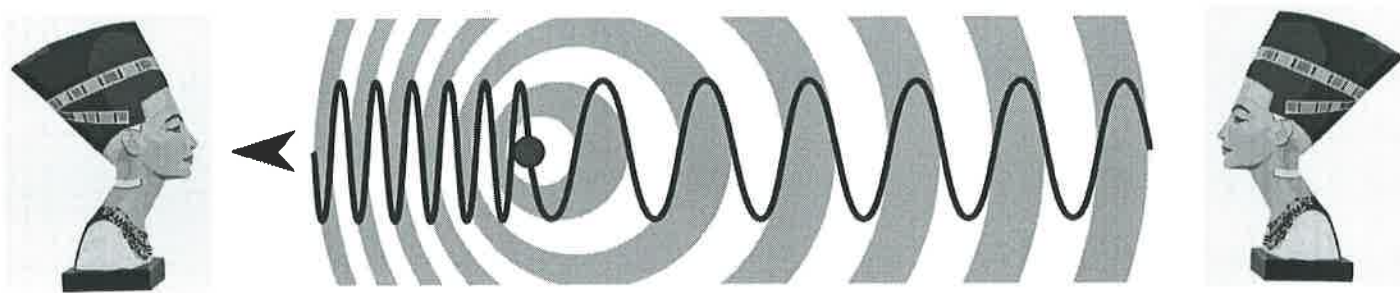


Name: Key

## Notes - 17.4 Doppler Effect

1. The Doppler effect (or Doppler shift) is named after the Austrian physicist Christian Doppler who proposed it in 1842. It is the change in frequency of a wave for an observer moving relative to the source of the wave. It is commonly heard when a vehicle sounding a siren or horn approaches, passes, and recedes from an observer.
2. The sound that is heard shifts from a higher frequency to a lower frequency.
3. This effect is due to motion of either the source or the observer.



4. Equation:

$$f_o = f_s \frac{v \pm v_o}{v \pm v_s}$$

$f_o$  : frequency heard by the observer

$f_s$  : frequency of the sound source

$v$  : velocity of sound (which is a function of the medium and temperature)

$v_o$  : velocity of the observer

$v_s$  : velocity of the sound source