

Every Drop Counts!

This lesson focuses on our responsible actions towards the environment, specifically water conservation. Students will conduct an experiment to see how much water is saved when we turn off the water while brushing our teeth. Note: This lesson requires a toothbrush, toothpaste, and access to a sink (see below for full materials list).

Responsibility Sub-Concept(s)

Self-Discipline, Kindness

Lesson Timeframe

25-30 minutes

Required Materials

- One Plastic Bag* by Miranda Paul
- 1 graduated cylinder OR 1 glass liquid measuring cup.
- Pencils
- 1 basin (must fit in a sink under the faucet)
- 1 new toothbrush
- Toothpaste
- 1 timer or stopwatch
- 1 record sheet

Standards Map

This lesson aligns with CASEL Competencies, National Health Education Standards, and Common Core State Standards. Please refer to the [Standards Map](#) for more information.



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AS A RECOMMENDED PROGRAM
FOR SOCIAL AND EMOTIONAL LEARNING.**
See last page for details.

Lesson Objective

Students will be able to:

- Identify ways children can be responsible for the environment through personal actions.
- Accurately read liquid measuring devices to track water usage during a science experiment.
- Practice using the scientific method during a water conservation activity.

Teacher Connection/Self-Care

Every person on earth has a personal carbon footprint that they leave as they experience the world. You are responsible for your effect on the environment. The best way to truly accept this is to evaluate this effect. How much water do you use each day? Are you conscious about the electricity usage in your home? Are you part of a recycling or composting program? Most of us are aware of these simple ways to lighten our impact. However, this week's challenge is to identify unique ways to decrease your carbon footprint at school. Are there ways to reduce your waste? How does your school handle recycling? Your kind actions set a terrific example for the students in your class!

Tips for Diverse Learners

- Use the scientific method handout below for visual learners and English Language Learners.
- Have students take turns coming up to read the measuring cup with a partner so everyone can participate.
- Have students with attention difficulties sit up front and off to the side so they have a quality view of the activity without distracting others.
- Pair students up to complete the Record Sheet if needed.



Share

5-10 minutes

Using two different sized containers (long cylinder vs. short and stout cup, etc.), have students practice the scientific method using water volume.

- Pick 2 containers that look vastly different in size (tall cylinder vs. bowl, etc.).
- Create a hypothesis: Which container will hold more water? Have students vote for either the cylinder or the bowl.
- Test your hypothesis.
- Measure the water using a ¼ cup or other standard of measurement.
- Record the answer.
- Discuss the results: The tall cylinder held more water. How many of us had the correct hypothesis? Why did you think it would hold less? (visually looks smaller, etc.)



Inspire

Environmental Responsibility

10-12 minutes

We have talked about responsibility and our choices. Our choices affect ourselves, others, and even the world around us! That's right! The choices we make can help our environment or hurt it. What is the environment? Explain that it is the world around us: nature, animals, plants, water, etc.

Read Aloud: One Plastic Bag: Isatou Ceesay and the Recycling Women of the Gambia by Miranda Paul

This story shows how our choices affect the environment and how we can choose responsibly to make a difference.

- How does Isatou Ceesay take responsibility for the garbage in her town?
- How does she turn it into something beautiful?

T Chart

Using a basic T-chart, brainstorm ways that we can HELP or HURT the environment. Above the word HELP draw a smiley face; above the word HURT, draw a frowning face.

- *What are some irresponsible choices that we could make that might hurt the world around us, our environment? Litter, treat animals unkindly, waste water, leave the lights on, etc.*
- *What are some responsible choices we can make that help the world around us? Conserve water, plant trees, be kind to animals, take the bus, etc.*

Explain that every person is responsible for their own actions, ones that help and ones that hurt. What is one thing you did today that helped the world around us? (pick up trash, close outside door, recycle, etc.)



Empower

20 minutes

Students will learn the importance of responsibility as it relates to water conservation by completing a “tooth brushing” science experiment.

- Review the scientific method: Do not focus too much on the vocabulary here, but rather on the importance of questioning, investigating, and concluding.
- Ask students: Who brushes their teeth with the water on? How much water does that use? Today we will find out just how much water we could save if we turn off the water when we brush our teeth!
- Write down the following hypothesis: “We will save _____ cups of water if we turn off the faucet when we brush our teeth.”
 - As a class, decide on the number of cups you think will be saved. Make sure to show them an actual CUP to help illustrate what we are measuring. This will be the test conducted during this experiment.
- The teacher will complete the experiment with the class making observations.
- Have the class form a circle around the sink area.

Here are the steps to complete the experiment. Write or project them onto your whiteboard. If possible, have a strong reader give the instructions to you as you complete them.

