

Modeling Earth's Mantle Set Up:

Principle Investigator: Fill up your tub to the designated line(s). Place in the middle of your group's table.

Materials Manager and Maintenance Director: Using the two tubes place ONE drop of food coloring (different colors for each tube) in the tube. Carefully fill up the tubes—one with COLD water (ice water station) and the other with HOT water (see your teacher) ALL THE WAY TO THE TOP. Place thumb over the top and hold until ready for simulation.

COP: Retrieve paper towels for group (for any spills and clean-up).



Modeling Earth's Mantle Procedure:

- 1) MM and MD: **VERY CAREFULLY and SLOWLY—TRY NOT TO DISRUPT THE WATER (no shaking/waves)**, Carefully place the “tubes” sideways in the opposite corners of the tub. Slowly remove your thumbs and take your hands out of the water, leaving the tubes on their sides in the water.
- 2) Begin to observe from looking through the side and from the top.
- 3) Record observations: What is the hot water doing? What is the cold water doing? Why do you think this is happening?
- 4) Draw a diagram of your simulation on your Mantle Simulation Page.
- 5) Label your drawing so that if someone who did not see the simulation can understand how the warm water moved and how the cold water moved.
- 6) Answer the questions that are on the back your Mantle Simulation Page. Be ready to discuss and present to the class.

