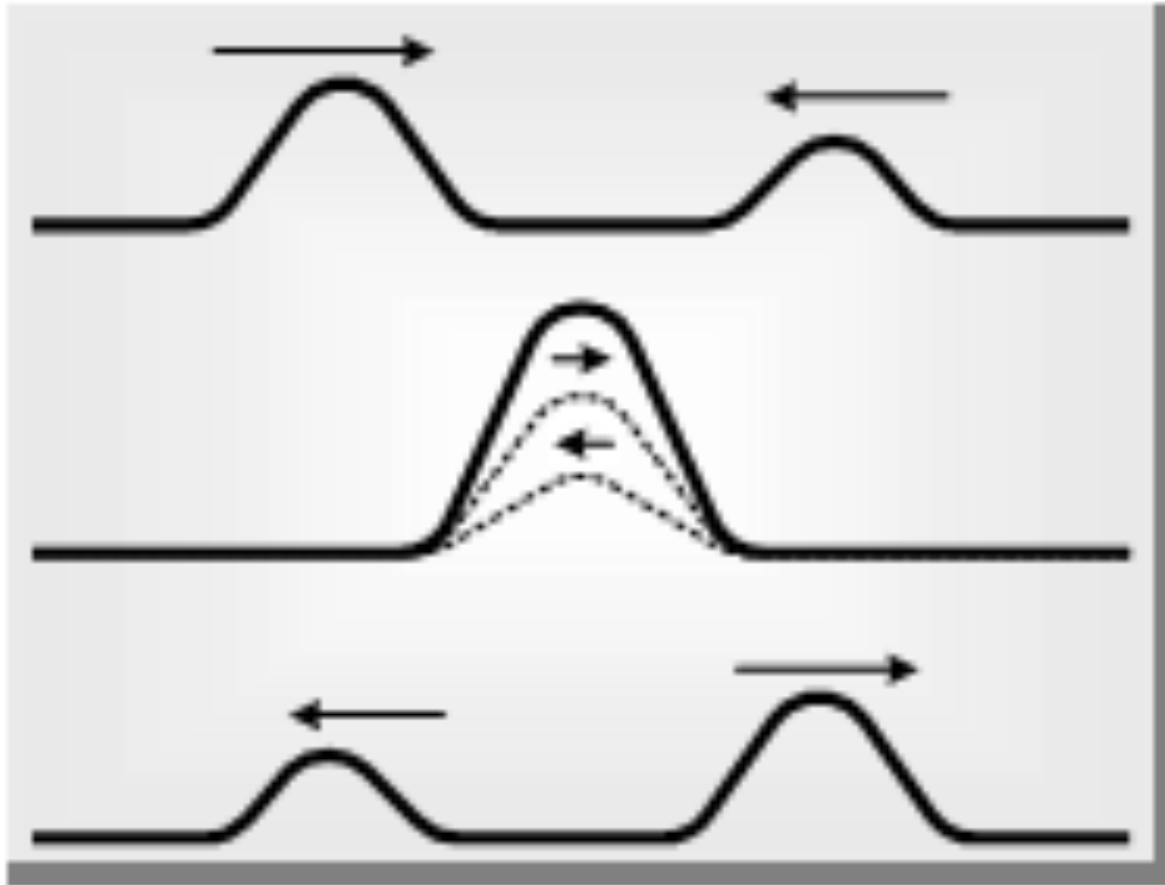


Acoustic Resonance, Interference and Standing Waves

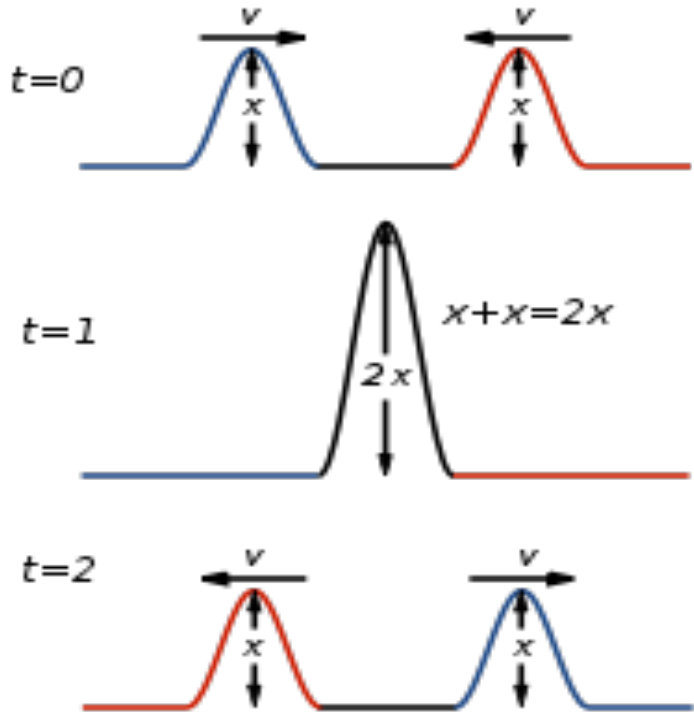
Acoustic Resonance

- ***Mechanical wave***: a disturbance in a medium which propagates and transfers energy through the medium.
- ***Frequency***: this is the number of cycles or oscillations per second.
- ***Natural frequency***: frequency at which any object vibrates when not driven or damped is
- ***Resonance***: is when one object causes another to vibrate at its natural frequency and results in a dramatic increase in the amplitude of the resultant vibrations.

