Types of forces				
1	Transverse wave	moves in a direction at right angles to the way in which the particles are vibrating		
2	longitudinal wave	moves in the same direction as the vibrating particles, made up of rarefraction and compression		
3	rarefaction	area of reduced pressure		
4	compression	area of increased pressure		
5	amplitude	the maximum displacement of a point of a wave from its undisturbed position		
6	wavelength	distance from a point on one wave to the equivalent point on the adjacent wave		
7	frequency	the number of waves passing a point each second		
8	Time period	time taken for a full cycle of the wave		
	Equation	Symbol	Units	
9	Period = $\frac{1}{\text{Frequency}}$	T = 1/f	Period	Seconds (s)
			Frequency	Hertz (Hz)
10	Wave speed = frequency x wavelength	v = f λ	Wave speed	metres per second (m/s)
			Frequency	Hertz (Hz)
			Wavelength	Metres (m)

RP – Measuring waves in a ripple tank		
11	Aim	to calculate frequency, wavelength and the speed of wave in a ripple tank
12	Method	a. set up ripple tank and switch on b. switch on lamp and motor and adjust frequency to show wave c. measure the length of a number of waves then divide by the number to record wavelength. d. count number of waves passing a point in ten seconds, divide by ten to record frequency e. wave speed = frequency × wavelength

RP – Measuring waves in a solid		
13	Aim	to calculate frequency, wavelength and the speed of a string
14	Method	a. attach string to vibration generator and use a hanging mass and pulley with a bridge under the string to pull taut b. switch generator and adjust the wooden bridge until stationary waves can be observed c. measure the length of several half wavelengths , divide by the number of half wavelengths and then double to find wavelength d. frequency is the frequency of the power supply e. wave speed = frequency × wavelength

Electromagnetic waves				
15	electromagnetic wave		type of transverse wave	
16	Frequency	Wavelength	Radiation Type	Typical use
	low ↓ High	long ↑ short	Radio waves	Television signals
			Microwaves	Cooking, mobile phones
			Infrared	Optical fibre communication
			Visible light	Seeing
			Ultraviolet	Detecting forged bank notes
			X-rays	Medical images of bones
			Gamma radiation	Killing cancer cells
17	Ionising EM waves		Ultra-violet, x- rays and gamma rays	

RP – to measure infrared radiation emitted by different surfaces		
18	Method	a. fill Leslie cube with boiling water, leave for one minute b. use infrared detector to measure infrared radiation emitted from each surface
19	control	detector must be the same distance from each surface