

Introduction -

"Alright I want to welcome everyone to the Splash Science Mobile Lab. You guys are going to have a really fun day today and we're going to have a fun day as well. Now I want you to imagine yourself at your favorite San Diego beach, suddenly you open your eyes."

"Excuse me, excuse me, I have to put up these signs."

"The beach is closed."

"Ahhh! Well you know the water just looks so inviting, so I think I'm just going to go out there."

"Oh! No wait, we have to conduct a scientific investigation about our estuaries."

"Does anyone know what an estuary is? Well, I will tell you. It is where fresh water which comes out from the rivers and the streams mixes with the ocean water which is what type of water? Salt water."

"What is this called? It is one of those six pack covers right? So what do we call this when people throw it on the ground? Litter."

"Alright so this is pollution, yes. So we are going to get to find out about that in our water quality station. We will learn about the 5 main types of pollutants that is affecting our watersheds."

Storm Drain Team -

"Who would like to read? Estuary water is an area of land where salt water meets with fresh water. Take your water bottle and pour it on the mountains, where does the water flow? Let's see, it's flowing to the ocean; lakes and rivers and eventually to the ocean. So if it rained over here and it had to go down to the ocean, which way would it go? Would it go this way? Would it go down this way? It would go down this way, right? And if you want you can sprinkle it on the

mountains also. Cars leak oil. Now let me know where all the pollution is going and how is it getting there? It's going to the ocean through Storm Drains. That's why they close the beach when it rains more than half an inch."

GIS Team -

"Come on in. take a seat behind a computer and put on a headset. You are going to listen to this recording and follow along with it. Now if you guys have questions, work together as a team. Once you hear it, give me thumbs up okay? One more thing, there is a volume control for this located on your headset."

Water Conservation Team -

"We are going to talk about water. Do we use water every day? We get most of our water from the Colorado River. Now, right here where that river's at, do you see it, looks like veins? Now an aqueduct, what is it transporting? Water. Some aqueducts are open, some are pipelines. How do we measure large amount of water? 1 acre foot = 326,000 gallons. 2 acre feet is equivalent to an Olympic swimming pool. And this is enough water for how many people? 8 people correct. So, what are some things we can do to help out with that problem?"

"Use ocean water?"

"Use ocean water. Now that is a good idea. Take shorter showers. You spend 2.5 gallons per minute so in 15 minute you spend 37.5 gallons. A 20 minute shower would use 75 gallons."

Microscope Team -

"Say Macro Invertebrates. Good job you guys! Now as you could see different creatures that live in the water. So what are they? Rotifers. Rotifers in real life they don't have a color; they are transparent; they are clear and pretty much see-through. Number 2 is Paramecium that's right. They have their cilia spinning here. What do you think they are eating here? Algae. Who has owned a fish tank before? What happens if you have too much algae- what happens to the fish? They die."

So this fertilizer is going to end up in the ocean."

"There are water drains outside and it says do not dump; it leads to the ocean."

Water Quality Team-

"Now what kind of water we have flowing into the rivers? What do you think? Fresh water. This is a refractometer and we are going to use these to test the salt. What we are going to do, I'm going to hand out these to you guys, you are going to put 3 drops of water in the blue prism glass. We will close the flap and go out to the sun and point it directly at the sun. So the more white that's there, the more salt. I'm going to pick 3 volunteers- 1, 2, and 3. Salt water is between 30-50%. Now we are going to flip our papers over to the next page. Grab those fertilizers and put it up next to neutralists. What do you walk on to get to the water? Sand. Sand is a type of sediment. Sand is just erosions of rocks. Now this one is left after a hurricane."

Life Around the Estuary Team-

"Now this environment is where this comes in right? It mixes. This mixed water is known as brackish water. Everyone say brackish water! Brackish water. Mudflats are a compound word so those are two words put together so what you think mudflats could be? It is flat mud. They burrow in and live in the mud. They live there and they feed and break down that pollution.

Here is a smoothie recipe for you: a tiny little pinch of dirt, then a tiny little drop of motor oil from a car, and then a tiny little drop of pesticides poison, and for flavor, a little pinch of animal waste. Would you drink that?"

"Ewww, no!"

"So instead of reading the instructions on the ant poison, we have poured a whole bottle of that poison on our lawn, and then the next day it rains. Where is all the poison going now? To the storm drains and straight to the ocean. If you were home and you want to water the plants but first you put salt on them and then watered them what will happen, any guesses? Hmmm. B is correct."