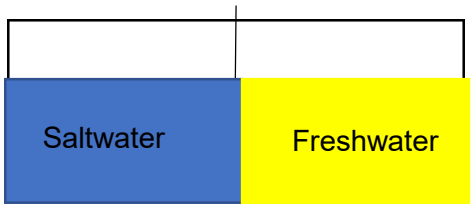
PUGET SOUND ESTUARIUM

Don't Be So Dense Answer Key

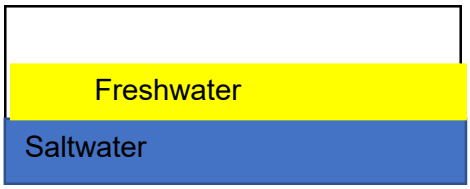
Name: _____ **Date:** _____

1. Use colored pencils to make a labeled diagram of the Density Flow Model set-up on the illustration provided below. Label the fluids: SALTWATER, FRESHWATER.



2. Predict what visible changes will be observed when the partition is removed between the freshwater and the salt water.
The freshwater will flow to the top and saltwater will sink to the bottom.

3. With colored pencils, draw illustrations below to represent your mental picture of how the fluids will appear 3 seconds, and then 30 seconds after the partition is removed. Label the fluids: SALTWATER, FRESHWATER.



3 seconds

30 seconds

4. Describe what happened. Was your hypothesis correct?
Yes, the freshwater went to the top of the water column and the saltwater when to the bottom. Upwelling occurred when the partition was removed so a little mixing happened. So a less dense saltwater is in the middle of the water column.

5. Explain why the fluids changed position.
The saltwater has a higher density than the freshwater so it sinks to the bottom of the water column pushing the freshwater to the top. The saltwater with a lower salt concentration that was created in the upwelling is denser than freshwater but less dense then the high salt concentrated saltwater.