Slide-a-Key: Teacher's Guide

Slide-a-Key is a free, printable papercraft transposer. Students cut it out and build it, then use it to move notes and chords from one key to another.

The reason to use it in class is that the tool makes the structure of transposition visible:

- The strips show that transposing is a fixed distance. Move the slider once, and every note shifts by the same number of boxes.
- The wheel shows that the twelve notes form a loop. Go far enough past B and you're back at C.

Students can find both patterns with their hands before anyone names them.

Why It Works in Class

- They make it. Cutting, folding, and fastening turn a worksheet into an object. Students own a tool they built themselves in a way they never own a handout, and the first time the notes line up, it's their own tool that worked.
- They discover it. Hold back the explanation. When a student notices that every note moved two boxes, they've found the idea of an interval for themselves, and people tend to remember what they work out for themselves longer than what they're told.
- They keep it. Let students write their name on the back, colour in the sharps, and take it home or keep it in an instrument case. A tool they reach for next week keeps teaching.

Choosing an Edition

Edition	Build time	Extra materials	Good for
Classic	About 5 minutes	None, though a ruler helps	A quick start; the slider stays lined up
Pocket	About 10 minutes	A brass paper fastener (split pin) for each student	A craft session; something to keep in a case or folder

Both teach the same core idea. Pick by the time and materials you have. Optional add-ons for each edition (free at slideakey.com) mark I, IV, V, and vi in any key. The add-ons highlight the main chords, which the transposer also finds, and they can find them on their own, without the slider.

Materials

- One printed sheet per student, at 100% scale (not "fit to page"): the print-check line at the bottom should measure 50 mm
- Scissors: the only cutting tool needed for any piece, windows included
- Pocket Edition only: one brass paper fastener per student. Its point makes the centre holes.
- Optional: cardstock or heavier paper, for sturdier copies
- Optional: a projector or interactive whiteboard, to show the class the Try Me at slideakey.com first

A Sample Lesson (about 45 minutes)

1. Show it first (optional, about 2 minutes). On a projector or interactive whiteboard, open the Try Me at slideakey.com. Drag the piano, tap a short tune on it, slide it to a new key, and tap it again. Don't explain yet: let the class see the notes line up and hear the tune move. No screen? Skip this step; the lesson works without it.
2. Build it (5–20 minutes). Students follow the assembly steps printed on the sheet.
3. Try the example (5 minutes). Everyone moves C up to D, as in the printed example, and checks that the main chords (I, IV, V, and vi), C, F, G, and Am, become D, G, A, and Bm.
4. Explore (10–15 minutes). Work through some of the discovery questions below in pairs or as a class. Have students predict each answer before they move the slider, then check.
5. Use it (10 minutes). Transpose the chords of a song the class knows into a new key, then play or sing it.
6. Keep it (2 minutes). Students sign the back of their Slide-a-Key and take it with them.

Discovery Questions

Ask these before explaining anything. The answers are for you.

Questions 1 to 4 suit any beginner. Questions 5 to 9 use chord names. Questions 10 and 11 need some theory, such as key signatures.

1. Count the boxes between C and D. Now count between F and G, and between G and A. What do you notice? They're all two boxes apart. Transposing moves every note by the same distance, called an interval. Each box is a semitone (half step), so two boxes make a whole step.

2. What happens if you slide the slider 12 boxes, or turn the inner wheel all the way round? You're back where you started, an octave higher. There are only twelve different note names, and they repeat.

3. Why do the strips have every note twice, when the wheel has each note only once? Because the notes form a loop. A strip needs the repeat so you don't run off the end; a circle loops back on its own.

4. Which boxes are shaded? Where have you seen that pattern before? The sharps and flats, which are the black keys on a piano. Just as on a piano, there are none between B and C, or between E and F. A ukulele or guitar string is a strip too: each fret, moving towards the body, is one box higher, and a capo moves the whole string up, like the slider.

