**Teams often use software applications such as spreadsheets, shared documents, and sticky notes to organize and manage their team's work. What software application do you think that your team could use more effectively to organize your team's work? Explain why? \*BLUE**

It is known that any work will not be achieved quickly and perfect without organizing it. Everything: work, study and tasks require and in need to be more organized. In our teamwork, we do many operations. While our work we need to remember things. Such as looking for certain material that we need for our project. Our writer writes down everything we talk about in the meeting. It is amazing and more organized to use software to remember the tasks we divide on each other. We use software to organize the ideas we discuss. We need to organize the materials we use in our prototype. Also, our meetings need to be organized. There are a lot of notes taken through the meeting and we need to finish them or ask the teachers and search about them. We use applications like (any.do). it is an amazing application we use to remember the tasks, who should send his task and when. Because as we know we are very busy in study, competitions, and other things. For example, while our meeting we discuss many things beginning with Egypt grand challenges, prior solutions of the defined problem that we work on and generating our solution. These tasks need to be organized for better, highly efficient work and help each other. We also use an application called (remember me). It is perfect at being more organized and improve our teamwork. Spreadsheets are good to be used in write down the notes, tasks and meeting and everything we achieve we marker at it as be done.

**Choose one prior solution you found in your research for this semester capstone and describe its strengths and weaknesses as a solution to remove microplastics from water. \*BLUE**

Through our search about the prior solutions of the problem of microplastics, we found a lot of solutions and ideas that help in reducing or removing the amount of microplastics found in water.

As it is big problem and is dangerous to humanity, Scientists have discovered a bacterium that feed on microplastics. It breaks down the bonds in microplastic and return it to its original form(polyethylene). And they discover other bacteria that capture microplastics found in water called grana fish. They then manipulate the grana fish and get the gene from the bacteria that feeds on the microplastics and insert it in the grana bacterium. It creates GM bacteria that feeds on plastic and help us get rid of it.

The solution at first was perfect and works well. The GM bacteria feed on microplastic and breakdown the bonds found in it. They also produce molecules from the microplastics and use it as fuel for them. But the solution was not very perfect as they discover that these bacteria are faster at reproduction and grow faster. These would cause a problem to the scientists and marine life. The bacteria would use more dissolved oxygen found in water. And this affects the amount that the plants use. And as scientists did not know more about GMO and genetic engineering, they are afraid of the impacts of these bacteria in the future. It might be harmful to the marine life as fishes might feed on these bacteria and make it die or harm it and then harm we through eating these fishes.

**Ch.2.01 - your classmate said that you can use reverse osmosis in microplastic removal. Are they right? Explain your answer?** **\*GREEN**

We learn in chemistry this semester about osmosis, osmosis pressure, and reverse osmosis. we learn about the colligative properties which include boiling point elevation, freezing point depression, vapor pressure lowering and pressure osmosis. The osmosis pressure is a colligative property that depend on the number of solute particles present not their identity. And microplastics are TDS or (total dissolved solids) that are found in water. In osmosis, water molecules transform from the side of low concentration of solute which in our case the solutes are microplastics to the side of high concentration of solute or the solution that contain the pollutes water with microplastics. But we want the inverse of this system or operation. We want water molecules to transform from the solution to the pure water or pure solvent. It happens through reverse osmosis. This is an external pressure applied to the solution to make water molecules transform from the solution of polluted water with microplastic to the side of pure water which the two sides are separated by semipermeable membrane. We can use this procedure to filter water from microplastics. We use a U-tube shape and put a solution which is water polluted with microplastics and put on the other side pure solvent and apply reverse osmosis on the solution.

**Es.2.01 - the layers of the earth filter water, removing harmful substances and making it available for our use. Which of these layers that typically filter water is most likely to stop microplastics from staying in the water? Why is this layer effective? \*BLUE**

In geology this semester we learn about the water cycle, water supplies, and layers of water. We learn that water is evaporated with the sun and then it condensed into clouds and the rain falls. Then water be in rivers, oceans, or go down and form underground water. The underground water is precipitated and filtered forming water table. It is layer in the ground where water is found. Above it there are pores that let the water to go down. These pores forms saturated and unsaturated layers. These layers contain pores that the water flow through moving to the water table. These pores filter the water from impurities like sand and in our case, they are microplastics. As these pores become tiny and tiny, the water will be filtered more efficient. It happens when the layer above the water table and contain the pores made of mud and sand. These layers contain tiny pores, and the above section of these layers is the unsaturated layers. As water flow through it and go down to the saturated layer and the water table.