

SOUND GENERATION USING THE TUNING FORK

AKD 01.01



Material:

Item Code	Qty	Description
DW100-1A	1	Tuning fork, 440 Hz, with resonance box
DW110-1A	1	Tuning fork mallet
DW150-1T	1	Drums, pair
DS090-3K	1	Claw base "Sepp", 260 x 220 mm
DG110-1B	1	Measuring beaker, plastic, 1000 ml

SOUND GENERATION USING THE TUNING FORK

AKD 01.01

Goal:

A tuning fork produces a sound. How does it do that?

Experiment 1:

We put the tuning fork on the resonance box.

Using the tuning fork mallet, we strike the tuning fork on the upper part of one leg.

Result:

We hear a sound (a tone) which is produced by the tuning fork.

Experiment 2:

We fix the drum with the shaft in the claw base.

The tuning fork is removed from the resonance box.

We strike the tuning fork and move it slowly and lightly towards the membrane of the drum.

Result:

The drum produces a "noise". This can only be triggered because the legs of the tuning fork vibrate.



Experiment 3:

We fill the measuring cup 2/3 full with water.

The tuning fork is struck and the tips of the legs are held on the water surface.

Result:

Immersing the tip of a leg of a struck tuning fork creates waves on the water surface. These waves can only be triggered by vibrations of the legs of the tuning fork.



Conclusion:

When a tuning fork is struck, its legs begin to vibrate. These vibrations cause the emergence of a sound (tone).

Note:

Due to the inertia of the eye, one cannot see the rapid vibrations of this tuning fork with the unaided eye. We therefore make the vibration visible through the water and audible through the membrane of a drum.