

## LESSON PLAN

### Weather station

In this activity, students will build simple tools like a rain gauge or anemometer and record weather patterns over a week.

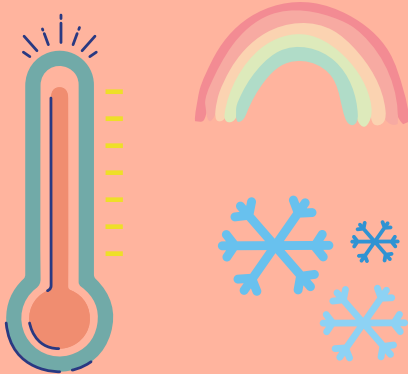
**Recommended age for this game**

**10-12 years**

**45-60 min**

**Duration**

### Learning Objectives

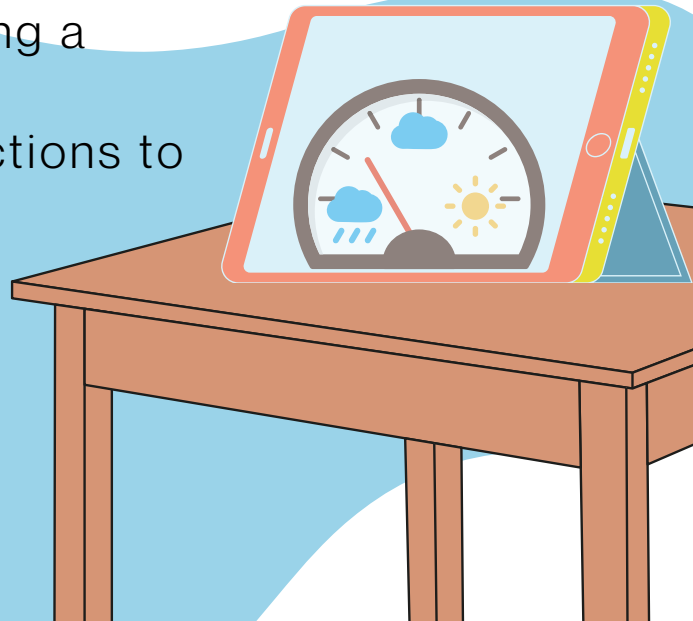


- Understand weather patterns and how they are measured.
- Learn to use basic tools for tracking weather data (e.g., temperature, rainfall, wind).
- Develop skills to interpret and predict weather conditions.



## Materials and tools needed

- Thermometer (for measuring temperature).
- Rain gauge (or a DIY version using a plastic bottle).
- Anemometer (optional, or instructions to build one).
- Compass (for wind direction).
- Recording sheets or digital apps for tracking weather data  
(See [Annex 1](#))



## Guidance for Teachers

### Activity description

Students will create a simple weather station and record daily weather data to learn about patterns and prediction.



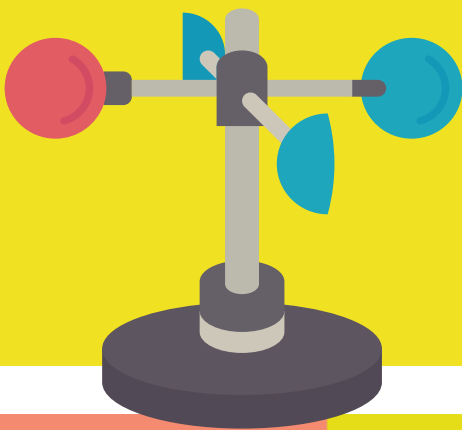
## Guidance for Teachers

### Preparation

- Collect or prepare weather measurement tools.
- Set up an outdoor space for students to place their weather station.
- Prepare templates or apps for students to record weather data ([see references](#)).

### Implementation steps

- **INTRO:** Discuss the importance of weather monitoring and introduce key tools. Show also examples of professional weather stations.
- **BUILDING PHASE:** Guide students in building simple weather measurement tools (e.g., DIY rain gauge). Set up the weather station outside.



- **DATA COLLECTION:** Have students collect weather data at the same time each day. Record temperature, rainfall, and wind direction/speed.

## Guidance for Teachers

- **DATA ANALYSIS AND PREDICTION:** Analyze the collected data to identify patterns. Use the data to make predictions for the next day's weather.
- **REFLECTION:** Discuss how weather data impacts daily life and future planning.

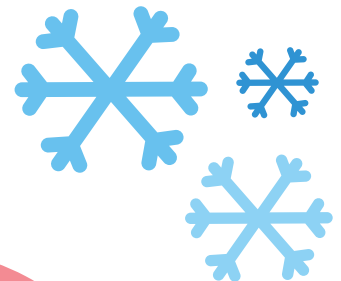
## Follow-up

- Research how meteorologists use technology to predict extreme weather.
- Discuss how climate change affects weather patterns globally.



