

Screaming Balloons

S4P2

Objective: Observe and investigate the science of sound and how it can be made using a balloon and a hex nut.

Materials:

- Clear latex balloons
- $\frac{1}{4}$ hex nuts



Procedure:

1. Push the hex nut through the opening of the balloon making sure that it goes all the way into the balloon.
2. Blow up the balloon and tie off the end.
3. Hold the tied end of the balloon in the palm of your hand gripping it as if you were holding a bowling ball.
4. Holding the balloon palm down, begin to move it in a circular motion. Continue to swirl it until the hex begins to roll around the balloon.
5. Listen to the sound it begins to make as the hex starts rolling around inside of the balloon.
6. After the hex is fully spinning, use the hand that is not gripping the balloon to steady the balloon, and see how long the hex continues to spin after the balloon is not being moved any longer.

Question:

- Why wouldn't this experiment work if a marble were used in place of the hex nut?
- What feature on the hex nut makes the balloon scream?