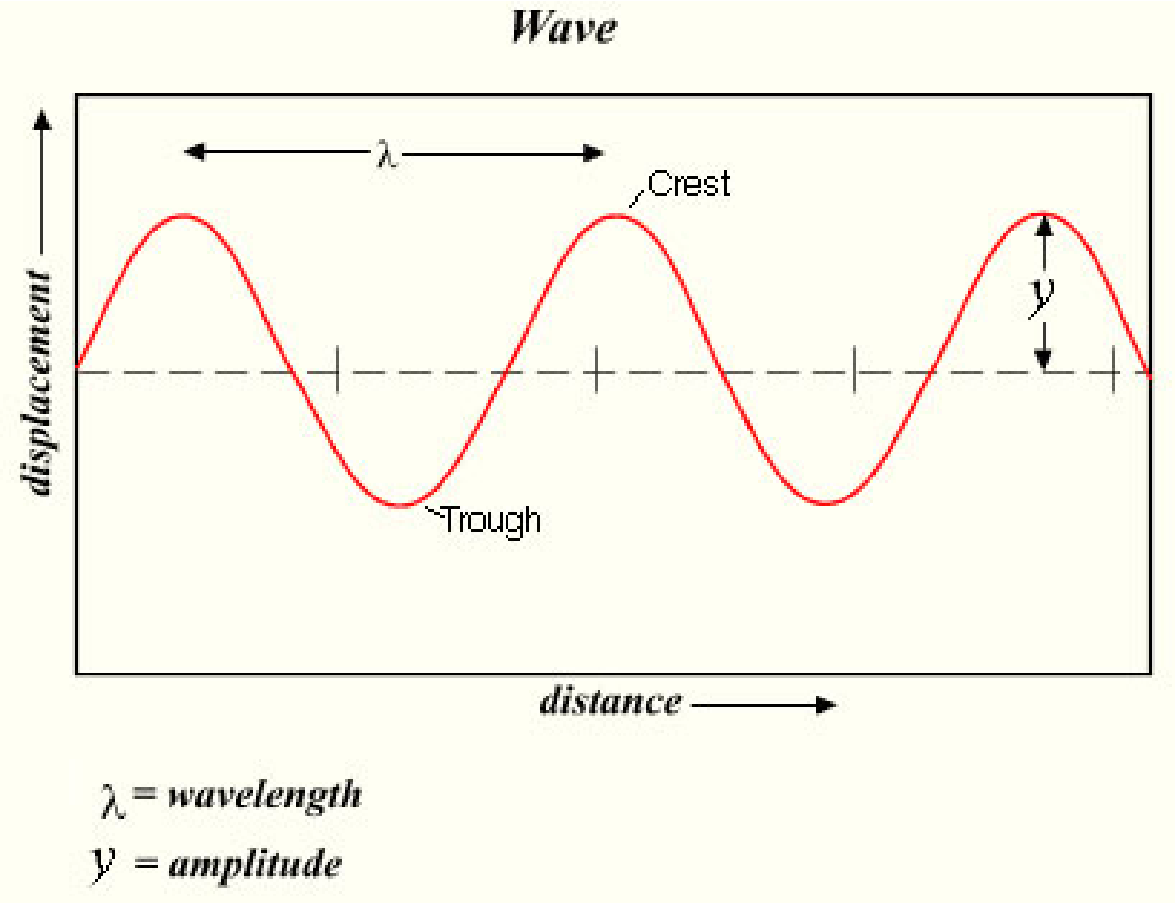
Topic	What is a wave?	**Level**	For students aged 11-16
Outcomes	Students understand the key elements of a wave to include: amplitude, frequency, wavelength, disturbance and energy transfer		
Teaching points	For many students using surf waves to understand physics waves can be confusing. Waves in the ocean appear to involve the movement of matter. I think ripples make a better context to help students understand that a wave is a disturbance that travels through a medium, transporting energy from one location to another. In order to have a disturbance there must also be a rest (or equilibrium) position. Once disturbed, the particle will return to its rest position and therefore a wave transfers energy and not matter.		

Label the equilibrium position



Understanding waves

A pebble was thrown into a pond to create a ripple.

