Name

# **Practice Problems- Unit 2B**

# **Particle Models, Explanations & Experimental Design**

1. Draw a particle diagram to represent the relative movement of solids, liquids, and gasses.

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1. When do scientists revise or change their models?
2. Explain how liquid can be drawn up a straw (or *“sucked”* up a straw).
3. Why is it hard to drink with a straw that is cracked? Draw a particle model to help support your explanation.
4. Why is it hard to drink from a very, very long straw? Draw particle model to help support your explanation.
5. Why couldn’t your teacher drink from a sealed container with the straw and stopper? Draw particle model to help support your explanation.

1. A lab group completed Pop Can Challenge Part 1, however their can did not crush. What could explain this? (List a least three different scenarios)
2. In Pop Can Challenge Part 2 there were many groups that had a variable that did not crush. List three different variables that created no crushing. Explain why each example did not crush.
3. Complete the chart below:

|  |  |  |
| --- | --- | --- |
| Experimental Design | Definition | Link to Pop Can Challenge |
| Independent Variable |  |  |
| Dependent Variable |  |  |
| Control |  |  |
| Constant |  |  |
| Results- Can be either:QualitativeQuantitative |  |  |

1. What is the difference between a hypothesis and a claim?
2. What is the difference between law and a theory?
3. Summarize the kinetic molecular theory