



# FOG (Fats, Oils, and Grease) Awareness Student Assignment/Classroom Activity

2016/17 Green Ribbon Program Activity

Section 1: Reduce, Activity #14

## Background

Castro Valley Sanitary District (CVSan) is responsible for two main things in Castro Valley; solid waste collection, disposal, and diversion; and maintaining the sanitary sewer system. In order to keep the sanitary sewer system healthy, it is important to understand what should not be poured down the drain. Fats, Oils, and Grease (FOG), is used and produced in food preparation. FOG can affect the sanitary sewer system by clogging sewer lines which can lead to sewer system overflows.

Castro Valley Green Ribbon schools do a great job practicing the 4Rs (reduce, reuse, recycle, and rot). In small amounts, FOG can be collected and composted in the green organics cart along with food scraps, food soiled paper, and yard trimmings. Go to [www.cvsan.org/FOG](http://www.cvsan.org/FOG) for more information.

Below you will find a variety of sample student assignments and ideas for classroom activities that correlate to FOG awareness and can be used in lesson planning. Thank you for teaching students to be environmental stewards and keeping FOG out of the sewer.

## Community Impact & Awareness

CVSan includes fats, oils and grease (FOG) that are used and/or created in cooking in the final "R" concept, or "Rot". Proper disposal of FOG is critical for the health of our community because FOG is the cause of over 50% of the debris that sticks to drains and sewer pipes and can cause sewer back-ups and overflows.

The health of a community depends on its ability to collect and dispose of waste. One of those collection and disposal systems is our sewer system. Students can learn how a sewer system is constructed, how it is supposed to work, and what might cause it to fail.

### *Sample Assignment Activities:*

Students should exhibit an understanding of sewer system dynamics, and be able to teach others (family members, in particular) about the impact of individual actions they take every day that can keep the system working properly. Students can exhibit this understanding by:

- Writing essays about proper disposal of kitchen waste
- Writing and submitting articles to local news outlets about a citizen's role in keeping sanitary sewers healthy
- Creating promotional campaigns to raise awareness of a citizen's role in keeping sewers healthy
- Creating and executing a family plan for improving food waste disposal behavior permanently
- Creating a diorama of a community sewer system to visually explain how it works

## **Science and Math**

Add the capture of FOG materials to current exercises about solid waste, including the 4Rs of Reduce, Reuse, Recycle and Rot. FOG falls in the "Rot" category yard trimmings and food scraps.

### *Sample Research Questions:*

- The recycling process: Research the Recycling and Rot processes; describe how FOG is captured and can be composted after collection in the green organics cart.
- The mechanics of a sewer system: How does it use gravity, pumps and pipes to carry wastewater to a treatment plant? How are hydraulics and electricity involved? How does the sewer system relate to the storm drain system?
- The chemistry of wastewater treatment: How does a treatment plant convert wastewater into water clean enough to release into our Bay? What happens to the materials extracted from the wastewater?

## **Social Studies**

Students can research the history of sanitary districts and water systems in California.

### *Sample Research Assignments:*

- The History of CVSan and similar districts: How was CVSan established? What is CVSan responsible for? How is CVSan funded? What benefits do they bring to the community?
- The History of Water Systems in California: The mechanics of fresh water delivery to California citizens is similar to the systems used to remove wastewater and storm water.

## **English**

All of the above topics can involve a writing assignment.

### *Sample Essay Activities:*

- Report on our local sewer system, and how it impacts the community.

- What would society need to invent if a sewer system is not available?
- How can citizens participate in extending the life of a sewer system, and its performance?
- How can we change people's personal habits to get them to collect and compost FOG?

**Resources:**

Information about FOG recycling, and our local sewer system in general, is available on [www.cvsan.org](http://www.cvsan.org) and [www.cvsan.org/FOG](http://www.cvsan.org/FOG).