

Global Precipitation Measurement Mission

Name-

Date-

Period-

Geosphere Student Capture Sheet

Guiding Questions

What is the geosphere?

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

How is the geosphere an important part of the water cycle?

How does soil consistency affect the water cycle?

Engage

1. Observe the soil samples and brainstorm with your group

| Observations of Soil Samples and What you know about soil | What you would like to know about soil if you had more time and equipment |
|--|--|
| | |

2. The geosphere is _____


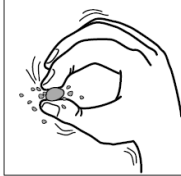
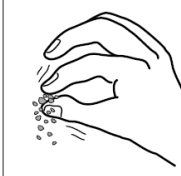

3. Prediction: water is _____ (not present, somewhat present, highly present) in the geosphere today.

Explore Record your data below. Remember to include units!

| | Data | Notes |
|------------------|------|-------|
| Soil Moisture | | |
| Soil Temperature | | |

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Soil Consistence

| | | | |
|--|--|--|--|
|  <p><input type="checkbox"/> Loose - falls through fingers</p> |  <p><input type="checkbox"/> Friable - breaks a little</p> |  <p><input type="checkbox"/> Firm - breaks a little</p> |  <p><input type="checkbox"/> Extremely Firm - does not break (you won't use a hammer!)</p> |
| Easier for water to move | | → | More difficult for water to move |

Soil Color

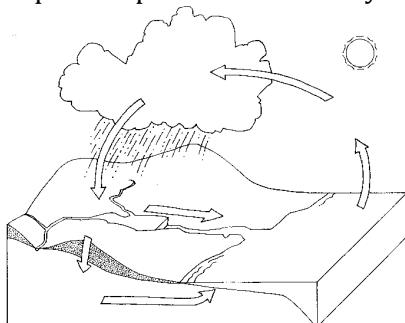
| | | | |
|---|---|--|--|
| | | | |
| <p><input type="checkbox"/> Black - lots of organic (living) material and more water</p> | <p><input type="checkbox"/> Brown - some organic material and some water</p> | <p><input type="checkbox"/> Reddish - contains minerals like iron</p> | <p><input type="checkbox"/> Gray - light color means dryer soil</p> |
| More water | | → | Less water |

Explain

Based on the data you collected, water is _____ (not present, somewhat present, highly present) in the geosphere today. Hint: Use information in the data tables to help you find evidence.

Evaluate

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



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Geosphere Data Collection

Prepare the study area

1. Clear the leaves and debris from a small area (about 1 to 2-foot square) on the ground so the soil is exposed.
2. Use the spoon to loosen and dig up a small amount of soil.

Soil Moisture

1. Create a hole in the soil with the pencil.
2. Insert the probe into the hole and gently press the tip into the soil.
3. Record your data.



the soil

Soil Temperature

1. Using the hole you created with the pencil for soil moisture, insert thermometer and wait at least 2 minutes.
2. Record the temperature in degrees Celsius.

Use the soil you loosened with the spoon for the following tests.

Soil Consistency – Hold a chunk of dirt between your thumb and index finger. Use the scale on the capture sheet to rate the firmness of the soil.

Soil Color – Compare the soil color to the chart on the capture sheet and record which color it is most close to.

Remember!!!

Return your test area to the way it looked when you arrived by putting the soil and leaves back to their original locations.

Gather your equipment before you leave!