Music Box Mechanism

P7-7330

BEFORE USE:

1. Unscrew the small screws on top of the plastic case.
2. Separate the top and bottom of the case and pop the metal mechanism out.
3. Attach the handle to the winding mechanism.
4. Discard the plastic box, lid, and screws.

DEMONSTRATIONS:

1. Hold the mechanism in your hand (or, better yet, hang it from a string) and wind it. Ask students to listen and describe the loudness of the sound.
2. Amplify the sound with one of the methods listed below.
3. Ask students to predict which amplification method will produce the loudest sound.

WHAT'S GOING ON?

Sound travels as a longitudinal wave through the air (or another medium). Sound waves originate with a vibrating object. The vibrating object must be rigid enough to maintain the frequency of vibrations. A large object can transmit more energy than a small object. Certain materials (like drumheads) transmit sound energy better than other materials. The presence of a resonance chamber (like a paper cone or guitar body) can also help to further amplify the sound.

TO AMPLIFY THE SOUND, HOLD THE MUSIC BOX MECHANISM AGAINST:

Chalkboard
Desk
Window
Piece of paper
Piece of paper rolled into a cone
Piece of coverstock rolled into a cone
Drum
Guitar body
Piano cabinet
Student's temple
Student's elbow, as they press an index finger against the bone near their ear

RELATED PRODUCTS:

Thunder Drum (P7-3100). Vibrations in a spring are amplified by a drumhead and resonance chamber to produce an incredible thundering sound.

Sympathetic Tuning Fork Set (P7-6000). Includes two tuning forks with resonance chambers. Great for demonstrating sympathetic resonance and beats.

Sound & Waves Discovery Pack (P7-2030): A collection of items to demonstrate a range of concepts related to waves and sound.

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