

Water Treatment Fieldtrip Assignment

Date: _____

Name _____

Introduction

Water is an integral part of life. Without it, life would not survive. We use water to drink, irrigate, bathe and have fun in. Living in the United States, when we turn on the water faucet, we expect water to flow. Not only do we expect water to flow; we expect that water to be clean and tasty too. So often, we turn on the faucet and use the water without thinking about the miraculous trip that each drop of water has taken to get to that faucet.

In this fieldtrip, you will apply your knowledge of how water has made a trip through the hydrologic cycle, the types of source water that is available, and how we mimic the purification processes by the use of mechanical and chemical applications.

Define the following terms:

1. Anaerobic:
2. Aerobic:
3. What do water treatment plants do with the leftover sludge?
4. List five major contaminants of water that are filtered out by water treatment plants.
 - A.
 - B.
 - C.
 - D.
 - E.
5. Which of the contaminants is most difficult to remove? How must the treatment plant remove the contaminant?
6. Which of the contaminants are the most predominant?

Treatment Steps

7. How much water does this plant treat? To what level does it treat the water? Where does the treated water go?

8. Describe generally describe what occurs in each step.

Primary:

Secondary:

Tertiary:

Coagulation and Flocculation

9. What is Coagulation and Flocculation? What function do they serve in the water treatment process

Sedimentation

10. List some sedimentation basin components. How do they work?

11. What is the definition for Detention Time and how is it used in the water treatment process?

Disinfection

12. Describe some of the microbes that water is treated for.

13. Describe the process of chlorination. What are some alternatives to using chlorine?

Water Quality

14. How often is the water quality tested?

15. What legislation helps regulate the quality of water? Explain.

Reflection:

What did you find the most interesting? Any info disconcerting? Why or why not? Did you enjoy this fieldtrip? Other than the odor, how could it be improved?