

Slow-Motion Wobbler [Activity]

All students know the tines of a tuning fork move when they vibrate. They can't see the motion because of the high frequency. But dip a vibrating fork in water and the motion is evidenced in the splashing water. Larger forks work best.

Best evidence is with a strobe light. Caution: Some people have unfavorable reactions to strobe lights (particularly epileptics). Casually ask if strobe lights bother anybody *before* using them.

Air near the vibrating tines is set in vibration—sound. Placing the tuning fork against a tabletop, or any sounding board, causes the tines to spend their energy faster. Ask your students to explain this in terms of the conservation of energy. Sound energy eventually degrades to thermal energy.

A vibrating tuning fork in outer space would vibrate longer, but its energy would eventually degrade to thermal energy.