

The Doppler Effect

The Doppler effect is observed when a source of waves is moving towards or away from an observer.

It works with all types of waves - e.g. sound, light, water ripples.

If the source of waves is moving towards the observer, then the wavelength appears shorter and the frequency appears higher than if the source of waves were stationary.

If the source of waves is moving away from the observer then the wavelength appears longer and the frequency lower.

For sound, the frequency affects the pitch. Higher frequencies are perceived as having a higher pitch.

For light, the frequency affects the colour. Red has the lowest frequency and violet has the highest.

If a source of light is moving towards you then the frequency you observe is higher, and the colour is shifted towards the blue end of the spectrum. This is called 'blue shift'.

