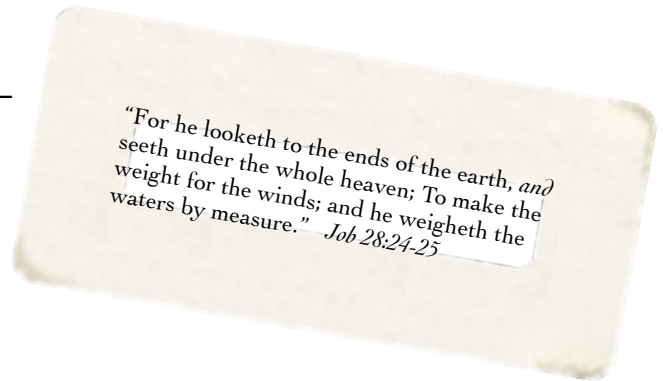


Science Project, Wk. 18 -- Tip (#139)

Name: _____

Purpose: To determine if air has weight.

Materials: modeling clay, yardstick, 9-inch balloon, string,
masking tape, 2-foot thick cord, straight pin



Procedure:

- Place a piece of clay on one end of the yardstick.
 - Inflate the balloon to its maximum size.
 - Use the string to attach the inflated balloon to the end of the yardstick without the clay.
 - Place a strip of tape about 1 inch long somewhere near the neck of the inflated balloon.
 - Use the thick cord to suspend the yardstick. Move the cord so that the stick balances. (Be patient!)
 - Attach the top end of the cord to the side of a table or door frame so that the yardstick hangs freely.
 - Slowly insert the pin through the strip of tape and into the balloon.
- (The balloon should not burst! Remove the pin, and allow the air to slowly escape from the balloon.)

H ypothesis (CIRCLE):	As air leaves the balloon, the side of the stick with the balloon will		
	FALL	RISE	NOT MOVE

R esult (CIRCLE):	As air left the balloon, the side of the stick with the balloon		
	FELL	ROSE	DID NOT MOVE

Conclusion:

We don't feel like air is pushing down on us, but air does, indeed, have weight! As the air left the balloon, the side of the stick with the balloon became lighter. Now, you're probably wondering: If air has weight, why does my scale at home say zero before anything is added to it? The answer lies in the fact that scales can be set up to weigh only what is placed on them--not the weight of the air resting upon them! Earth is surrounded by an ocean of air, which weighs so much that every square inch of the Earth supports about 14.7 pounds of air (1 square centimeter supports 1 kg of air). What's that mean? A column of air one square inch in size from sea level to the top of the atmosphere above Earth would weight 14.7 pounds!