

Vocabulary

Many of these terms appear within the animation of the video, or in the narration itself. Depending on the age of your students, you can select one or more new words to introduce to the class. Alternatively, use the below for your own learning!

- sewage:** water that has been used in washing, flushing, manufacturing, etc. Also known as wastewater.
- sewer system:** an underground network of pipes and tanks used for transporting sewage from houses and buildings to a treatment plant for cleaning.
- combined sewer system:** one that is designed to collect rainwater runoff and sewage from homes/businesses in the same pipes.
- separate sewer system:** one that has two separate systems of pipes. The sewer pipes connected to homes/businesses carry wastewater to treatment plants, and the pipes connected to roads and storm drains carry water directly into local waters without first flowing through a treatment plant.
- treatment plant:** a place where sewage is cleaned so we can recycle its resources. We recycle water back into the environment, use biosolids for improving soil, and harness methane gas for energy. The video features the Southeast Treatment Plant in San Francisco.
- sludge:** a soft, thick material that is produced in the treatment of sewage once you remove most of the water from it. Sludge goes through a sterilization process to kill germs that could make people sick. Finally, these solids move to a digester, where bacteria break it down further into healthy biosolids that can be used as nutrients for soil.
- bacteria:** tiny organisms that are only one-cell big. They are decomposers, which means they break down pieces of rotting plants and animals. In the video, bacteria break down sludge that has already been sterilized and release gas in the process.
- digesters:** at a treatment plant, these are the huge tanks where solids are broken down by bacteria, in order to speed up what nature already does well. The solids are kept at a hot temperature of 95 degrees Fahrenheit for 15-25 days so they can fully decompose and transform into biosolids. Then, they are distributed to farmlands.
- gas:** a substance that is like air and has no fixed shape. In the video, the bacteria burp a gas called methane, which is used to power the treatment plant. We can produce energy from what you flush down the toilet instead of having to use fossil fuels!
- biosolids:** the nutrient-rich material that is one of the final products after wastewater is cleaned. Biosolids save farmers water, improve plant growth, return valuable nutrients back to the soil, are an important way to combat climate change, and produce energy. [Read the Biosolids fact sheet.](#)