The Pluck Lab

KIDS HANDS-ON + RECORD | RUN AT 9:55 | 30 MIN

The point

Pitch obeys rules you can find yourself: **thinner** and **tighter** both make the wiggle faster and the note HIGHER. Change one thing at a time and the rules appear.

Materials

- Rubber-band assortment (C-1 kit) — thick and thin
- One open box per child
- The worksheet 2×2 grid + a pencil
- Strong light, dark background behind the band

Steps

1. **SAFETY first, out loud:** a stretched band can snap and whip — never hold one closer than a foot from anyone's eyes.
2. Stretch ONE thick band over the box, fairly loose. PREDICT high or low — then pluck. Circle it in the grid.
3. Same thick band, pulled TIGHT. Predict, pluck, circle. (Only the stretch changed!)
4. Swap to a THIN band: loose, then tight. Predict, pluck, circle each.
5. Read the finished grid: which corner is highest of all? (thin + tight)
6. Last: pluck once and just WATCH the blur shrink as the note fades — quieter and quieter, but does the pitch drop?

> *Say: "You just found a law of music: make the wiggle faster — thinner, tighter — and the note climbs. Every guitar and piano is built on the rule you found with a rubber band."*

Fig. 1. Plucked Rubber Band in Oscillation.
(*A.* Wooden Box; *B.* Vibrating Band; *C.* Child's Hand withdrawing.)

TEACHER PREP

Sort thick/thin bands into two cups. Set a dark cloth behind the pluck station so the blur reads. Grids and pencils ready.

What to watch for

- Kids who change BOTH things at once — stop and redo: one change per pluck is the whole method
- The fading-note observation: amplitude dies, pitch holds

EXPECTED RESULT

The grid fills: loose-thick lowest, tight-thin highest. The blur narrows as loudness fades while pitch stays put — frequency and amplitude are different dials.