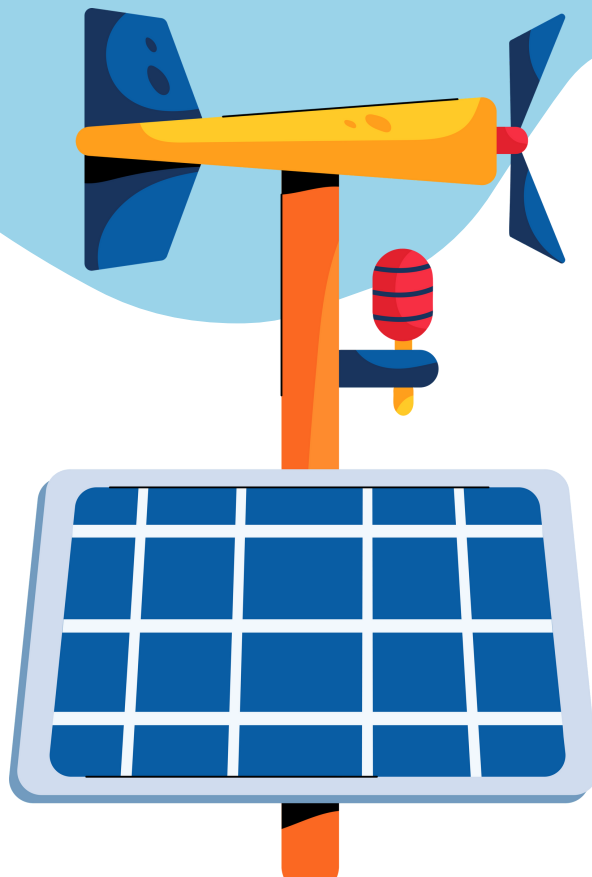
## Student Activities

| Activity description            | Expected outcome                                                          | Technology integration                              |
|---------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------|
| <b>Build a Weather Station</b>  | Students will construct simple tools to measure weather variables.        | Watch a tutorial on building weather tools          |
| <b>Record Weather Data</b>      | Students will collect and document daily weather conditions.              | Use weather-tracking apps for accurate comparisons. |
| <b>Analyze Weather Patterns</b> | Students will analyze their data to identify trends and make predictions. | Plot data using Excel or Google Sheets.             |
| <b>Present Weather Report</b>   | Students will create a weather forecast based on their observations.      | Use video tools like Canva or iMovie for reports.   |



## Reflective questions for students

- What weather patterns did you notice over the week?
- How accurate were your predictions?
- Why is it important to monitor weather in real-time?
- How does technology improve the accuracy of weather forecasting?



## Differentiation ideas

### Advanced Students

- Challenge them to include more variables, like humidity or barometric pressure.
- Have them create a detailed weather forecast report using historical data.
- Encourage them to research global weather trends and compare them with local data.

### Students with special needs

- Simplify data collection by focusing on one variable (e.g., temperature).
- Provide visual aids and hands-on guidance during setup.
- Pair them with a peer for support during the activity.

## Tips

- Encourage students to be consistent with the time of data collection.
- Use age-appropriate explanations for weather concepts.
- Provide examples of professional weather reports to inspire students.
- Ensure all students actively participate, whether in setup, recording, or analysis.



## Additional materials and references

- Websites: [NOAA for kids](#) or [Weather Wiz Kids](#) for fun facts and resources.
- Book: “[National Geographic Kids Everything Weather](#)” by Kathy Furgang.
- App: Weather tracking app [MyRadar](#).
- Video: [DIY weather tools](#)



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## ANNEX 1

### Recording sheet

Weather observations:

1. Daily weather log (add as many days as you need)

| Date  | Temperature (°C/°F) | Wind Speed (km/h or mph) | Cloud Cover (None, Partial, Full) | Rainfall (Yes/No) |
|-------|---------------------|--------------------------|-----------------------------------|-------------------|
| Day 1 |                     |                          |                                   |                   |
| Day 2 |                     |                          |                                   |                   |

Weather pattern analysis:

1. What was the average temperature over the 5 days?

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2. Was there a pattern in cloud cover? Yes / No (Explain:

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3. Did you notice any changes in wind speed over the 5 days? Yes / No (Explain: \_\_\_\_\_)

4. Did rainfall affect temperature changes? Yes / No (Explain: \_\_\_\_\_)

Weather Prediction:

1. Based on the data, predict tomorrow's weather:

2. Temperature: \_\_\_\_\_ °C/°F

3. Wind Speed: \_\_\_\_\_ km/h or mph

4. Cloud Cover: (None, Partial, Full) \_\_\_\_\_

5. Rainfall: (Yes/No) \_\_\_\_\_

6. What clues helped you make your prediction?

