

# High Tunstall College of Science Curriculum Intent

Subject: Physics Year: 10

## Waves and Space



	Physics Thread	Progress		
Topic	Key ideas	R	A	G
Waves and space	I can compare transverse and longitudinal waves and calculate using formula			
	I can calculate wave speed of a wave in a liquid and a solid			
	I can order and identify the uses and dangers of electromagnetic waves.			
	I can explain how electromagnetic waves are reflected and refracted.			
	I can investigate reflection and refraction of light rays.			
	I can construct ray diagrams for different types of lens.			
	I can explain how temperature is effected by the rate of absorption and emission of infrared radiation.			
	I can explain how humans hear and analyse how loudness and pitch are linked to wave features.			
	I can name and order the stages of a stars life cycle, explaining why each stage occurs.			

Lesson	Learning Focus	Assessment	Key Words
1	Understanding wave features and calculating wave speed.	Comparing transverse and longitudinal waves, and calculating using formula Formative questioning, exam questions and summative tests.	Frequency, Wavelength, amplitude, wave speed., transverse, longitudinal, <a href="#">time period</a>
2	Required practical investigating wave speed in liquids and solids.	Observation and formative assessment of students completing a safe and accurate practical. Exam questions .	Frequency, Wavelength, amplitude, wave speed.
3	Exploring the electromagnetic spectrum.	Ordering and identifying uses and dangers of electromagnetic waves. Formative questioning, exam questions and summative tests.	Electromagnetic, wavelength, radiation, frequency, wave speed, <a href="#">sievert</a>
4	Reflection and refraction of electromagnetic waves.	Drawing and explaining reflection and refraction diagrams. Formative questioning, exam questions and summative tests.	Reflection, refraction, normal, incidence.
5	Required practical investigating refraction and reflection of light rays in different materials	Observation and formative assessment of students completing a safe and accurate practical. Exam questions .	Reflection, refraction, normal, <a href="#">angle of incidence</a> .
6	Constructing ray diagrams of different types of lens.	Formative questioning, exam questions and summative tests.	Converge, diverge, optical centre, principle axis, magnification.
7	Exploring perfect black bodies.	Explaining how temperature is effected by the rate of absorption and emission of infrared radiation. Formative questioning, exam questions and summative tests.	Absorption, emission, infrared, radiation, black body, <a href="#">thermoregulation</a> .
8	Understanding sound as a longitudinal waves.	Explaining human hearing and analysing how loudness and pitch are linked to wave features. Formative questioning, exam questions and summative tests.	Longitudinal, pitch, loudness, vibration, <a href="#">vibration</a> .
9	Exploring a stars life cycle.	Name and order the stages of a stars life cycle explaining why each stage occurs. Formative questioning, exam questions and summative tests.	Nebula, proto-star, red giant, supernova, neutron star, black hole.