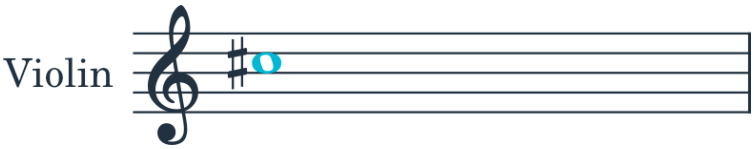
One Note, Moving Pitch

Hold one stopped note. Distinguish a change in pitch from a change in loudness.

1 · TEACHER SETS THE STOPPED NOTE

Place second finger on the A string. The stopped note is **C♯5 (MIDI 73)**, the reference pitch for this exercise.

$$f = 440 \times 2^{(73 - 69)/12} = \mathbf{554.365\ Hz}$$



12-TET equal temperament, A4 = 440 Hz. Do not move the finger; hold the bow steady. Listen for the clear ring of the open string reinforcing the fundamental.

2 · SUSTAIN AND VARY, THEN RETURN

Follow the four-beat timeline below. Beat 1: hold the note steady (reference). Beats 2–3: the teacher introduces slow, gentle left-hand pitch variation (illustrative frequency modulation — not standard vibrato technique). Beat 4: motion stops, pitch returns to the reference.

1	2	3	4
steady (reference)	teacher-led variation	teacher-led variation	return to reference

The goal is to return accurately to the reference pitch after variation. Tuning-beat comparisons of two separate sources are a different exercise (not this one).

3 · PITCH CHANGE VS. AMPLITUDE CHANGE

The two traces below represent different signal properties. **Pitch (frequency)** traces how fast the string vibrates. **Amplitude** traces how loudly it vibrates. They are independent: vibrating faster does not require vibrating louder.

Frequency variation



Pitch oscillates. Reference is **554.365 Hz**; lowest endpoint ~**546.417 Hz** (−25¢).

Amplitude variation only



Loudness oscillates. Pitch stays constant at **554.365 Hz** throughout.

Mini-key: changing amplitude alone is not the depicted pitch change. In the audio examples, the frequency-varying clip changes pitch; the amplitude-only clip does not.

Try it Hold C♯5 with the bow. On beats 3–4 the teacher gently rolls the finger pad to shift pitch — notice the waver. On the rest bar: predict where the pitch was. Re-bow and match it. Listen to the synthetic examples: which clip moves pitch?

Listen: scan or visit **tissimo.co/worksheets/violin-vibrato-reference-return**
Synthetic pure-tone audio — illustrative only

steady, vibrato-illus (pitch varies), amplitude-only (pitch constant).

Mini-key: Frequency variation = pitch change · Amplitude variation = loudness change, NOT pitch change · C♯5 = MIDI 73 = 554.365 Hz · −25 cents = 546.417 Hz · Audio:

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