Modeling the Jar and the Bag

Name _____ Date _____

Purpose: To experiment with a pressure-related event and to develop the best model for explaining what happens.

Materials

- Two plastic sandwich bags
- One wide-mouthed glass jar
- A strong, thick rubber band

Part One:

1. Turn the bag upside down over the mouth of the jar and blow a little air into the bag so that it stays inflated over the jar.
2. Using the rubber band, seal the bag against the jar so that it is airtight.
3. Now try to push the bag into the jar (without tearing it).
4. Now answer the following question.

Why do you think the bag did what it did when you tried to push it in? In the space below, draw a model of what you think is going on. Label the parts of your model.

Explain your model above and why (you think) what happened occurred. Be sure to include both the "what" (your observations) and the "why" (your interpretations). Support your explanation by using evidence collected during your observations.

Part Two:

1. Disassemble the first bag from the jar. Place the second plastic bag inside the wide-mouthed jar and let the edge of the bag hang over the jar rim.
2. Seal it with the rubber band so that the bag is airtight against the jar. Try to take the bag out of the jar (without tearing it).
3. Now answer the questions below.

Why do you think the bag did what it did when you tried to pull it out? In the space below, draw a model of what you think is going on. Label the parts of your model.

Explain your model above and why (you think) what happened occurred. Be sure to include both the "what" (your observations) and the "why" (your interpretations). Support your explanation by using evidence collected during your observations.

Conclusions:

1. What similarities do you notice between your first and second models?

2. What differences do you notice between your first and second models?

3. What are some possible non-obvious causes of what you observed?