

Rock-it Science Observations For Winter Lessons 2010

Pop Guns (Younger Groups)

The students had a stick with a piece of leather held onto one end by a washer and a screw. The leather fit tightly into a piece of PVC pipe and a cork also fit tightly into the other end.

They might have observed:

- If the stick is pushed forward slowly, the cork does not pop out.
- If the stick is pushed forward very quickly, the cork pops out with a bang!
- If the stick starts near the bottom, the bang has a low pitch.
- If the stick starts near the cork, the bang has a high pitch.
- If the cork is put in very tight, the bang is very loud.
- If the cork is put in less tight, the bang is softer.
- Putting water on the leather makes a better seal.
- Wet leather swells up.
- If the leather forms a cup shape, it compresses the air inside the tube better.
- If the leather is wrinkled, or is off-center, it doesn't work very well.
- Two pieces of leather work better than one.
- The cork can easily reach the ceiling (14 feet) by itself.
- If string or ribbon is glued to the cork like a tail, it can only go about half as far.
- If you remove the cork and blow across the top of the tube, it sounds a clear tone.
- If the stick is pushed in while blowing, the tone gets higher in pitch.