**Making Agar Plates**

***Materials:***

* 1 bottle agar
* 1 tube of sugar solution
* 1 tube of beef bouillon solution
* 4 petri dishes
* Cotton swabs
* parafilm
* marker and labels
* optional: hand sanitizer and a sterile plastic Pasteur pipette
* Needed but not included: microwave oven

***Procedure:***

1. Remove the cap from the bottle of agar. Microwave it until it melts. To keep it from boiling over, microwave it for 30 seconds, then remove it (carefully, with an oven mitt or paper towel) and swirl it around. Repeat until it is fully liquid.
2. Pour bouillon and sugar solution into the agar in the glass bottle. Swirl the mixture around until it’s mixed. Let it sit for a few minutes for the bubbles to settle out.
3. Only remove the petri dish lid when you are pouring the media or else bacteria in the air could cause contamination. Pour the media into clean containers halfway. Loosely cover the containers with lids and allow them to cool completely until they reach a jello-like consistency.
	1. From now on, when working with the containers take care to have the lids on loosely whenever possible. This will prevent contaminants from the air from entering. Take care not to touch the media!
	2. You could further keep the containers in individual zip-lock bags when you’re storing them.
4. Spread the bacteria all over the media via a cotton swab. Take care to do this gently and try your best to not break the agar (but if it does, it isn’t a big deal).
	1. If you would like to add a fun twist at this point, try adding a bit of hand sanitizer only in the center of the container. As the bacteria around start to grow, see if anything at this point grows as well.
5. Put the lids back on tightly and quickly once finished, and parafilm them closed around the rim opening. Keep them upside down, unless viewing, to prevent condensation, and use the marker to label each dish with its bacterial source. Place them in a warm area to promote bacterial growth.
	1. Once the bacteria is added, from now on, make sure to wash your hands each time you handle the containers and for safety purposes do not open the containers again.
6. Although your colonies and fungi are likely safe, for precaution, do not open your sealed containers. After your microbes have grown, write down your observations without opening, but by looking through the clear container. Take pictures and create a table to keep track of your observations. Once finished, dispose of the entire sealed container in the trash.
7. After you’ve made your observations of the microbes in your container, look online to learn more about them and what this could mean for the environments you obtained them from.