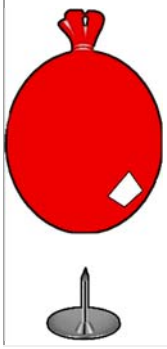
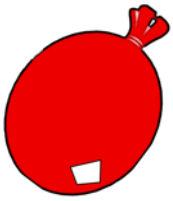
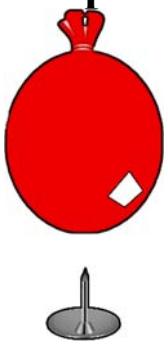
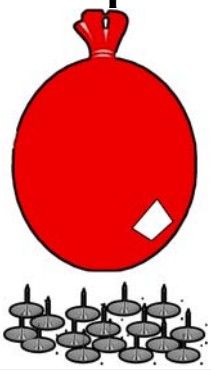
EXPERIMENT: "TACKY BALLOON"



What do you think will happen if you push a balloon against a tack?

HYPOTHESIS:_____

_____

Materials Needed	● Two Balloons ● 20 Tacks
Step 1 	**Blow up one balloon and tie a knot at the top.**
Step 2 	**Place a single tack on a table and press the balloon down onto it. What happened?** _____ _____
Step 3 	**Now place about 20 tacks on the table and press the balloon down onto them using the same amount of force as in Step 2. What happened?** _____ _____

For the accompanying video, additional experiments, and to see our curricula offerings, go to:

Experiment.ExplorationEducation.com

Conclusion

Why do you think the balloon popped with just one tack, but didn't pop when there were twenty?

_____

_____

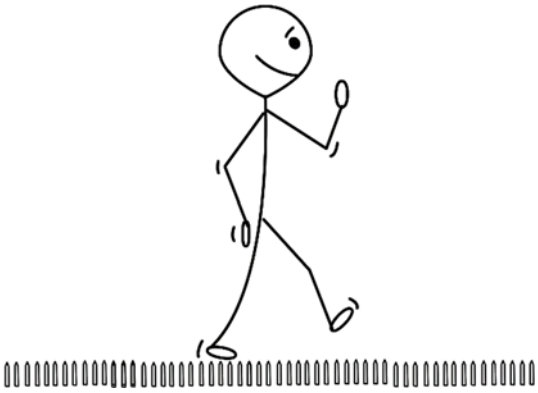
_____

_____

What Happened?

As you found out, the balloon popped when you pushed it down onto the point of one tack. But the second balloon didn't pop when you pushed down with the same amount of force on 20 tacks.

So lets say you were pushing down with 4 lbs of force. With one tack, you had 4 lbs of pressure on the tiny tip of the tack. If you put two tacks on the table, each tack would have 2 lbs of force pushing down (4 lbs divided by 2 = 2 lbs).



So with 20 tacks, you would have .2 lbs of force pushing down on each tack (4 lbs divided by 20). A balloon is strong enough to not pop with only .2 lbs of force pushing down on a tack.

This is the same reason why a person can walk across a bed of nails barefoot.