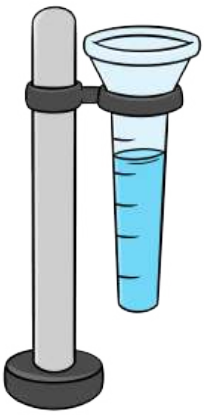
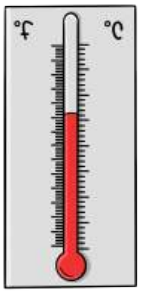
DIY WEATHER STATION

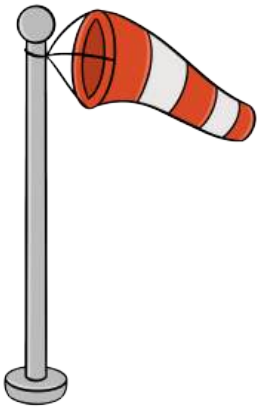
A homemade weather station is a fun way for kids to explore and understand the different elements of weather. By setting up simple instruments like a thermometer, rain gauge, wind vane, and more, students can observe how temperature, wind, rain, and air pressure change each day.

Building and using these tools helps kids become junior meteorologists, learning to predict the weather and make connections to the world around them.



Plus, it's a hands-on way to bring science to life!





Setting Up (All Ages):

Choose a suitable location outdoors that is accessible and safe for students to visit regularly. Install the thermometer, barometer (if available), rain gauge, wind vane, and anemometer in a visible and stable location.

Recording Data (All Ages):

Create a weather journal or chart where students record daily observations, including temperature, precipitation, wind direction, and wind speed.

Data Analysis (Older Kids):

Teach older students how to analyze trends in weather data over time. Discuss concepts such as averages, highs, lows, and patterns in weather.

Weather Predictions (Older Kids):

Encourage older students to predict future weather based on observed patterns and compare these with actual weather forecasts.

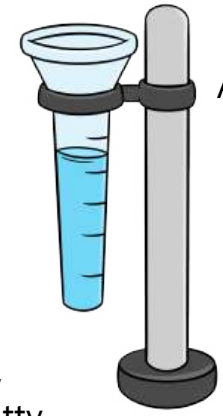
THE INSTRUMENTS

Materials Needed:

These items can be homemade, store-bought, or a combination of both!
While you may not get perfectly accurate readings with these DIY versions, they're fantastic for a weather unit with elementary grades.

DIY Thermometer:

A thermometer measures the temperature of the air. Kids can make a simple DIY thermometer to observe how temperature changes throughout the day and how heat expands liquids.
Supplies: Clear bottle, rubbing alcohol, food coloring, straw, modeling clay or putty

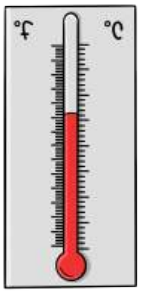


DIY Rain Gauge:

A rain gauge measures the amount of rainfall in a specific area. It's easy to make one using a clear container to see how much rain falls during a storm, helping kids understand weather patterns and precipitation.
Supplies: Clear plastic bottle or jar, ruler, scissors, tape or marker

DIY Wind Vane:

(can be simple with directional markers):
A wind vane, also called a weather vane, shows the direction the wind is blowing. Using simple materials, kids can learn how to identify wind direction and its role in changing weather.
Supplies: Straw, pencil with eraser, cardboard, push pin, compass (optional) or arrow, modeling clay or putty

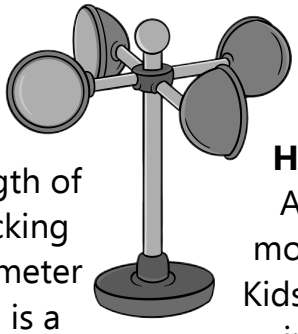


DIY Barometer:

A barometer measures atmospheric pressure, which helps predict weather changes. Kids can watch air pressure rise or fall with a DIY barometer, learning how it correlates with fair or stormy weather. Track air pressure and look for low
pressure and high pressure days!
Supplies: Glass jar, balloon, rubber band, straw, tape, index card

DIY Anemometer:

(can be cups and a straw):
An anemometer measures the strength of the wind, precisely its speed. By tracking how fast the wind moves, an anemometer helps determine wind speed, which is a critical factor in understanding weather conditions. A homemade version lets kids observe how the wind moves and how fast it blows on windy days.
Supplies: Paper cups, straws, pencil with eraser, push pin, clay or putty



Hygrometer (measures humidity):

A hygrometer tracks the amount of moisture in the air, known as humidity. Kids can learn how high or low humidity impacts weather and how it affects things like rain, heat, and air quality.

Printable Weather journal or chart

Access to weather forecasts or online weather resources for comparison (try NOAA.gov)

TWO WEEK WEATHER OBSERVATION CHART

DATE	WEATHER CONDITION	TEMPERATURE	WIND SPEED	PRECIPITATION TYPE	CLOUD COVER	MOOD OR FEELING

Date: The date of the observation.

Weather Condition: A description of the weather (sunny, cloudy, rainy, snowy, etc.).

Temperature: The temperature of the day (could be recorded as hot, warm, cool, cold).

Wind Speed: A simple description of the wind (calm, breezy, windy).

