

Name: _____ Date: _____ Class: _____

Student Worksheet

Part 2: Properties of Fluids: Water in a Tube

Safety

Glass tubes may break. Broken tubes are a cutting hazard. Clean up all broken fibers carefully for the splinters are difficult to see and can easily become attached to clothing and hands.

Materials for each group of 2 students

- clear reaction tray
- water
- food coloring
- 2 narrow capillary tubes
- Erlenmeyer flask
(to contain capillary tubes)
- plastic metric ruler
- watch/clock with a second hand or a stop watch

Procedure

1. Take the clear tray and fill each well halfway with water.
2. Add one drop of food coloring to each well of water.
3. Place a narrow tube with one end in the colored water. What is the best way to hold the glass tube so that the water travels upward just like it does in plant stems? Observe what happens.
4. Without taking the tube out of the fluid, once every minute for 5 minutes measure (in millimeters) how far up the tube the fluid moves. Measure from the surface of the liquid to the meniscus inside the tube. Record these measurements in the table in the *Record Your Observations* section on the next page.

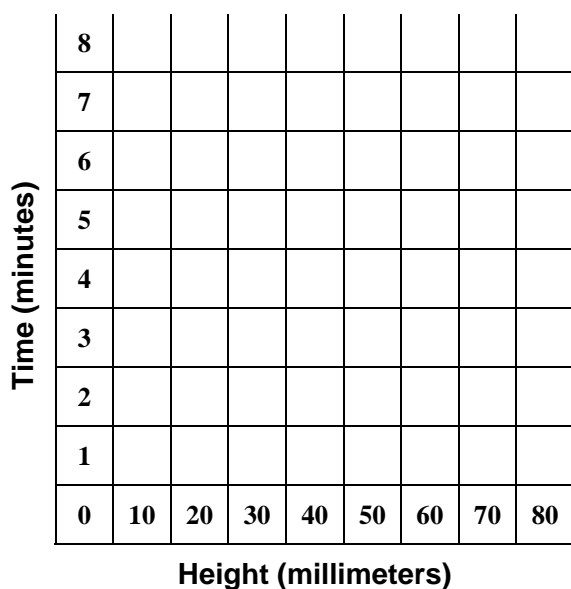


- On the graph in the *Analyze the Results* section, plot the data you recorded from your observations. Is the graph linear or nonlinear? Why do you think this is so? Answer these questions in the *Draw Conclusions* section.
- Take the narrow tube out of the fluid. What happens to the fluid in the tube? Why do you think this happens? Answer these questions in the *Draw Conclusions* section as well.

Record Your Observations

Time (minutes)	Height (millimeters)
1	
2	
3	
4	
5	

Analyze the Results



Draw Conclusions

- What is the best way to hold the glass tube so that the water travels upwards?

- Is the graph linear or nonlinear? Why do you think this is so?

3. What happens to the fluid in the tube when you remove the tube from the fluid? Why do you think this happens?
