Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**“Keeping Our Water Safe”**

**Background:**

Water from lakes and rivers often have **contaminants** that make it unfit for drinking. The water may contain **dirt**, **rocks** and other **pollutants** caused by man. Water may also contain **bacteria** and other **microscopic organisms** that cannot be seen easily.

For these reasons, water that is delivered to our homes must go through a water treatment process. This is typically a five-part process that consists of ***aeration,*** ***coagulation***, ***sedimentation***, ***filtration,*** and ***disinfection***. This activity only involves **filtration,** which **removes most** **but not all** of the impurities from the water. Therefore, it is still not safe to drink.

You have been hired by GSCES Water Supply Company. There has been a drought, leaving very little water for people, animals and plants. The water that remains is unhealthy and needs to go through the filtration process.

The CEO of the company has shown you three samples:

**Sample A** is almost ready for human use.

**Sample B** is nearly ready for animal use.

**Sample C** is ready for plant use.

Your task is to work with a team to create a filtration system that is *almost ready* for human use. Your system will be measured against the three (A,B,C) models presented by the CEO.

Other teams in the industry will be working on the same problem. Once your team has completed the task; submit your solution by comparing your filtered water **with Samples A, B,** and **C**. (You may also visit other teams to view their projects).

Extension:

If filtered water is similar to:

1. **Sample A:** You’re team receives $ 10.00 for every ml
2. **Sample B:** You’re team receives $ 5. 00 for every ml
3. **Sample C:** You’re team receives $ 1.00 for every ml

How much money did your team earn?

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**“Keeping Our Water Safe”**

Based on the team’s solution, would you make changes to your filtration system? Why or why not?

Draw a picture of your final solution. **Then write a short essay explaining why you believe this system is highly effective.**

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