



Acid Rain Keeps Falling on My Head

Grade level:

- ◆ 4th grade
- ◆ 5th grade
- ◆ 6th grade
- ◆ 7th grade
- ◆ 8th grade

Sample TEKS for 4th grade:

- ◆ science 4.2b-e
- ◆ mathematics 4.14a-d

Objectives: The students will be able to:

Measure the pH of local rain water.

Map the location of the collected rain water according to pH levels.

Background:

A by-product of burning coal is the production of carbon dioxide and sulphur dioxide. The increase in atmospheric carbon dioxide may result in an increase in the greenhouse effect and global warming. Increased production of sulphur dioxide increases the occurrence of acid rain. Clouds and rain forming in the presence of sulphur dioxide combine to form a weak sulfuric acid.

Vocabulary:

- ◆ acid rain
- ◆ carbon dioxide
- ◆ sulfur dioxide
- ◆ greenhouse effect

- ◆ global warming

Materials:

- ◆ large mouth container to collect rain water
- ◆ sealed container to transport rain water to class
- ◆ pH paper
- ◆ city map

Procedure:

- ◆ Lesson must be taught 1 day after rain shower.
- ◆ Each student should collect a sample of rain water from their neighborhood. The rain water can be collected in any clean, wide mouth container. Be careful that the water collected is not runoff from roofs or trees.
- ◆ After a rain, transport the water back to school in a closed container.
- ◆ Test the pH of the water.
- ◆ Locate the collection point on the city map and record the pH.
- ◆ Connect areas of equal pH. Identify areas that have low pH (between 0 and 6).
- ◆ Identify possible causes of high or low levels of acidity in different areas (industrial areas).

Assessment:

The students should complete a classroom map.

In which areas of your community was the rain found to be acidic?

What factors might have caused these areas to have more acidic rain than others?

Enrichment:

If there is an area of acid rain that is evident, the students can attempt to identify the source. The students can research methods that industries or local factories use to prevent acid rain formation.

Acknowledgment

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