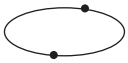
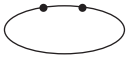
FLINN SCIENTIFIC

Name_____

Investigating the Rattleback Bowl Student Worksheet

Data Table 1

	Observations
Initial Bowl Spin	
First Clay Position 	
Second Clay Position 	
Clay on Same Side 	
The "Best" Rattleback	
Additional Experiments	

1. According to your observations, what conditions are necessary for the rattleback to switch rotational directions? Is an initial wobble necessary for the rattleback to reverse directions?

2. Describe the motion of the rattleback as it changes direction.

3. What conditions were required for the "best" rattleback?

4. From your experiments and observations, develop a hypothesis to explain the bowl's change in rotational direction.

5. Would the same behavior occur with a completely spherical bowl? Why or why not?

Name_____

Investigating Surface Tension Student Worksheet

Data Table 2

	Observations
Part 1, Tap Water	Total amount of water added:
Part 2, Soapy Water	Total amount of water added:

1. Define the term surface tension.

2. How did the tap water in the beaker react as more weight (water) was added to the bowl?

3. How did the soapy water in the beaker react as weight was added to the bowl?

4. Which liquid, tap water or soapy water, has stronger surface tension? Explain how surface tension helps to support the bowl.