**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_**

**Activity: Cohesion and Adhesion**

Investigate the cohesive and adhesive properties of water.

[](http://tsi.dcdcgroup.org/media_colorbox/866/media_original/en%22%20%5Co%20%22)

**[Fig. 2.1.](http://tsi.dcdcgroup.org/media_colorbox/866/media_original/en%22%20%5Co%20%22)** [Styrofoam holder for capillary tubes. For accurate comparisons, make sure that the tubes all stay vertical and at the same water depth while in the holder.](http://tsi.dcdcgroup.org/media_colorbox/866/media_original/en%22%20%5Co%20%22)

Table 1. Observations and data of water activities.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ACTIVITY** | **PREDICTION** | **OBSERVATION** | **SKETCH** | **HYPOTHESIS FOR WATER BEHAVIOR** |
| Which of the three capillary tubes will create the tallest column of water? |  |  |  |  |
| How many drops of water can you fit on the surface of a penny without the water spilling over? |  |  |  |  |
| Can you poke the water on the penny without spilling it? |  |  |  |  |
| Can you stick two plastic rulers together using only water? |  |  |  |  |
| A paper clip is denser than water. Can you prevent one from sinking? |  |  |  |  |

*Answer the questions below in complete sentences.*

**Activity Questions:**

1. How did adhesion and cohesion of water influence the behavior of water in the activities?
2. Describe two examples of adhesion ad two examples of cohesion that you have observed outside of science class.

 Adhesion examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Cohesion examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What factors contributed to being able to pile a large number of drops on a penny without spilling?
2. What procedures made it easier to float the paper clip on water? Why do you think these procedures mad floating the paper clip easier?
3. How did the addition of soap to water change the properties of the water? Why do you think this happened?
4. What might happen to the height of the water columns in the capillary tubes if you added soap to the water?
5. How would an organism like a water strider, which walks on water, be affected by the runoff of soap into its environment?