5. Am becomes Bm. G7 becomes A7. What changes in a chord name, and what stays the same? Every note letter moves, even a bass note after a slash (G/B becomes A/C#). The "m", "7", and "sus" stay.

6. Without an add-on, how could you find the I, IV, V, and vi chords of D? Of any key? Move C up to D: C, F, G, and Am become D, G, A, and Bm. Every chord name changes, but the numerals don't: they're still I, IV, V, and vi. Moving C to any key turns them into that key's I, IV, V, and vi. The add-ons find the same chords and highlight them, so they're easier to see.

7. Move C up 5 boxes. Now, starting again, move C down 7 boxes. What do you get each time? F is the IV chord in C: why 4, when it's 5 boxes away? F both times, an octave apart, because 5 + 7 = 12. IV counts the letters of the C scale, C D E F, so F is the 4th. The boxes count every note, sharps included.

8. C is I in the key of C. What is it in the key of G? In F? IV in G, and V in F. A numeral names a chord's job in a key, not the chord itself. On the website, set the song to G and C appears as IV; with an add-on, put the green mark on G and C sits under the yellow.

9. Set the Chord Family Pocket to G and turn the whole Pocket so the green I points up. Do the same for D. What changed, and what didn't? The chord names changed, but the coloured marks stayed in the same places: the main chords make the same shape in every key. The Try Me's "Song key first" button shows this too.

10. For a song in A minor, put an add-on's blue mark on A (the left one, if it has two). Why is A labelled vi, when the song is in A minor? The numerals count from the green mark, which now sits on C. A minor and C major share all their notes, so a song in Am uses the same chords: Am, C, F, and G. Counted from A instead, the usual way to number a minor key, they're i (Am), III (C), VI (F), and VII (G): blue is i, green III, yellow VI, and red VII. The Try Me uses these numbers when you choose minor. Each add-on mark carries one label, so the marks keep the major-key numbers.

11. A piece of music has four sharps at the start. What key is it in, and how could you find out with Slide-a-Key? E major, or C# minor, which shares its notes (see question 10). Put each key's box over C in turn and count the shaded boxes over the white ones from C to B: G gives 1 sharp, D 2, A 3, and E 4. Each of those keys is 7 boxes above the last, so every step up 7 boxes adds one sharp, all the way to C# major's seven, though counting boxes stops at five (see Count the sharps or flats). Flats work the same way, 7 boxes down each time: F has 1, B♭ 2, E♭ 3, and A♭ 4.

Things to Watch For

- Windows, with scissors. Cut the window before the piece. Fold the sheet on the dotted line across the window (the ticks above and below keep the fold straight), cut both long sides from the fold to the corners, then fold the flap down and snip it off. The steps are printed in each window too.
- If the boxes don't line up, check the build, not the printer: a crooked cut (Classic) or an off-centre hole (Pocket). "Fit to page" only makes everything a little smaller.
- Spelling. Slide-a-Key gives the right sound, not always the textbook name: in F# major, written music calls F "E#". For chord charts, the strips' names are fine; in F, B♭, E♭, A♭, D♭, or G♭, read the flat names.
- Minor keys. With an add-on, put the blue mark (the left one, if it has two) on the key's own note (A for a song in Am). The marks then show Am, C, F, and G, the chords many minor-key songs use, pop songs especially. Older folk and traditional songs often use the key's own Dm and E (or Em) instead: put the green mark on A, read the roots, and ignore the blue. For how minor keys are numbered, see question 10.
- Which part is which. The fixed strip or outer ring is the key you're in now. The slider or inner disk is the key you're moving to.

