FLUSH YOUR TOILET: WASTE WATER 101

As You Watch The Video:

- 10:30 – be ready to pause the video for discussion.
- 18:54 – be ready to pause the video to practice saying "eutrophication".

Terms For Discussion:

- Domestic Wastewater – Wastewater generated from bathrooms and basic cleaning.
- Fatbergs - Term used to describe obstructions in sewer system where FAT/OIL/GREASE attract and grab foreign objects and dirt.
- Eutrophication - excessive richness of nutrients in a lake or other body of water, frequently due to runoff from the land, which causes a dense growth of plant life and death of animal life from lack of oxygen.
- Bioreactor – place where a biological reaction or process is carried out, usually in large scale.
- Bacteria – microorganisms that eat organic waste and use it as a food and energy source.
- Aeration – The act or adding oxygen to help facilitate bacteria growth.
- Disinfection – Treatment to clean contaminated water.
- Biosolids – solids derived from treatment of wastewater, usually spread on cropland as fertilizer.

Class Activity #1:

You will need two large jars, water, a wad of toilet paper, and a flushable wipe.

This activity could be done throughout the whole day, or start in the morning and end at lunchtime, or for as long as you prefer or have time. The purpose is to watch how the toilet paper breaks up and the flushable wipe does not, showing the students how important it is to pay attention to what they're putting in the water system of their house, which ultimately ends up in the community water system.

Doing the activity: Add water to the jars, then add the wad of toilet paper to one jar, and the flushable wipe to the other jar. Cover both jars and shake. Notice what happens with each jar.

Shake each jar periodically throughout the day, each time watching what is happening within the jar.

Discussion items:

- Which jar might cause problems with water system pipes and pumps? (The flushable wipe because it's not breaking down.)
- Why would that cause a problem? (It would plug the water system up.)

Class Activity #2:

Here is a fun website (https://water.usgs.gov/edu/activity-percapita.html) where you can enter student water usage and the amount per day is calculated. Ask each question and have each student raise their hand if they did that activity (shower, brush teeth, etc). Enter the number of raised hands for each question. Calculate how much water the class used just that day. This activity would be more fun for the students if it could be shown using a projection system.

Optional: Try to find a way for your students to visualize exactly how much water they're using. Maybe a set of blocks could be stacked, each block signifying one gallon of water. Or the students could draw circles on a sheet of paper, each circle equaling one gallon of water. The more circles they draw, the more they can realize the amount of water used every day.

A few water statistics:

- On average, one person uses 457,000 gallons of water annually, more than 100 gallons per day.
- Each time a toilet is flushed, it uses an average of 2 gallons of water.
- For an average shower, 18 gallons of water go down the drain.
- Every time someone brushes their teeth, 16-36 gallons of water are used, depending on whether they're leaving the water running as they brush or not.

Discussion:
How can water usage be reduced?

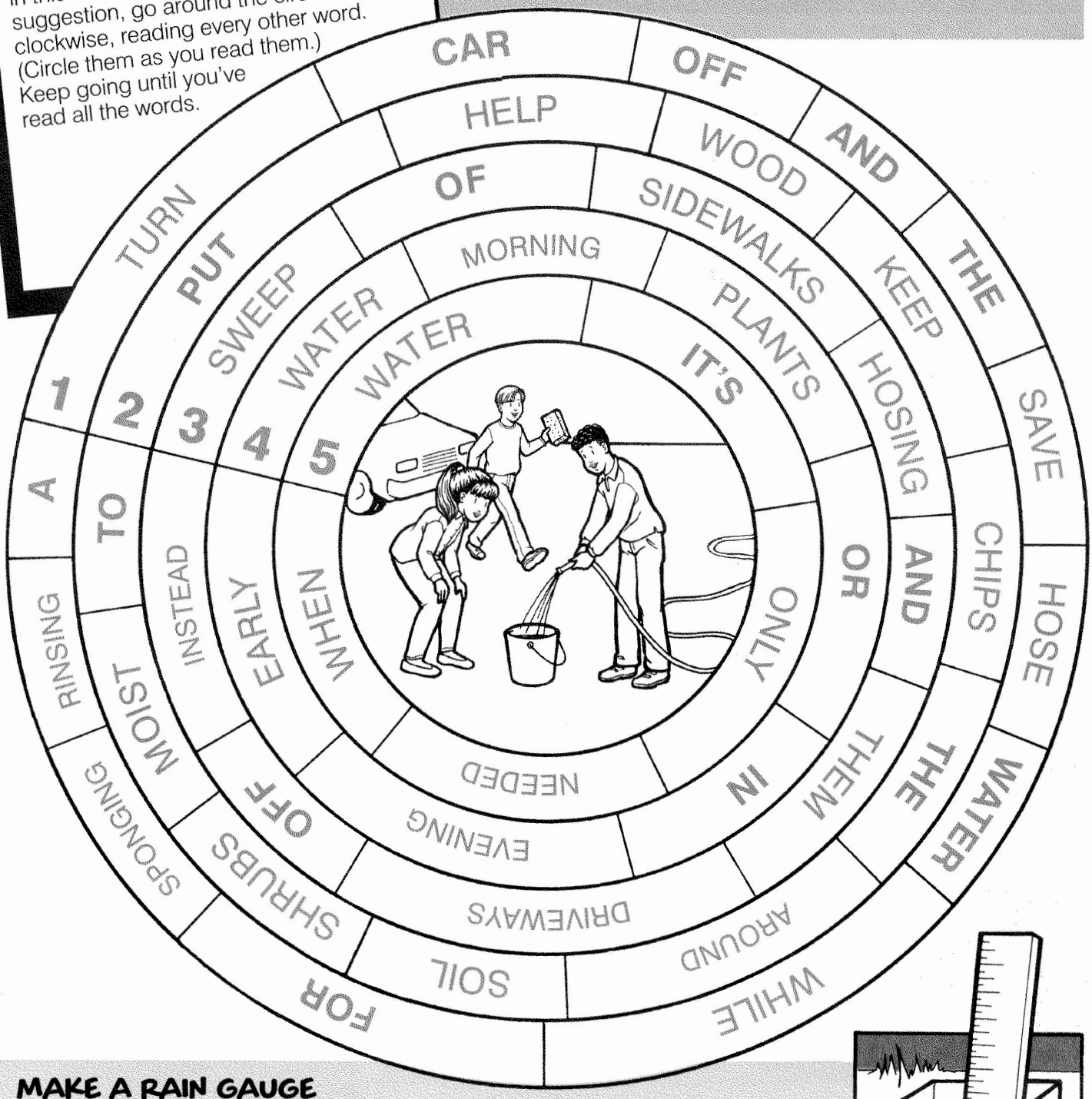
- Turn off the water while brushing your teeth.
- Keep a container of water in the refrigerator instead of running the faucet to get a cold drink.
- If a shirt is fairly clean, it could maybe be worn again.
- Take a short shower instead of a bath.

