



Challenger's Morning Science Segment:

March 13, 2017

Topic: Gravity and Air Pressure

Build: The "no leak" bottle

Credit:

The Book of Totally Irresponsible Science by Sean Connolly

Materials Needed:

Empty clear plastic bottle with screw-on cap / water / thumbtack / permanent marker

Trick a friend with the "no leak" bottle: First, use a thumbtack and poke many tiny holes around the lower half of the empty clear plastic bottle. Next, in bold letters write, "DO NOT OPEN" on the face of the bottle, creating irresistible temptation. Fill the bottle with as much water as you can and screw on the cap. Even with all the holes punched into the bottle, the water will stay in the bottle once the cap is on tight. Leave the bottle in a highly visible place, like a kitchen counter, where someone will be tempted to open the bottle that clearly warns, "DO NOT OPEN." When they unscrew the cap, water will come pouring out of the holes! The only way to stop the water that is now making a wet mess will be to screw the cap back on! A fun science prank!

The science [credit: *The Book of Totally Irresponsible Science* by Sean Connolly]:

Gravity and air pressure work together to make this experiment such a fun trick. Even with the tiny holes, air pressure needs to work as a team with gravity to force the water downward. Once the cap is removed, the inward air-pressure force is overcome by the combination of the entering air and gravity working together. The result is water squirting from the tiny holes and surprising the friend who couldn't resist the temptation of "DO NOT OPEN."

What's next at Challenger: Challenger is hosting a Space Station 5K Race and Open House on Saturday, March 25, 2017. Sign up today to navigate thru the thrill of launching to space in this Bangor road race! FMI- www.astronaut.org