Going Further

- Transposing instruments. Some instruments read music written in a different key from what sounds. To find the written note from the sounding (concert) note, move the slider up by:

Instrument	Move up by
B♭ trumpet, clarinet, or tenor sax	2 boxes
E♭ alto or baritone sax	9 boxes
F horn	7 boxes
Violin, piano, guitar, flute, or voice	No change

  Slide-a-Key gives note names only, not octaves. Guitar, tenor sax, and baritone sax also read an octave higher than they sound, so the written note may sit in a different octave.
- Guitar capo. With a capo on fret N, move down N boxes to find the chord shapes to play. Going the other way, move up N boxes to find what a shape will sound like.
- Guitar-friendly keys. Move C up to G (7 boxes). C, Am, F, and G become G, Em, C, and D, and every one is an easy open chord. It's one reason so many guitar songs are in G.
- Violin-friendly keys. The open strings are G, D, A, and E, so G, D, and A major are often the easiest keys for beginners. Move a song into one of them; a melody's notes move just like chords.
- Piano-friendly keys. The white keys are the unshaded boxes on the strips, and C major uses only those. G and F add one black key each. Move a song into C, G, or F for a beginner.

- Singing range. Ask the class to find a key that suits their voices, then transpose the song into it. If two keys suit, choose the one with fewer sharps or flats: it's usually easier to read and play. (On guitar or violin, the friendly keys above matter more.)
- Hear it. In the website's Try Me, tap a tune on the piano, slide it to a new key, and tap it again.
- Play together. The Try Me's ukulele plays chords: each box shows and plays its chord in the song's key. In pairs, each on their own phone, one student taps a tune on the piano and the other taps the chords on the ukulele.

  1. Pick a song they know. Start slow, with something like "Twinkle, Twinkle, Little Star" in C, with C, F, and G.

  2. Set the key. The tune player sets "Move it to" to the song's key, so the tune sits in one octave. The chord player drags the ukulele to it, or sets "Song is in". Song key first, on when the page opens, keeps the chords in the same places in every key.

  3. Count in and play. Count "1, 2, 3, 4" and change chords on the beat: keeping time together, by listening, is part of the lesson.

  4. Change key. Both move to a new key and play it again.

  On one phone, one player can do both: tap a chord on the ukulele, then play a bass line, or the tune if it fits, on the piano, even with one finger. With both in the same key, the piano's coloured boxes are the chords' own notes: play each under its chord, green under green, for a first bass line.
- Major or minor? In the Try Me, tap the major/minor button back and forth: each tap plays the chord, major then minor. Minor usually sounds darker or sadder. Then make it a game: one student taps while the others look away and call out which they hear.
- Spell a word. Words like CAB, BAD, FACE, and CABBAGE use only the letters A to G. Have students play one on an instrument, or tap it out on the Try Me's piano, then move it up 2 boxes and play it again: the same tune, but the letters no longer spell a word (FACE becomes G, B, D, F#). In the Try Me, they can also spell a word with keys, moving to each letter's key in turn: each key plays its chord. Who can find the longest word?
- Count the sharps or flats. Put the new key's box over C (over A, for a minor key), then count the shaded boxes over the white ones from C to B: that's how many sharps (or flats) the key has. G gives 1 sharp, D 2; F gives 1 flat, B♭ 2. It works up to 5, so if you count 5, check the key: F# and G♭ major have 6, and C# and C♭ have 7, because one or two of their notes are spelled on white keys (E# sounds as F). On the website, turn off the chord colours first; the readout shows the key signature to check against.
- Try an add-on on its own (optional, in class or at home). Leave out the slider or disk and use just the base and the add-on: the Chord Family Classic over the fixed strip (Classic), or the Chord Family Pocket on the base card without the disk (Pocket). Move it to a key and read off I, IV, V, and vi: an add-on can find the main chords by itself.

- **Make the boxes bigger.** Have students draw their own strips or wheel from scratch. If they get the pattern of shaded boxes right, they understand the chromatic scale.

Sharing

Slide-a-Key is free for classroom use. You may print and photocopy as many copies as you need, and share the files with other teachers. Please don't sell it. See **`LICENSE.txt`** for details (CC BY-NC 4.0). More at www.slideakey.com.

Questions, ideas, or corrections? hello@slideakey.com

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