

Sample for creating a model water treatment plant

1. Use the small piece of screen mesh to remove any floating solid particles from the sample of dirty water.
2. Stir the cup of water with a craft stick for 1 minute to **aerate** the water.
3. To model the **flocculation** process, add 1/8 teaspoon alum to the water and stir gently with the craft stick for 20 seconds. The tip of a plastic spoon would be equivalent to the amount of alum needed.
4. Construct a **sedimentation tank** by placing a cut off 2-L bottle in the ring clamp attached to the ring stand. The capped spout should be facing down.
5. Place the screen mesh at the bottom of the open bottle and fill the bottle with approximately 5 cm of sand.
6. Add 2 cm of activated charcoal on top of the sand layer.
7. Place a beaker underneath the spout of the sedimentation tank
8. Pour the treated water into the sedimentation tank being sure NOT to allow the particles on the bottom of the cup (**sludge**) to pass out of the cup.
9. Open the bottle cap and allow water to pass through for 3 minutes.
10. Add 1 or 2 drops of decontaminant solution to the cup to simulate the final process of **bacteria removal**.