1. Place your basin underneath the faucet in your sink.
2. Start the 2 minute timer OR sing ABCs 3 times.
3. Round 1: Turn on the faucet, wet your toothbrush, and leave the faucet running. (NOT FULL BLAST...low flow).
4. Brush your teeth until the 2 minute timer ends.
5. Carry the basin to the measuring station and record how much water was used by pouring the water into the glass measuring container.
6. Write the number down on the board. It is helpful if you illustrate it using full and partially filled cups.
7. Have the students color in their cups on the Record Worksheet.
8. Round 2: Repeat steps 1-2. Turn on faucet, wet your toothbrush, and then turn off the faucet. Brush for ALMOST 2 minutes, turning on the water at the very end to rinse your mouth.
9. Repeat step 4 to measure how much water you used.
10. Calculate how much water you saved by subtracting the second number from the first number.
11. How close were we to the hypothesis?



Reflect

5-10 minutes

Have your class gather in your circle time/community area. Review the results of the water conservation experiment.

- How much water did we save when I turned off the water while brushing my teeth?
- How much water did I use when I left it running the whole time?
- Can you drink that much water in one sitting? (it may be over a gallon...so no!)
- How much water could you save if everyone in your family turned the water off when brushing their teeth?

Every person has a responsibility to our environment; even young people like you! You can choose to save water by turning off the faucet when brushing your teeth, recycling instead of littering, or even keeping our playground clean when you see trash strewn about. Every responsible and kind choice helps protect our environment and keeps our world just a little bit cleaner than it was before!



Extension Ideas

- As a class, investigate other ways to save water. How much water does a toilet take to flush? How much water does a dishwasher use versus hand washing? Use gallons or cups to illustrate the difference.



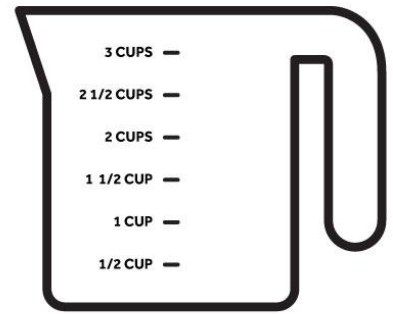
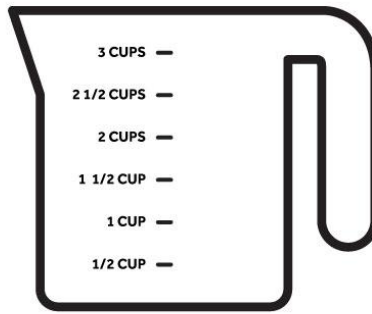
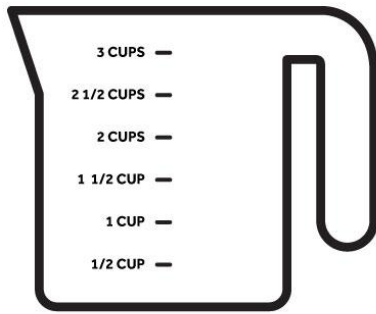
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The Collaborative for Academic, Social, and Emotional Learning (CASEL) has been reviewing evidence-based SEL programs since 2003. Kindness in the Classroom® meets CASEL's SElect Program and is included in the CASEL Guide to Effective Social and Emotional Learning Programs.

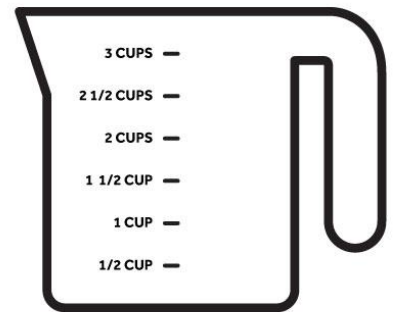
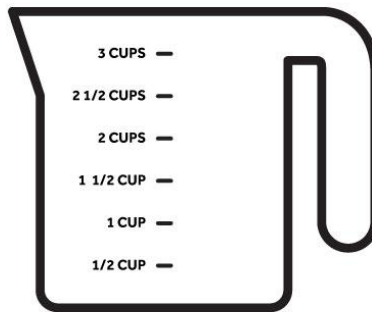
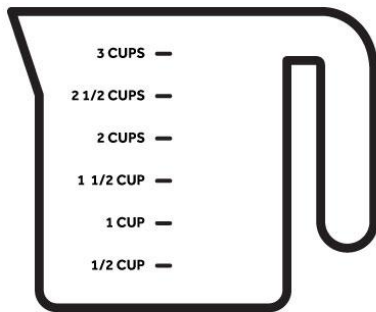
Kindness in the Classroom® met or exceeded all of CASEL's criteria for high-quality SEL programming. Kindness in the Classroom® received CASEL's highest designation for high-quality SEL programming.

