

Musical Triangle

Background

Sound occurs when objects vibrate, or when a collision occurs between objects and some of the energy of the impact is dissipated to the surrounding air. If the object that was struck is held in the hand, much of the energy is absorbed by the hand and only a little sound is heard. If however the object is free to vibrate, the resulting sound can be significantly louder.

You will need...

- ✓ A triangular handle for lifting a manhole cover
- ✓ a steel bolt and
- ✓ a length of string



Follow these steps

1. Tie the string to the straight end of the handle.
2. Hold the straight iron in one hand and strike the triangle with the bolt (held in your other hand). Result; a dull low noise.
3. Now let the triangle dangle from a length of string and strike the triangle again with the bolt. Result; a much louder and booming sound (like a bell) will be heard

So what happened?

When the triangle was held in the hand much of the energy of the impact was absorbed by the hand. When the triangle dangled freely at the end of a string, it could vibrate freely and a "richer" sound was imparted to the air.

What next?

Try other metal objects, e.g. a hollow metal pipe.