

General Description

We use lots of energy heating hot water. Students will compare hot water usage in taking a bath or shower. This should be optional since not every student has both a bathtub and a shower.

Objective

Students will measure and evaluate the amount of hot water used when people take a shower versus a bath.

Arizona State Standards

SC04 S1C2 PO5 Record data in an organized and appropriate format (e.g., t-chart, table, list, written log)

SC04 S1C3 PO1 Analyze data obtained in a scientific investigation to identify trends

SC04 S1C4 PO1 Communicate verbally or in writing the results of an inquiry

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SC04 S1C4 PO3 Communicate with other groups or individuals to compare the results of a common investigation

SC04 S4C3 PO4 Describe ways in which resources can be conserved (e.g., by reducing, reusing, recycling, finding substitutes)

W04 S3C2 PO1 Record information (e.g. observation, notes, lists, charts, map labels, and legends) related to the topic

W04 S3C4 PO1 Write persuasive text (e.g. advertisements, paragraph) that attempts to influence the reader

M04 S2C1 PO3 Interpret graphical representations and data displays including single-bar/circle graphs, two-set Venn diagrams, and line graphs that display continuous data

M04 S4C4 PO1 Identify the appropriate measure of accuracy for the area of an object (e.g., sq. feet or sq. miles)

M04 S4C4 PO3 Select an appropriate tool to use in a particular measurement situation

LS E1 Prepare and deliver an organized speech and effectively convey the message through verbal and nonverbal communications with a specific audience.

Teacher Background

Students are required to explore and evaluate ways in which to conserve resources. Electricity and water are resources that the students encounter everyday. Helping students understand that the simple things they do every day impacts the use of resources will enable them to make better decisions in the future.

Materials

Paper (poster board or tag board)

Meter sticks

Colored pencils/crayons

Activity Card 4-7

Procedure/Exploration

1. Give students time to practice using the meter stick by measuring items in the room.
2. Distribute Hot Stuff chart (Activity Card 4-7) and explain it to students.
3. After a week, chart class average results.
4. Did you find any difference in taking a shower or a bath in the number of centimeters (cm) of water used? (Taking a bath uses more water than taking a shower.)
5. Which method is the best energy saver? (Since energy is used to heat the water for baths and showers, and showers use less water, the shower is the best energy saver.)
6. Would you advise a person who wants to save energy to take a bath or shower?
7. Why?
8. Have the students generate a short talk about the benefits of either showering or bathing.

Hot Stuff

Fourth Grade

Activity: 7

Activity Card: 4-7

<u>Day</u>	<u>cm Recorded for Bath</u>	<u>cm Recorded for Shower</u>
1		
2		
3		
4		
5		
6		
7		
Totals		

Average totals =
Total divided by 3

1. Take a bath. Use a meter stick before you enter the tub to see how many centimeters of water you use. Record your answer.
2. The next day, take a shower, but first plug the drain. This will allow you to catch all the water used in your shower. Measure the water after your shower. Record your answer.
3. Repeat until the chart is completed. If necessary share data among classmates.