<https://casel.org/guide/kindness-in-the-classroom/>

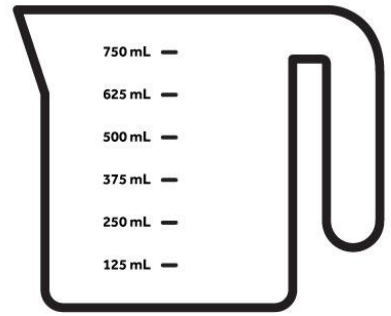
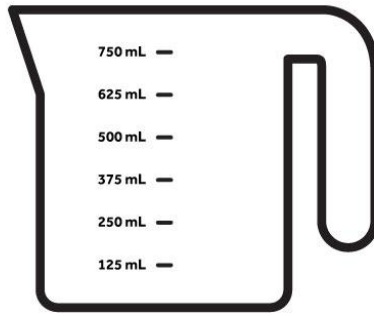
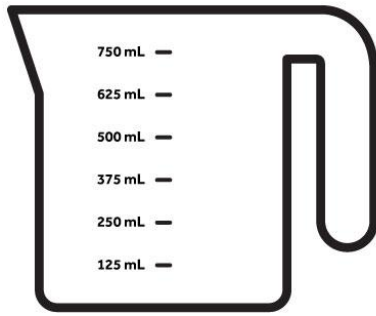
Color in the amount of water you used when brushing your teeth with the water ON:



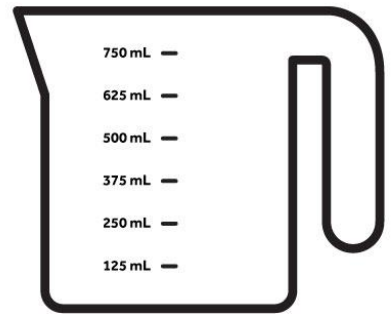
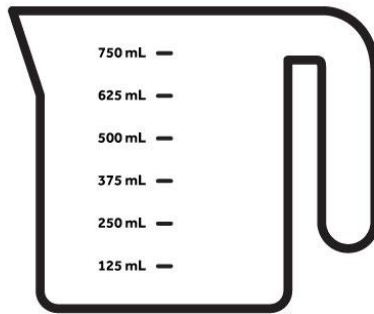
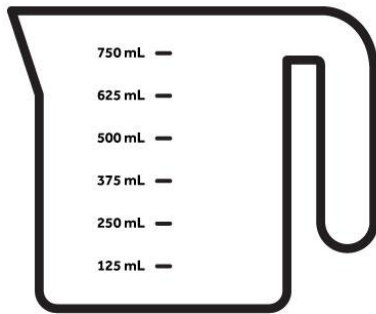
Color in the amount of water you used when brushing your teeth with the water OFF:



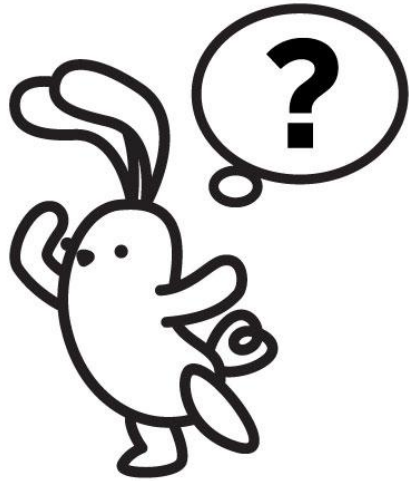
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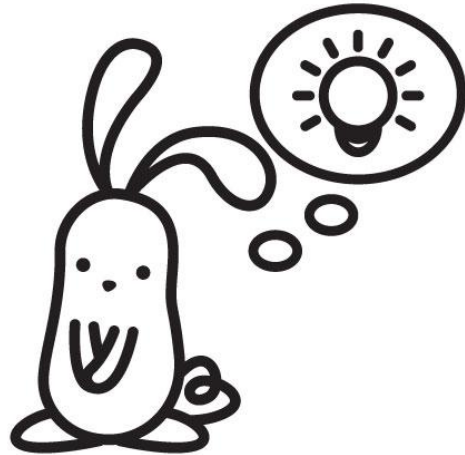
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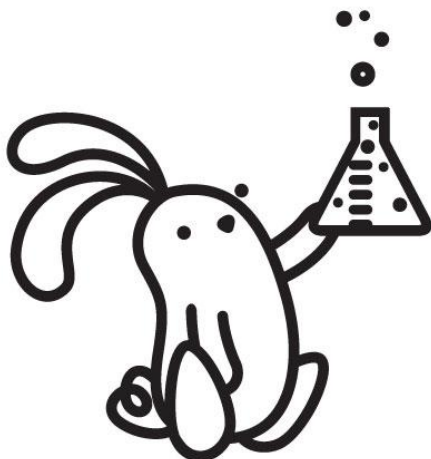
1: Ask a QUESTION



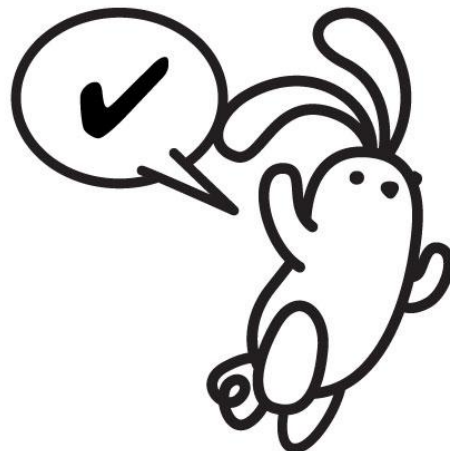
2: Make a HYPOTHESIS



3: Do an EXPERIMENT



4. Come to a CONCLUSION



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