In Class Activity – Does Air have Mass?

Name _____ Name _____

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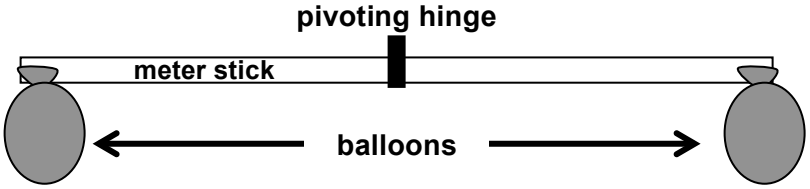
The professor will perform a simple demonstration starting with two balloons balanced on either side of a meter stick as such:



1. The professor will very carefully make a small slit in one of the balloons near the neck so that the air can escape, but the balloon will not explode. What immediately happens when the professor releases the wounded balloon? Why does this happen?

2. After all of the air has been allowed to escape the balloon and the system has come to equilibrium, draw a sketch in the space below illustrating the new relationship between the balloons. Be sure to label which balloon is still full of air, and which is empty.

3. Why are the balloons no longer balanced?

4. Based on your answers to the three questions above, does air have mass? Cite specific evidence from the demonstration to support your answer.