Demonstrations selected by the Irish team

Waves and sound

Sounds nuts
Spinning a nut in a balloon creates cosmic sound effects

You will need....
✓ A balloon
✓ A nut from a bolt of any size

Follow these steps:
1. Place the nut in the balloon.
2. Blow up the balloon and tie the neck.
3. With a swirling movement roll the nut around inside the balloon.

So what happened?
The frequency depends on the rate of spinning: fast: high pitched; slow: low pitched.

What next?
1. Experiment with different sized balloons, different objects such as coins and mints with holes.

Background:
Due to centripetal force the nut spins around the inside of the balloon. As it rolls the six sides of the nut strike the wall of the balloon and produce a note.