Class Activity #3:
Complete the activity sheets on the following pages.

USE WATER WISELY OUTDOORS

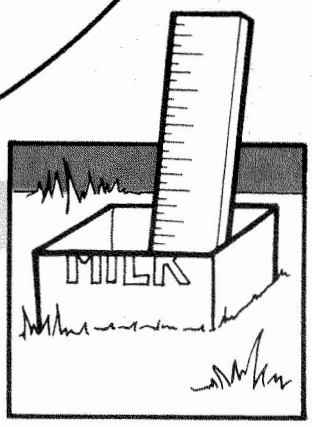
1,000 gallons can run through an outdoor hose in an hour! So, it's no wonder so much water is wasted outdoors.

Some water-saving ideas are spinning in this "water wheel." For each numbered suggestion, go around the circle clockwise, reading every other word. (Circle them as you read them.) Keep going until you've read all the words.



MAKE A RAIN GAUGE

Take a milk carton and cut off the top with a pair of scissors. Then, bury the carton in the ground so that it just sticks out. After the next rainfall, measure the water in the carton with a ruler to see how many inches of rain fell. Do you know how many inches of rain fall every year in your area? Look up your state in an encyclopedia to find out. (It may be less than you think!)

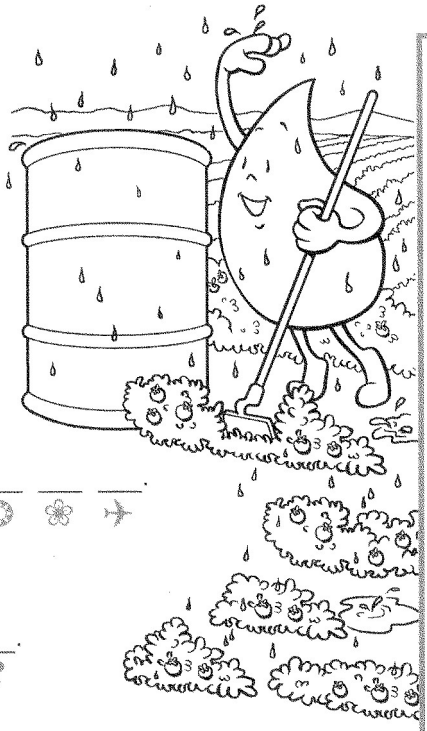


https://www.dcwater.com/kids/activities/dailywaterusage.html

TRY TO DO ONE THING EACH DAY TO SAVE WATER!

Every drop counts when it comes to conserving water.

Use the secret code to discover some other ways you can save water -- inside and out.



Secret Code

♦	=	a
❦	=	b
✪	=	d
◯	=	e
❻	=	f
✌	=	g
✧	=	h
♥	=	i
☎	=	l
❥	=	n
✗	=	o
⑤	=	p
❀	=	r
❖	=	s
❾	=	t
★	=	u
❥	=	w
✈	=	y

1. Turn off the shower while you ____ ____ ____ ____ ____ ____.
   ❖ ✗ ♦ ⑤ ★ ⑤
2. Wash only ____ ____ ____ ____ loads of ____ ____ ____ ____ ____ ____ ____.
   ❻ ★ ☎ ☎ ☎ ♦ ★ ❥ ✪ ❀ ✈
3. If you take a ____ ____ ____ ____, fill only ¼ of the ____ ____ ____.
   ❦ ♦ ❾ ✧ ❾ ★ ❦
4. Collect ____ ____ ____ ____ ____ ____ ____ ____ ____ for ____ ____ ____ ____ ____ ____ use.
   ❀ ♦ ♥ ❥ ❥ ♦ ❾ ◯ ❀ ✌ ♦ ❀ ✪ ◯ ❥

HOW WILL YOU SAVE WATER?

Think about the water-saving tips you've learned. Which ones can you start using today? Write them in the spaces below. Put a check in the box when you use that tip!

- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____

https://www.dcwater.com/kids/activities/dailywaterusage.html