Sustainable Water Field Research
Grades 3-5: *Personal and Home Audit*

Resources developed by San Mateo County Office of Education's (SMCOE)
Environmental Literacy and Sustainability Initiative (ELSI) • Designed in 2018, last updated October 2020

Purpose and Overview of Field Research Activity

Field Research is the collection of data and observations. This is REAL science! You will investigate what is going on with an environmental topic in your local context (home, school, or community). Parents and Educators, s*ee overview video to Field Research guides here.*

- **What materials do I need for doing field research?** The most important thing you will need is this document outlining the field research activities. It might also be useful to have a clipboard, or pencil/pen, paper or journal if you have them.

- **How long will it take me to do this field research?** Field research tasks may range from 30 minutes → 3 hours depending on the topic and activities. We have broken it up into multiple activities for you.

Background information for this Field Research Task:

Water is an important resource that is needed for all life. In schools water is used in many ways, mostly for drinking, restrooms, landscaping, heating and cooling, and cafeteria kitchens. All of this use adds up to about 6% of water use in the United States (EPA, 2018); and this use has significant impacts environmentally, socially, and economically.

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PERSONAL WATER AUDIT

Step 1: Use the water journal on the next page to track how much water you use for <u>one week</u>.

<u>Materials</u>: Printed journal *or* field journal and pencil.

<u>Directions</u>: Students will complete the chart below to track their water use over <u>one week</u>.

- At the end of the week the students will add up their tallies from each activity to get a total water used that week.

Students *should*:

- Take detailed notes
- Put a tally mark in the times per day column everytime they do a water activity

Students *should not*:

- Record activities of other members in the household.
- Record <u>outdoor water use</u>

Journal adapted from: One Cool Earth

Glossary

- <u>Water Audit</u>: A record of water use over a period of time
- <u>Outdoor Water Use:</u> Watering landscaping is a major source of seasonal and home water use. For this water audit we focus only on indoor water use

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WATER JOURNAL

Activity	Times Per Day (place a tally mark every time you use that water device pers day of the week)	Weekly Total (Total tallies)	Water Per Activity	Total Water Used
Toilet Flush	M | T | W | Th | F | Sat | Sun	_____	X 5 gallons =	_____
Short Shower (5-10 minutes)	M | T | W | Th | F | Sat | Sun	_____	X 25 gallons =	_____
Long Shower (>10 minutes)	M | T | W | Th | F | Sat | Sun	_____	X 35 gallons =	_____
Tub Bath	M | T | W | Th | F | Sat | Sun	_____	X 40 gallons =	_____
Brush Teeth (water running)	M | T | W | Th | F | Sat | Sun	_____	X 6 gallons = *(~2 minutes of water running)*	_____
Washing Dishes (with water running)	M | T | W | Th | F | Sat | Sun	_____	X 30 gallons =	_____
Washing Dishes (sink with stopper)	M | T | W | Th | F | Sat | Sun	_____	X 10 gallons =	_____
Using Dishwasher	M | T | W | Th | F | Sat | Sun	_____	X 15 gallons =	_____
Washing Clothes	M | T | W | Th | F | Sat | Sun	_____	X 40 gallons =	_____
			Total Gallons/Week =	

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HOUSEHOLD WATER FOOTPRINT

Step 1: Calculate your Household Water Footprint

→ Visit Water Calculator and follow the steps to find your water footprint. (link:https://www.watercalculator.org/wfc2/q/household/)

Record your **Household Total Daily Gallons**: _____ Gallons/Day

Step 2: Reflection on Household Water Footprint

→ Discuss or write responses in your field journal for the following questions:

A) What surprised you about your water footprint or what did you find most interesting?

B) Was there anything that made calculating your water footprint hard?

C) What can you do to lower your water footprint? (examples: make a sign about conserving water, turn faucet off while brushing teeth)

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You've Completed the Water Field Research!

Great job! You've learned about the water cycle, conducted a personal water audit, calculated your households water footprint, and reflected on your water usage. Reducing our water usage is a step we can all take towards reducing our ecological footprint. Discuss the lessons you've learned from this Field Research with the folks in your life and implement solutions into your daily activities to conserve water. Check out the resources curated by The San Mateo County Office of Education to explore more about water systems.