A. On the ripple image label:

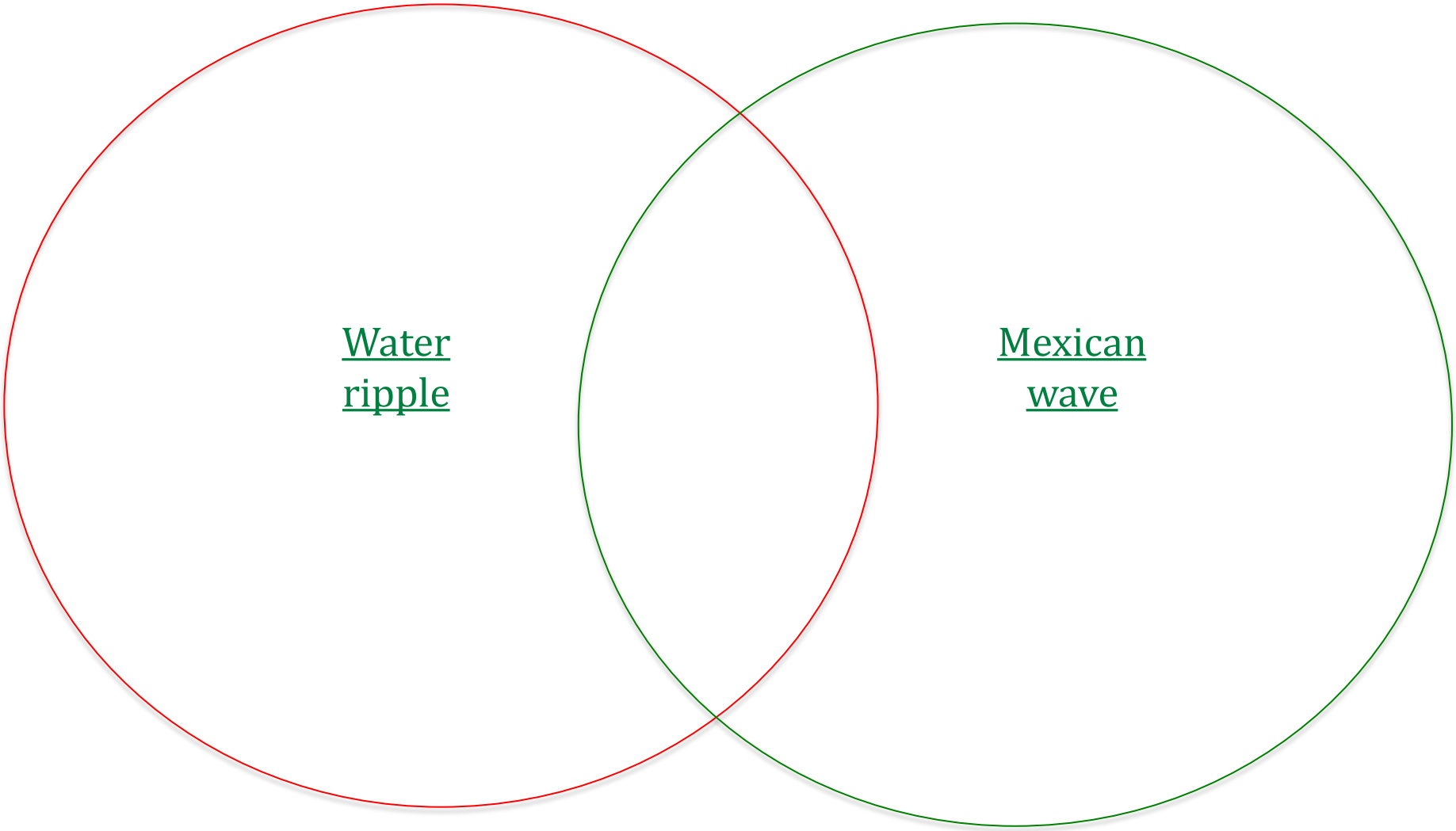
1. A peak
2. A trough
3. An amplitude
4. A wavelength
1. The direction of energy transfer

B. Questions to think about

1. What created the ripple in the first place? Think about what the pebble did to the water particles.
2. If a larger pebble was thrown into the water, how would the ripple be different? Consider changes to the wavelength, amplitude and frequency.
3. A leaf is floating on the surface of the water. What will happen to its movement? Explain.

Click on the links

How are they similar and different?



Key ideas to use: disturbance, energy, wavelength, medium, equilibrium, frequency