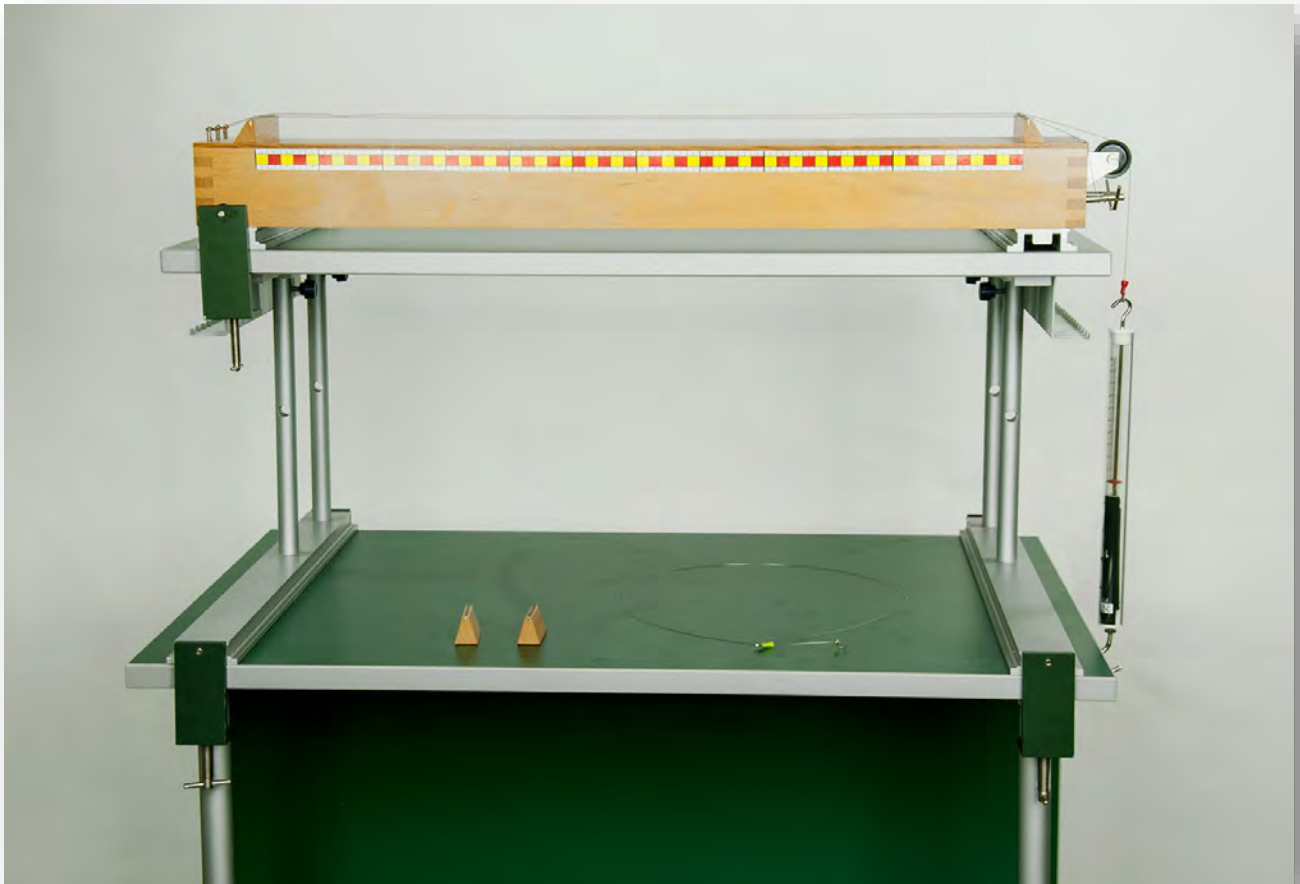


TENSION AND MASS OF A STRING

AKD 03.03



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'

TENSION AND MASS OF A STRING

AKD 03.03

Goal:

A string with a smaller cross-section has a higher tone.

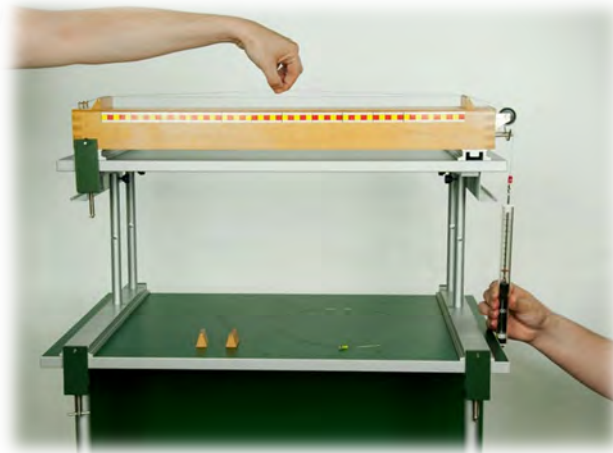
Setup:

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 to the dynamometer, the string is tensioned until it is tuned to the note c1. (The basic load on the string must be about 10 N (1 kg), but it still depends on the cross section of the string).



The string is now replaced by a thinner string (smaller cross-section) and the test is performed again.

Result:

At the same load, the keynote of the thinner string is significantly higher than that of the thicker string.

Note:

The thinner the string, the lower the load must be.

The function generator with loudspeaker can again be used to tune the string.

The test can also be performed with hook weights.