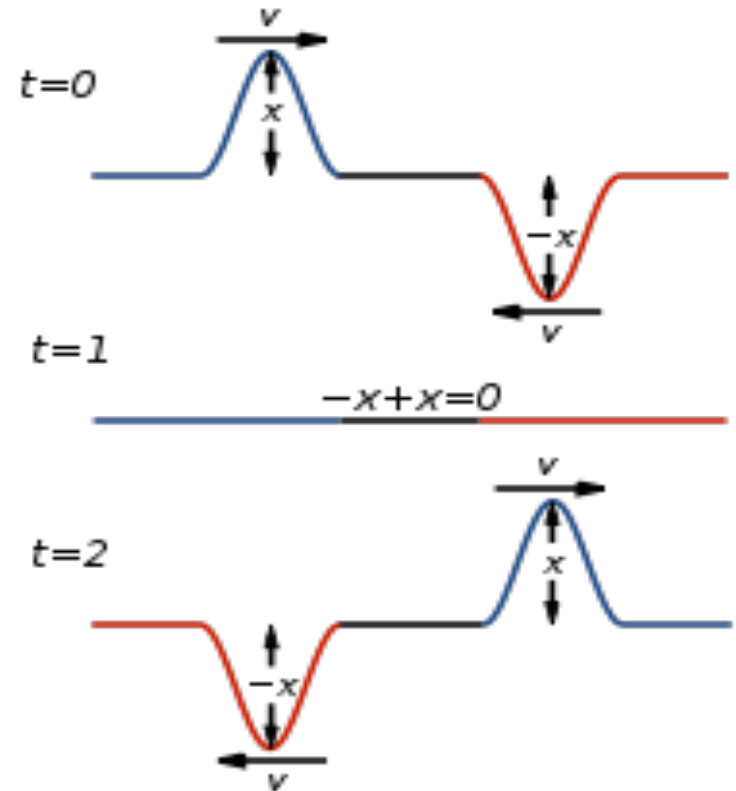
The Principle of Superposition



Constructive and Destructive Interference

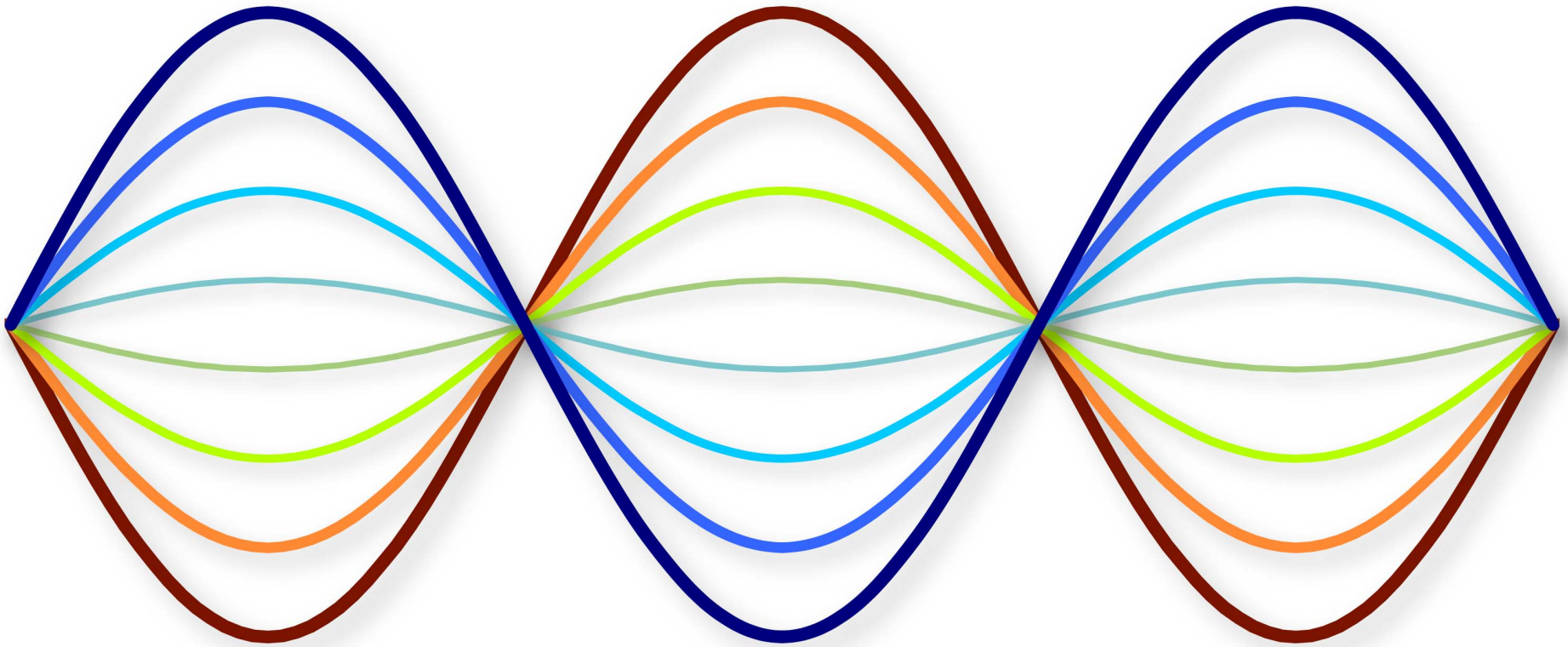


Constructive Interference



Destructive Interference

Standing Waves



Discussion

With a partner:

1. Name one example of resonance that you may have observed.
2. How can acoustic resonance be used in a constructive or destructive way?
3. Can you think of a new application for acoustic resonance or interference?