

**Project FOCUS
Best Lessons
FOURTH GRADE**

Title of Lesson: A Property of Air

Theme: Physical Science

Unit Number: 2 **Unit Title:** Weather

Performance Standard(s) Covered (enter codes):

S4E4

Enduring Standards (objectives of activity):

Habits of Mind

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

Content (key terms and topics covered):

Matter, Air Pressure

Learning Activity (Description in Steps)

Abstract (limit 100 characters): Students will use this lesson to determine whether or not air is matter.

Details: Begin by explaining what matter is - anything that takes up space and has weight. Use the scissors to cut the string into 3 equal pieces. Tie one piece to the middle of the ruler. Blow up the balloons to approximately equal sizes. Seal the balloons and tie a piece of string to the neck of each balloon. Tie a balloon to each end of the ruler and hold up the middle string so that the ruler hangs from it. Move the middle string until the ends are balanced. Use a straight pin to pop one of the balloons and observe what happens to the ruler. (Expected results: students observe the ruler move when the balloon is popped. They should then infer that even though air cannot be seen, it has mass.) Possible discussion questions include: What happened when the balloon popped? What property of air caused what you observed? What caused the balloon to inflate? (air pressure on the sides of the balloon). What other things is air pressure responsible for? (keeping tires inflated, etc.)

Materials Needed (Type and Quantity):

Ruler

80 cm length of string

2 round balloons (same size)

Safety goggles
Straight pin

Notes and Tips (suggested changes, alternative methods, cautions):

Safety goggles can be worn during the experiment to emphasize that scientists are always safe.

Sources/References:

- 1)**
- 2)**
- 3)**