hand on the cardboard. Decorate it as much as you like.
- Cut the arrow and stick it to the pen's top. Place the top on the thin stick.
- If you are using a cup, cut a hole on the bottom, place it upside down and stick the stick.
- Now, here comes a little challenge!!! In order to determine the wind's direction, you need to locate west, east, south and north. *Clue 1*: The sun comes from the east in the morning and leaves through the west at night-time. *Clue 2*: You can also use a compass or a compass app.
- Once you have located these four cardinal points, draw four arrows pointing to each on a piece of paper and place the cup over it in the appropriate direction.
- Be sure to secure your weather vane so it does not fly over. For instance, by attaching it to a heavy card box with tape.
- Use your wind vane to collect weather data every day. Where does it point to? Which direction is the wind coming from? Where is the wind going to? Can you describe its speed?

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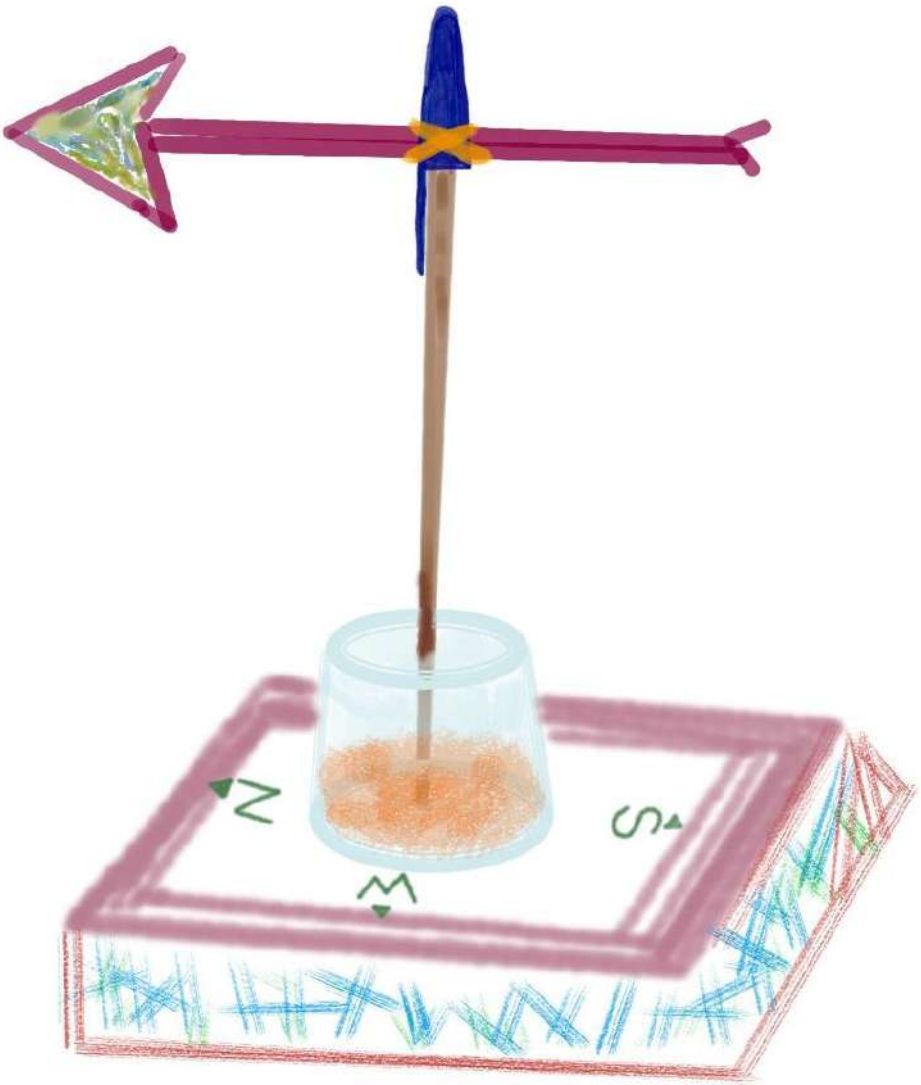
May 2020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WHERE DOES WATER GO?

Have you ever wondered where the water goes after it rains?
This activity can help you investigate the question, where does water go?

You will need: Pencil, colors
Water, four glasses (same size) and two plates
Ruler or measuring tape

What to do: You will observe what happens to water that you leave out in an open glass versus what happens to water left out in a closed glass.

TIPS:

- Set up your first investigation: Fill the first glass with water. Measure the height of water and place the glass somewhere that it can remain undisturbed. Fill the second glass with the same amount of water, but this time, place a cover of some sort over it. Leave it next to the first glass, also undisturbed.
- Then, set up a second investigation, in which you do the same thing again, with two glasses (one open and one covered). This time, find a place outside to leave them.
- Every day, measure the height of water and document it in a table.
- Make a drawing about the experiment and write your conclusions.

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WHERE DOES WATER GO?

OBSERVATION GRID

Date & Day	Open Glass (inside)	Closed Glass (inside)	Open Glass (outside)	Closed Glass (outside)

WARNING: WORKING WITH FIRE

The presence of an accompanying adult is mandatory! This investigation includes the use of fire, and therefore should NOT be undertaken by children alone.

WIND INVESTIGATIONS

The wind is air that moves from one place to another.
In this investigation you will use a candle to observe the air's movement.

