WEEK 6:

SUPER SOUND

DID YOU HEAR THAT? GET READY TO OPEN YOUR EARS AS WE LEARN ABOUT SOUND!

From music on the radio to footsteps on the ground, sounds are everywhere! Sounds are made when something vibrates, or shakes back and forth, and sends out waves of energy. How strong or weak a vibration is will affect how loud the sound is. How fast or slow the sound waves are will affect how high or low the sound is. We can't see these waves of energy, but we can sense them with our ears. Some things make sounds on purpose, like the sounds animals make to communicate with each other and the musical instruments people play to create songs. Other things, like rain or a slamming door, unintentionally make sounds as different objects touch each other. No matter what creates the sound, different sounds help us understand and interact with the world around us!

DAY 1: A RUBBER BAND "BAND"

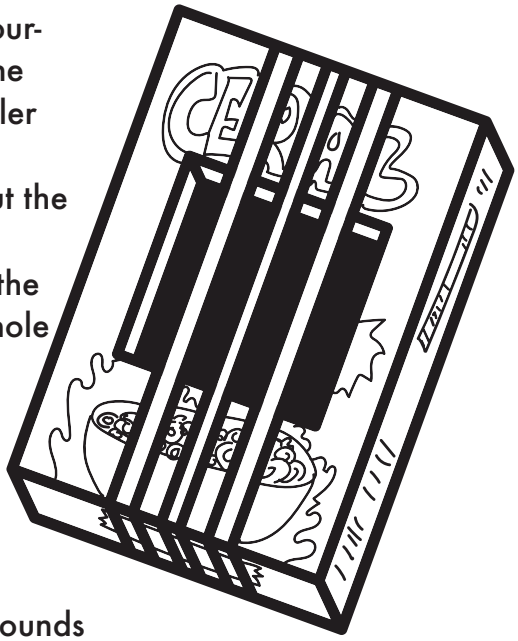
Musical instruments make sound by producing vibrations. The vibrations create waves of sound in different speeds and pitches that combine to form music. Acoustic guitars have strings that produce these vibrations. In addition to how tight the strings are, how thick they are affects the type of sounds made. Thinner strings vibrate faster and produce a higher pitch while thicker strings vibrate more slowly and make a lower pitch. When a musician plucks the strings, they create vibrations that are amplified, or made louder, when they vibrate through the hollow body of the guitar. Let's make a simple guitar!

Before you start, you should have:

- A cereal box or other cardboard food box
- An X-acto knife or scissors
- Three to five large rubber bands of varying thicknesses. They should be able to wrap around the box and not be too tight.
- Heavy-duty tape like duct tape
- Ruler
- An adult
- A pen or pencil

Get started:

1. Tape the cereal box closed.
2. Using a pencil or pen, mark a four-inch square hole in the middle of the cereal box. If you are using a smaller box, use a three-inch square hole.
3. With the help of an adult, cut out the square.
4. Place the rubber bands around the box. They should all fit across the hole with some space between them.
5. Tape the rubber bands in place at the top and bottom of the box.
6. Test out your new box guitar. Pluck the different rubber bands and listen for the different pitches.
7. Create a simple song using the sounds created by the rubber bands and share it with someone!



Keep exploring!

- Try making instruments that create vibrations in different ways like a drum, a shaker or cymbals.
- Ask a partner to play an instrument with you.
- Do an internet search for other home-made instrument designs and make one.
- Check out the museum's "Tinker with Tom" videos to learn how to create some unique noise makers:

https://www.facebook.com/SamNobleMuseum/videos/2946834352213961

https://www.facebook.com/SamNobleMuseum/videos/262613168359316

What did you discover?

Upload a photo or video and tag the Sam Noble Museum on Instagram or Facebook. You can also use the hashtags **#samnoblehome** and **#summerexplorers** to share!

More information on on instruments:

https://www.dkfindout.com/us/science/sound/making-music/

https://www.bbc.co.uk/teach/class-clips-video/music–science-ks2-how-string-instruments-make-sound/zfmd7nb

Sam Noble Home | STEM Activities

For more activities visit samnoblemuseum.ou.edu/samnoblehome