

TAP 702- 1: The Doppler effect

You will need

- ✓ Multimedia Sound CD-ROM
- ✓ multimedia PC with microphone and speakers

Either:

- ✓ 2 m of rubber tubing
- ✓ whistle attached to the end of the tubing

or

- ✓ 2 m of strong cord or rope
- ✓ small electronic buzzer and battery attached to end of cord

or

- ✓ 2 m of strong cord or rope
- ✓ small loudspeaker attached to end of cord
- ✓ long leads
- ✓ signal generator

What to do:

1. To demonstrate the Doppler effect, either attach a whistle to a long flexible rubber tube and blow down it while whirling the whistle in a horizontal circle and/or
2. Firmly attach a battery-operated buzzer, or a small speaker connected to a signal generator with long lead



Safety

Do this outside, and make sure that the listeners stand well away from the whirling object.

3. As an extension, you could use the Multimedia Sound CD-ROM to record and display sounds that illustrate the Doppler effect (e.g. from passing vehicles).

You have learned:

That a variation in pitch occurs as the source of sound moves towards and away from the observer.

External reference

This activity is taken from Salters Horners Advanced Physics, section SPS, activity 22