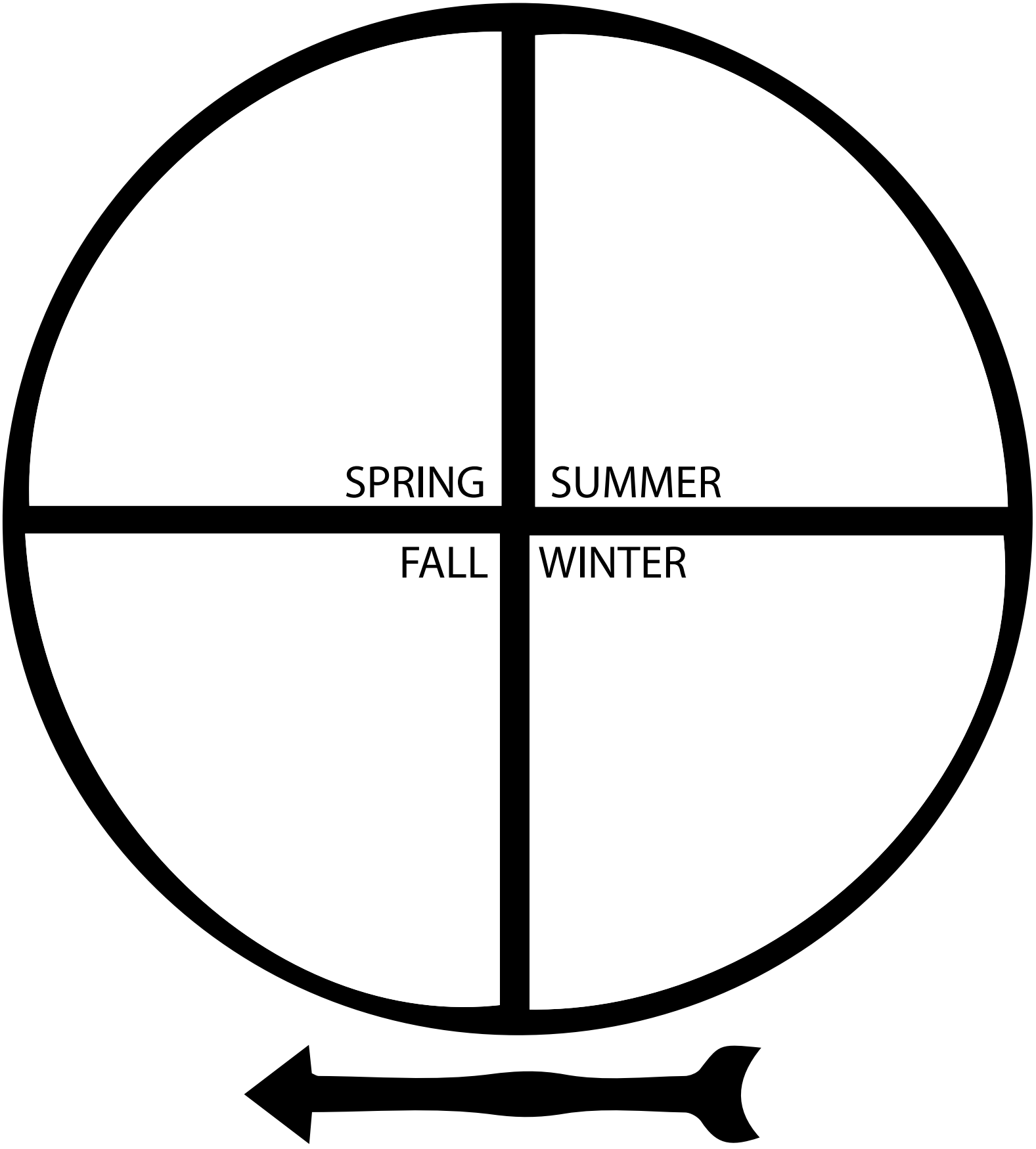
Precipitation Type: Whether there was rain, snow, sleet, or no precipitation.

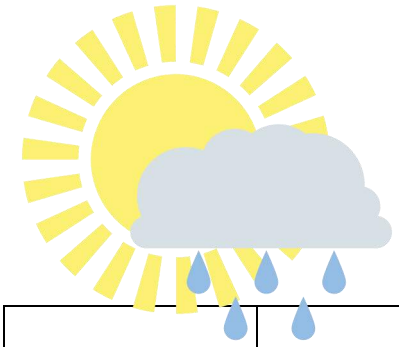
Cloud Cover: A simple description of how much of the sky is covered by clouds (clear, partly cloudy, mostly cloudy, overcast).

Mood or Feeling: A fun section where students can express how the weather makes them feel (e.g., happy, sleepy, excited).

SEASON SPINNER

Draw and then color the typical weather for each season.
Cut out the spinner and attach with a brass fastener.



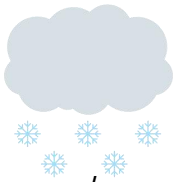


MY WEATHER CHART

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday

My Weather Log

Log the number of days for each type of weather.

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Full Sun							
Partly Sun							
Cloudy							
 Rain							
 Thunderstorm							
Windy							
 Snow/Ice							

My Weather Stickers

Print on stick paper and cut out to place on the weather chart.

Or print on regular pager and use tape or glue dots.