Saving Hot Water

Grade Levels: 4-6

Background

Almost 20% of the energy we use in our houses is used to heat water. If we can save water when we shower or take a bath, we are also saving the energy that it takes to heat the water.

Question

Does it save more water to take a shower or a bath?

Possible Hypothesis

It takes _____ water to take a shower than a bath.

Materials

- Bathtub with a shower
- Ruler
- Thermometer

☑ Procedure

1. Have each member of your family plug the drain when taking a shower for one week.
2. Measure the amount of water they used with your ruler. Write down how high the water was for each person in your family each time they shower for a week.
3. The next week, have each person take a bath instead of a shower. Use your ruler to measure how much water they use for their bath. (Make sure the person isn't in the tub! That will change your measurements!)
4. During the showers and baths, also have your family take the temperature of the water.

Analysis and Conclusion

Compare the amount of water used for baths and showers for each member of your family. Which saved more water and energy: a shower or a bath? Which member of your family used the least amount of water? Who is using the most energy to heat their water?

Real World Connection

Low-flow showerheads use less water than regular showerheads, but it feels like a regular shower. Does your family have low-flow showerheads? You may want to put them into your shower and try your experiment again? Did they really use less than water? Also, try taking colder showers for a month. Do you notice a change in your utility bill?