

developed by the



# Global Precipitation Measurement Mission

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Name-

Date-

Period-

## Atmosphere Student Capture Sheet

### Guiding Questions

What is the atmosphere and why is it important?

Is there water in the atmosphere right now? How do you know?

How is the atmosphere an important part of Earth's water cycle?

### Engage

1. The atmosphere is

2. What is the difference between weather and climate?

3. Prediction: Water is \_\_\_\_\_ (not present, somewhat present, highly present) in the atmosphere today.





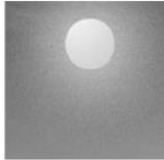





### Explore

Record your data below. Remember to include units!

	Data	Notes
Current Air Temperature		
Amount of Rainfall		
pH of Rain Water		
Relative Humidity		



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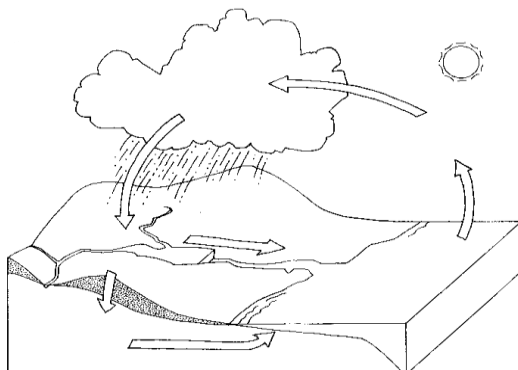
Cloud Type					
<input type="checkbox"/> <b>Cirrus:</b> High wispy clouds; contain ice crystals 	<input type="checkbox"/> <b>Cumulus:</b> Low to middle white puffy clouds; contain water drops 	<input type="checkbox"/> <b>Stratus:</b> Low layered clouds cover most of the sky; contain water drops 	<input type="checkbox"/> <b>Nimbostratus:</b> Low layered clouds with rain falling 		
Low moisture		→	Higher Moisture		
Cloud Cover					
					
<b>No Clouds</b>	<b>Clear</b>	<b>Isolated</b>	<b>Scattered</b>	<b>Broken</b>	<b>Overcast</b>
<input type="checkbox"/> 0%-No Clouds	<input type="checkbox"/> <10% Clouds	<input type="checkbox"/> 10-25% Clouds	<input type="checkbox"/> 25-50% Clouds	<input type="checkbox"/> 50-90% Clouds	<input type="checkbox"/> >90%

## Explain

Based on the data you collected, water is \_\_\_\_\_ (not present, somewhat present, highly present) in the atmosphere today. Provide evidence to support your answer.

## Evaluate

Label the parts of the water cycle that involve the atmosphere and describe how the atmosphere is an important part of the water cycle.



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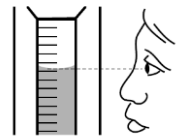
## Atmosphere Data Collection

### Temperature

Use the thermometer to record the current air temperature in degrees Celsius.

### Amount of Rainfall and pH of Rain Water

1. Read the level of the water in the rain gauge; your eyes should be as close to the level of the water in the tube as possible.
2. Record the rainfall to the nearest millimeter. If there is no water in the rain gauge record 0.0 mm. If there is less than 0.5mm, record T for trace. If some spills, record M or missing. Then, circle the points that relate to your rainfall measurement.
3. If there is water in the rain gauge, carefully pour it into your collection container and replace all parts of the rain gauge.
4. Dip the pH strip into the water and immediately pull it out.
5. Compare the color on the strip to the color chart on the container and record your data.



### Relative Humidity

1. Stand in the shade if possible and far enough away from other people so you will not hit anything with the psychrometer. Also, do not let your body heat affect the thermometers.
2. Record the dry bulb temperature to the nearest 0.5°C using the thermometer with no wick attached.
3. On the thermometer with the wick, check that the wick is wet and then sling the psychrometer for 3 minutes. Let it stop whirling on its own (don't stop it with your hand), and record the wet bulb temperature to the nearest 0.5°C.
4. Use the slide scale on the psychrometer to determine the relative humidity and record it on your data sheet.

### Clouds

1. Observe the clouds in the sky – look in all directions, including directly overhead. Be careful not to look directly at the sun!
2. Check all of the cloud type(s) you see on the data sheet. If there are no clouds, write “none visible.”