

Material:

Item Code	Qty	Description
DW250-1M	1	Monochord
DS500-1G	1	Screw clamp, jaw width approx. 50 mm
P1130-1H	1	Dynamometer, 100 N, transparent
DW260-2S	1	String, e'
DW260-3S	1	String, g'

Goal:

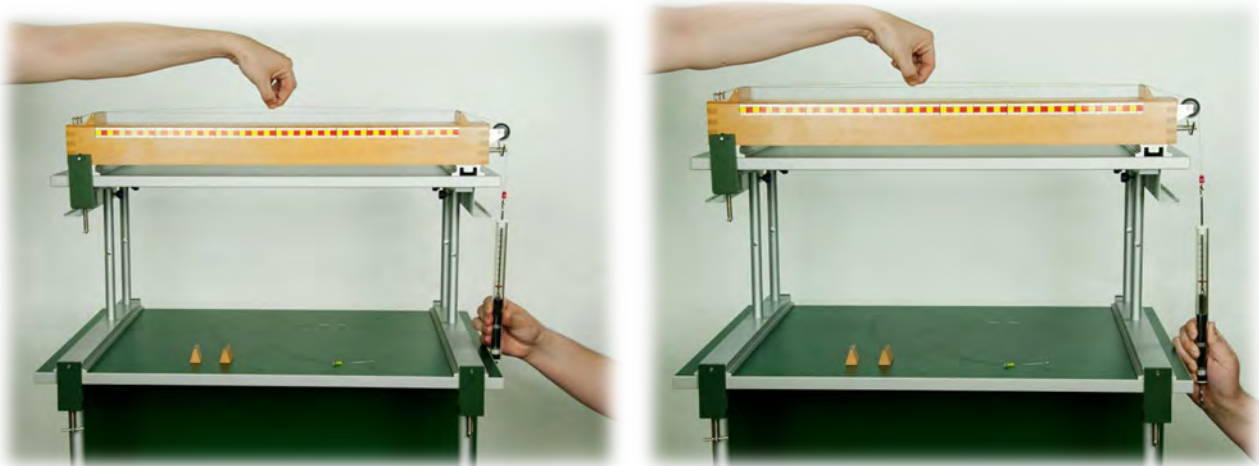
The tone depends on the load on the string.

Setup:

The monochord is placed at the edge of the table and fixed with the screw clamp. A guitar string is stretched over the bridges so that it runs over the pulley. A dynamometer is hung on the end of the string.

**Experiment:**

By applying a load of 10 N (1 kg) to the dynamometer at the end of the string, the monochord is tuned to a clean tone. Fine tuning is done with the help of the bridge. Now, while maintaining the fine tuning, the load is continuously increased to 40 N (4 kg) (= four times). Every 10 N the string is strummed.

**Result:**

The stronger the pull on the string, the higher the tone
The tone at quadruple loading is one octave higher than that at single loading.

Note:

The thinner the string, the lower the load must be.
The test can also be performed with hook weights.