



Where Does It All Go? (Learning Experience #1)

Student Procedures



Lesson Essential Question: What happens to the wastewater that we generate in our daily activities?

Procedure

1. In your journal create a list of all of your activities today, from the time you got out of bed until you left for school.
2. You will be working in a project team of three or four members. Each team member will have a task: researcher (may have two of these), recorder, communicator.
3. Share your individual list of morning activities with your group and choose five that are common to all of you. Record a different activity that you completed this morning within each box on the form, *Morning Activities* (Student Sheet #1). For each activity, decide if you used water and record “yes” or “no” in the space provided. Finally, describe where any wastewater went (i.e. brushed teeth/ yes/ down the sink drain).
4. Research the destination of wastewater after it leaves your home and record your discoveries in your journal. Before you begin your research, there will be a brief discussion with your class and teacher about reliable sources for this kind of information. Remember that sometimes a conversation with a person who has expertise in a subject is a good source of information. The recorder for your team should keep track of the information you find and cite the sources of the information.
5. Next your group will complete *Down and Out* (Student Sheet #2) for both urban/suburban and rural communities. You will need to locate this information for both municipal sewage treatment systems and individual septic systems that are nearby.

Note: Your teacher may decide to divide up these research questions and those listed below (in #6) among the project groups. If that is the case, each group’s results will be shared with the entire class.



6. One or more groups will contact the local public works office and a local home builder. Discover answers to these questions and record them in your journal:
 - a. What is the average amount of wastewater generated by a household per day, week or month?
 - b. What is the current cost per household for sewage treatment services and any anticipated increases to meet the new EPA Total Maximum Daily Load (TMDL) discharge standards?
 - c. What is the approximate cost per unit to install and service a residential septic system (several types)?
 - d. What happens to the stormwater that runs off impervious surfaces when it rains or ice and snow melt? Is the stormwater treated to remove pollutants before it is discharged into a waterway?
7. Discuss within your group ways in which individuals can reduce the volume of wastewater that flows into the sewage treatment facility or septic system that serves your home. List your top four suggestions on *Call to Action* Student Sheet # 3.
8. In your journal write a reflection regarding what you have learned about what happens to the water that we use on a daily basis. Answer the Lesson Essential Question.
9. Contribute to a list of suggestions from each team that will be posted in your classroom. You will add more suggestions at the end of Learning Experience #2.