



LESSON: Friction & Invisible Forces

OBJECTIVE: To introduce the invisible force of friction



Materials

12" balloon, balloon pump, piece of cotton, pepper or carbon dust, 1 x white plate

Instructions

1. Inflate the balloon to 12"
2. Tie the end of the balloon into a knot
3. Use the cotton to rub over the balloon and create static
4. Sprinkle some pepper or carbon onto the plate
5. Hover the balloon over the particles to demonstrate the particles being attracted through the air
6. Open the tap to create a gentle stream of water
7. Hold the balloon close to the water stream and demonstrate the deflection of water

Conclusion

When you rub the cotton over the balloon, you are effectively rubbing electrons off the cotton onto the balloon. The balloon now has more negatively charged ions than positive, which gives the balloon a negative charge. When you hold a negatively charged item close to an item which is less negative, i.e. positively or neutral charge, the materials will attract. The dust and water are neutrally charged, which is why they are attracted to the negatively charged balloon.

If you gain enough negative charge – you could get the balloon to hold onto the ceiling or wall. The more the negative charge in the balloon, the longer it will hold.

TRY: Why not try charging it to various levels by rubbing the balloon with cotton for different amounts of times and time how long the balloon remains attracted to the ceiling or wall?

This experiment best works in low humidity; hence, a dry day would be perfect.

Need some free balloons for your lessons? Contact us on info@partysafe.eu. Please keep the fun in balloons and dispose of them correctly. For more information and educational resources, please visit www.partysafe.eu.