

Pluck the Stick

Every sound is made when something vibrates. Sometimes it's the skin stretched across a drum, sometimes it's a plucked string. By fine tuning the amount of what is vibrated, you can make notes of different pitches.

At this station, you'll adjust the pitch of a simple musical instrument by changing the amount of freely moving wood that gets plucked.

Procedure

1. Press a stick against your desk so that 20 cm hangs off the edge.
2. Press down on the stick and quickly release.
3. Listen to the sound it creates.
4. Repeat Steps 1–3 at 18 cm.
5. Repeat Steps 1–3 at 16 cm.
6. Repeat Steps 1–3 at 14 cm.
7. Repeat Steps 1–3 at 12 cm.

Turn and Talk

Think about it. How does this station work? Discuss these questions with a partner.

What happens to sound as you change the length of the ruler that's hanging off the table? What would you predict would happen if 25 or more centimeters were hanging off the edge of the table?

At which length did the stick create the sound with the highest pitch? Why do you think this is?

Compare what you have observed at this station to a musical instrument. Explain your comparison.