

# DRONE ZITHERPERS

DIFFICULTY: 5

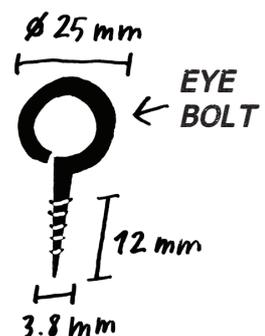


When drilling you need the help of an adult!

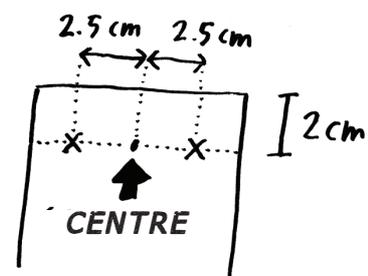


## POTREBUJEMO:

- ★ wooden board in the following dimensions: 10 cm (width) x 60 cm (length) x 2 cm (thickness)
- ★ fishing line with a thickness of about 0.7 mm (a thinner line will not give such a good sound and will break sooner)
- ★ 3 eye bolts with dimensions of 3.8 mm x 25 mm x 12 mm or similar
- ★ 3 panel pins 35mm in length
- ★ 1 large nail with a length of 100 mm
- ★ wood drill bit 3 mm in diameter
- ★ electric drill
- ★ hammer
- ★ pencil
- ★ a round tubular object that is at least 10 cm long and has a diameter of 1-3cm (the so-called *guitar slide*)



- 1** First draw two lines at right angles across the width of the board, 2 cm from the two narrow edges.
- 2** On one of the lines, mark the centre point and two points 2.5 cm from either side of it.



Podoben instrument pod imenom *diddle bow* opisuje tudi eden najpomembnejših ameriških graditeljev in promotorjev izvornih instrumentov Bart Hopkin v: Hopkin, B.: *Making Musical Instruments with Kids*, Tuscon, Ariz.: See Sharp Press, 2010, str. 97-100.

**3**

At each of the marked points drill a hole with 3 mm diameter.



**4**

The zither that is described here has no frets – the different tones are picked out using the round tubular object held in your left hand referred to as the "slide". Therefore, the "frets" are only marked with lines on the zither and separate tones played by placing the slide in different places on the strings.

Playing the "empty" strings gives the first, basic tone of the scale. To assist the playing of the successive tones of the chromatic scale, perpendicular lines across the narrower part of the board are drawn at the distances listed below. These are measured from the line on which the holes were drilled. The tones of the major scale (white keys on a piano keyboard) are indicated by highlighted lines:

Second tone: 5.1 cm	12th tone: 28.3 cm
3rd tone: 8.1 cm	13th tone: 29.9 cm (one octave)
4th tone: 10.9 cm	14th tone: 31.5 cm
5th tone: 13.5 cm	15th tone: 32.1 cm
6th tone: 16.0 cm	16th tone: 34.4 cm
7th tone: 18.4 cm	17th tone: 35.7 cm
8th tone: 20.6 cm	18th tone: 37.0 cm
9th tone: 22.7 cm	19th tone: 38.1 cm
10th tone: 24.7 cm	20th tone: 39.2 cm
11th tone: 26.5 cm	

**5**

The eyebolts are screwed a few millimetres into the holes. Insert a screwdriver into the eyebolt and rotate (see drawing at point no. 8)

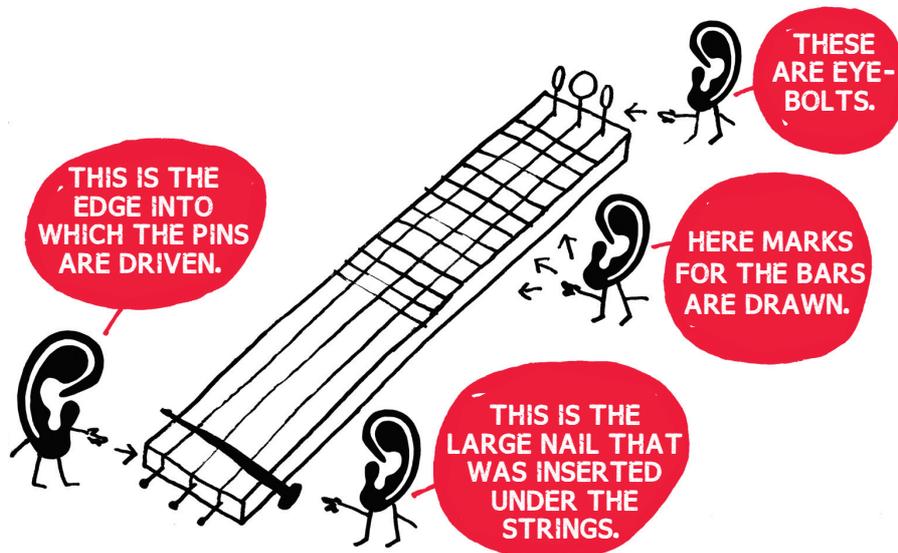
**6**

On the opposite edge of the board (not on its upper surface!), drive three tacks into the board at the same distances as the eye bolts (the first pin in the middle and the other two on each side 2.5 cm from the centre, see drawing at point 8)

**7**

Cut the fishing line into 3 lengths of 70 cm. Securely tie one end of each length to a pin. First tie the other end with a simple knot to the opposing eyebolt and then slowly rotate it. As the fishing line begins to wind around the bolt the string will slowly come into tension. Take care that a string does not break during this process because it could damage your eyes! Also, pay attention that the bolts on the lower side do not intrude through the board as this could damage the surface of the table.

8 When all three strings have been tightened, insert the nail in the line opposite the eyebolts



9 Place the zither in front of you so that the eye bolts are on the left and tune the strings in the following order from the bottom string up:

- ★ melody string (e.g. tone F')
- ★ upper drone string (same note as the melody string)
- ★ lower drone string (a perfect fourth lower than the melody string, for example C')

The strings can also be tuned to other tones but always keeping a perfect fourth interval between the upper and lower strings. In the first tuning the strings will loosen quickly but after a few additional tunings they should stabilise at the desired tension and tone.

To play the drone zither, place it on a wooden table (eye bolts on the left), which will act as a resonant body and help to amplify its sound. In the left hand hold the round object or slide and move it along the bottom melody string between the tone markers. Use your right hand fingers (or a plectrum - see p. xx) to strum on all three strings at the same time.

The zither falls into the category of cordophones because its sound is created by tensioned oscillating strings: the drone strings give out the same tone while the pitch of the melody string can be changed by shortening the vibrating portion with the slide.

