

Predictions:

1. How do you think each of the three fluids will compare to each other when they flow down the wax paper? (1/2 point)

2. How do you think adding sand to the shampoo and corn syrup will affect how these fluids flow down the wax paper? (1/2 point)

3. How do you think heating the shampoo and corn syrup will affect how each flows down the wax paper? (1/2 point)

Designing the Experiment:

1. What is the purpose of this set of experiments?

2. Why does every team need to do their experiment the same?

3. How will the experiment be carried out by all the groups?

4. Which materials will your team be testing? **Circle** the appropriate letter. (1/4 point)
 - a. Room-temperature water versus room-temperature corn syrup versus room-temperature shampoo
 - b. Room-temperature corn syrup versus heated corn syrup
 - c. Room-temperature shampoo versus heated shampoo
 - d. Room-temperature corn syrup versus room-temperature corn syrup mixed with sand
 - e. Room-temperature shampoo versus room-temperature shampoo mixed with sand

Group Data: Only group a will need all three rows. (7 points)

Liquid: Indicate whether it is room temperature, heated, or mixed with sand	Trial 1	Trial 2	Trial 3	Average	Other observations

Class Data: (2 points)

Liquid	Room temperature liquid				Heated liquid				Liquid with sand			
	Trial 1	Trial 2	Trial 3	Average	Trial 1	Trial 2	Trial 3	Average	Trial 1	Trial 2	Trial 3	Average
Corn syrup	a.											
	a.											
	b.				b.							
	d.								d.			
Shampoo	a.											
	a.											
	c.				c.							
	e.								e.			
Water	a.											
	a.											

Results:

- How consistent was the class data for **each** experimental set up? Discuss all three liquids: water, corn syrup, and shampoo. (3 points)

- What **trends** did you see in the class data?
 - How did the three room temperature liquids compare?
 - How did adding sand to the two liquids change how they flowed?
 - How did heating the two liquids change how they flowed? (5 points)

Discussion:

- How might the viscosity of lava affect the shape of a volcano? Think carefully about this lab and the one with the wax before you answer.
 - What would be the shape of a volcano formed from fast-flowing lava? (1/2 point)

 - What would be the shape of a volcano formed from viscous, slow-moving lava? (1/2 point)