You will need:

Pencil, colors, paper	Scissors
Candle and lighter	And... your eyes

What to do:

- You will conduct two investigations and document your observations. This can be repeated as many times as you wish. Begin by working with an adult to safely light the candle.
- For the first investigation, open a window and then hold the candle near the bottom of the open window. Document what you notice in words and / or drawing. Next hold the candle near the top of the open window. Document what you notice again. Do you see any similarities or differences in the flame of the candle at the two locations?
- For a second investigation, draw a spiral on paper and cut it out. Hold it high above the candle. **Use care to ensure that the paper does not come close to the flame!** What do you notice when the spiral hangs over the candle? What do you think is happening? Make a drawing of the investigation and write your observations.
- Try to answer the following question based on these two investigations: why did the flame move?

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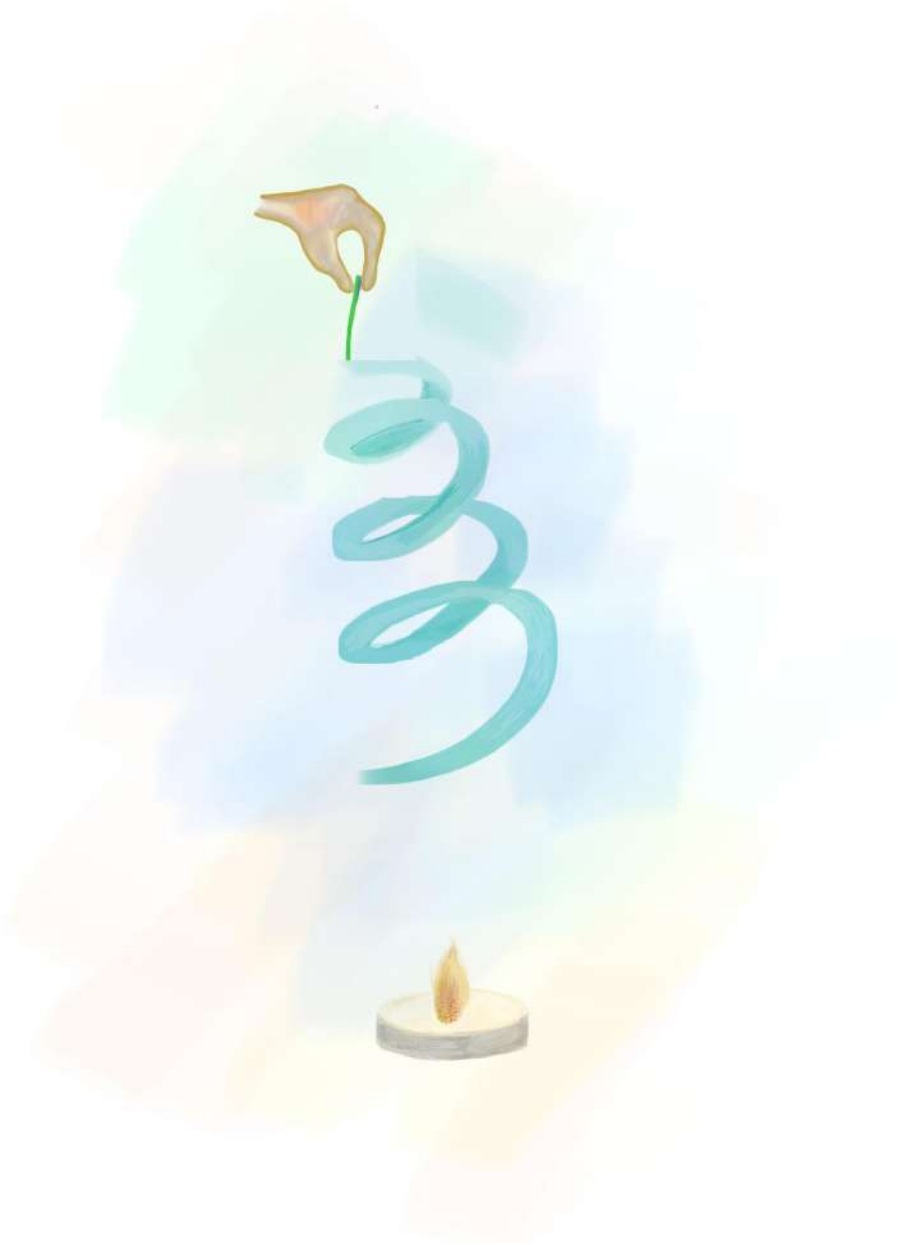

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WEATHER REPORT

You will need:	Pen, pencil Completed weather journal from the week	Optional: phone, tablet or computer.

What to do: Review the weather data that you have collected this week. How can you describe the weather? What patterns do you see? Write a 1-2 paragraph summary of the weather, including all of the data you have collected.

TIPS:

- Assume that the person you are writing to was not in Luxembourg this past week. How can you take all your data and make it descriptive enough that a reader has a good understanding of the week's weather?
- Make sure that you use weather vocabulary (rain, gusts of wind coming from NW, ...).
- Optionally, you can watch a weather forecast to get inspiration about how meteorologists explain their predictions and discuss their data. Record yourself describing the weather. Today you can be the "meteorologist"!

WEATHER REPORT