

1. **Problem/Purpose:** Can we determine if air has weight?
2. **Background Information:** Mass is the amount of matter in an object. Weight is the effect of gravity on things with mass. For our purposes here on Earth, mass and weight are going to typically be the same. For instance, if I weigh 100 kg, that would be my mass, and on Earth that would also be my weight.

Where things get different is when gravity changes. For instance, Jupiter has a gravity that is 2 ½ times as strong as that on Earth. So on Jupiter, my mass would still be the same—100 kg, because I still have the same amount of matter (or “stuff”) that makes me up. But since force of gravity is 2 ½ times stronger, my weight would be 250 kg.

3. **Hypothesis:** (make sure this is in an If... then... because... statement).

4. **Materials:**

As you think of how you are going to design an experiment to test whether air has weight, make a list of any materials you are going to need in order to do the experiment.

5. **Procedures:** For this step, you need to write out a numbered list of steps that a person would need to do in order to conduct the experiment. You should write it in enough detail that somebody else could read it and be able to successfully do the experiment.