Year 8 – Spring 1

	Topic:	Waves introduction (P.10)
1	Define "wave"	A wave transfers energy without transferring matter
2	Define "transverse waves"	The direction of vibration is at right angles to the direction of motion of the wave
3	Define "longitudinal wave"	The direction of vibration is the same as the direction of motion of the wave
4	Name three examples of transverse waves	Surface water waves, light, skipping rope
5	Name three examples of longitudinal waves	Sound, ultrasound, slinky spring
6	State the eight parts of the electromagnetic spectrum in order from long to short wavelength	Radio waves, microwaves, infrared, light, ultraviolet, X-rays, gamma rays
7	Define "amplitude"	The maximum vibration, measured from the middle position of the wave
8	Define "frequency"	Number of waves produced per second, in Hertz
9	Define "wavelength"	Distance between two corresponding points on a wave. Measured in metres.
10	Define "vacuum"	A space with no particles in it

	Topic:	Light waves (P.11)
1	State the relationship between incident and reflected angles	Angle of incidence=angle of reflection
2	Define "refraction"	Change of direction of light going from one material into another
3	Define "incident ray"	The incoming ray
4	Define "normal line"	Line at right angles to the surface, from which angles are measured
5	Define "absorption"	When energy is transferred from light to a material
6	Define "scattering"	When light bounces off an object in all directions
7	Define "transparent"	Material that allows all light to pass through it
8	Define "translucent"	Material that allows some light to pass through it
9	Define "opaque"	Material that allows no light to pass through
10	State the speed of light	300000000m/s

	Topic:	Light waves 2 (P.12)
1	Name five parts of the eye	Retina, iris, pupil, optic nerve, lens
2	State the function of the retina	Layer at the back of the eye with light-detecting cells and where an image is formed
3	State the function of the pupil	Hole in the middle of the iris that allows light to pass through and enter the eye
4	State the function of the lens	Refracts light to focus on the retina
5	State the function of the optic nerve	Carries signals to the brain
6	Name the diagram used to show how light travels	Ray diagram
7	Name the piece of experimental equipment that emits light	Ray box
8	Define "convex" lens (Ext)	Lens that brings parallel rays together to a focus point. Thicker at the centre than at the edges
9	Define "concave" lens (Ext)	Lens that diverges (spreads out) parallel light rays. Thinner at the centre than at the edges.
10	Define "spectrum"	Band of colours of the rainbow made when white light is separated

	Topic:	Sound waves 1 (P.13)
1	Define "amplitude"	The maximum vibration, measured from the middle position of the wave
2	Define "frequency"	Number of waves produced per second, in Hertz
3	Define "wavelength"	Distance between two corresponding points on a wave. Measured in metres.
4	Define "vacuum"	A space with no particles in it
5	Define "resting point"	The mid-point of a wave vibration
6	Define "pitch" of a sound wave	How high or low the sound is. A high pitch has a high frequency.
7	Define "volume" of a sound wave	How loud or quiet a sound is. A high volume has a high amplitude.
8	State the unit of volume.	Decibels (dB)
9	State the speed of sound in air	330m/s
10	State the wave equation to calculate speed	v=fλ, wave speed = frequency x wavelength

	Topic:	Sound waves 2 (extension only) (P.14)
1	Name the six parts of the ear	Ear drum, bones, cochlea, auditory nerve, semi-circular canals, pinner
2	Name the three bones in the middle ear	Hammer, anvil, stirrup
3	State the function of the ear drum	Thin layer of membrane that picks up the vibrations of sounds waves
4	State the function of the hammer, anvil and stirrup	Amplify the vibrations
5	State the function of the cochlea	Long coiled tube filled with liquid that picks up vibrations and changes them to electrical signals
6	State the function of the auditory nerve	Carries signals from the ear to the brain
7	State the function of the semi-circular canals	Detect movement in the head and help with balance
8	State the function of the pinner	The outer ear; directs vibrations into the ear
9	Define "ultrasound"	Sound waves with frequency higher than the auditory range
10	Define "auditory range"	The range of frequencies that an animal can hear (for humans 20Hz to 20000Hz)

	Topic:	Pressure (P.15)
1	Define "pressure"	The force exerted over an area
2	State the two ways that pressure on a surface can be increased	1. Increase the force 2. decrease the area
3	State the equation used to calculate pressure	P=F/A, Pressure=Force/Area
4	State the units of pressure	N/m^2 or Pascals
5	State the reason that pressure in a fluid increases with depth	Increased weight of fluid above
6	Define "fluid"	Liquid or gas
7	Define "upthrust"	The upward force that a liquid or gas exerts on a body floating in it
8	Define "atmospheric pressure"	The pressure caused by the weight of the air above a surface
9	State the cause of pressure in a fluid	Particles hitting the surface of the container
10	State why an object floats	If the upthrust balances the weight