Sets (s): double award

YEAR 9

SUBJECT physics

Knowledge Focus: Features of waves

Ysgol Uwchradd Prestatyn High School

This half term : Skills, Knowledge and Understanding to be developed:
This topic introduces the ideas of tranverse and longitudinal waves and the differences between them. It introduces the wave equation and gives learners the ideas and skills to study electromagnetic ans sound waves.

Key Terms to be learned this half term:
Transverse, longitudinal waves, amplitude, wavelength, frequency, wave speed, reflection, refraction, radiation, electromagnetic waves, ionizing radiation, communication, satellites and geostationary orbit.

Week 1 and 2 Learning Objectives etc: Learn the difference between a transverse and longitudinal wave. Learn the features of waves. Know what amplitude, frequency and wavelength are. The graphical representation of a transverse wave, including labelling the wavelength and amplitude.	**Objective assessments:** Construct a wave diagram from given data.	**Homework:** Question on features of waves.
Week 3 and 4 Learning Objectives etc: Learn what happens to speed, frequency, wavelength, direction of water waves as they move from deep to shallow water (visa versa). Carry out specified practical on speed of water waves.	**Objective assessments:** Numeracy timing waves, calculating the mean time and speed.	**Homework:** Analysis and evaluation of waves experiment.
Week 5 and 6 Learning Objectives etc: Study reflection of waves and carry out investigation on reflection of light waves. Study refraction and carry out investigations on refraction of light waves.	**Objective assessments:** learn the terms normal, angles of incidence/ reflection / refraction. SA on waves	**Homework:** Revise for SA questions on waves
Week 7 Learning Objectives etc: Study the electromagnetic spectrum and how all regions transmit information and energy. The uses of the different regions of the em spectrum. Higher frequencies transmit higher energies Learn the differences between the different regions of the electromagnetic spectrum in terms of wavelength and frequency and know they all travel at the same speed in a vacuum.	**Objective assessments:** Be able to name the 7 regions of the em spectrum. Know the order in terms of wavelength, frequency and energy	**Homework:** Past paper question on the EM spectrum