

## Movement of Air in the Atmosphere

Name \_\_\_\_\_

## Part 1: Does air have mass?

**Hypothesis:** If I measure the mass of an empty balloon and then measure the mass of the balloon after blowing air into the balloon, then the mass will increase or decrease (circle one).

**Materials:** Balloon, balance, you

### Procedure:

1. Use a balance to find the mass of an empty balloon.
2. Blow up balloons and tie the neck.
3. Find the mass of the inflated balloon.

**Data:**

Mass of balloon: \_\_\_\_\_ g

Mass of balloon and air: \_\_\_\_\_ g

Mass of air: \_\_\_\_\_ g

### Analysis:

After inflating the balloon with air, was there a change in the mass?

**Conclusion:** Write a conclusion with 2-3 sentences below explaining why air has or does not have mass and how this experiment shows that. Also, state whether your hypothesis was accepted or rejected.

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## Part 2: Pressure

If air has mass, it also must have density and pressure.

Pressure is the force pushing on an area or surface.

Pressure = force/area

If air has mass, it also must have density and pressure.

Density is the measure of the closeness of the particles of a substance.

Density = mass / volume

### Procedure:

- Apply pressure to the inflated balloon from part 1.
- Draw a diagram before and after pressure was applied to the balloon.

Before pressure	After Pressure

- Describe the motion of the air inside the balloon below.