

Year 8: ASK Yourself!

Subject: Science

Unit 8.8: Waves and energy transfer

	Launching 1-2	Developing 3-4	Progressing 5-6	Mastering 7-9
S kills				
	I need to construct ray diagrams to show how light reflects off mirrors, forms images and refracts.	I can partially use ray diagrams to describe how light passes through lenses and transparent materials. I can partially describe how lenses may be used to correct vision.	I can confidently explain differences in the damage done to living cells by light and other waves, in terms of their frequency. I can confidently predict whether light will reflect, refract or scatter when it hits the surface of a given material.	I can expertly evaluate electricity production by wave energy using data for different locations and weather conditions. I can expertly evaluate analogies and explanations for the transfer of energy.
K nowledge				
	I need to know that when a light ray meets a different medium, some of it is absorbed and some reflected. I need to know that different colours of light have different frequencies.	For a mirror, I partially know that the angle of incidence equals the angle of reflection. I partially know that the thermal energy of an object depends upon its mass, temperature and what it's made of. I partially know that when there is a temperature difference, energy transfers from the hotter to the cooler object.	I confidently know that thermal energy is transferred through different pathways, by particles in conduction and convection, and by radiation. I confidently know that when light enters a denser medium it bends towards the normal; when it enters a less dense medium it bends away from the normal.	I understand and can apply the three ways that energy can be moved from one place to another by heating. I understand and can apply data behind a claim for a sound creation or blocking device, using the properties of sound waves.

