

As the days get shorter, the leaves are turning; signs of fall are all around us. I do not know about you, but I hear those oh so eerie and frightening sounds when I go for a walk outside at night; the creaking trees, the crunching of the leaves underfoot, the owls hooting above you, screams from beyond... It is like something out of a horror movie sometimes! Surrounded by all of these sounds makes me wondering if I am really hearing the correct thing and how are sounds produced? Are my ears playing tricks on me? Let's investigate further!

Remember to always ask an adult before doing any science experiment.

Materials

1 balloon with a hex nut
1 balloon with a marble
1 balloon with 1¢ inside
1 balloon with 5¢ inside
1 balloon with 10¢ inside
1 balloon with 25¢ inside
marker
one set of good listening ears

Procedure

1. Blow up one balloon and add a 1¢ piece inside. Make sure you blow it up first so you do not accidentally swallow the coin/nut.
2. Label, tie and set aside.
3. Repeat this for the 5¢, 10¢, and 25¢, marble and hex nut.
4. Take one of the labeled balloons.
5. Hold the balloon between both of your hands – one on top and one on the bottom.
6. Start moving the balloon in little circles so that the coin runs around the inside wall of the balloon. This may take some practice.
7. When you think the coin is going as fast as it can, stop moving your hands.
8. Listen.
9. Repeat for the other objects.
10. Is there any difference?
11. What is going on?

Explanation

No, you did not trap a monster in the balloon! The hex nut you placed inside the balloon has six sides, and the flat edges cause the hex nut to bounce and vibrate inside the balloon. You hear a screaming sound because the sides of the hex nut are vibrating against the wall of the balloon as you spin it around.

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