Subject	Year	Term
Physics	13	1

Topic
Topic 10 Space

Content (Intent)

Prior Learning (Topic) Topic 5 (waves)

Black bodies

Stefan-Boltzmann law, $L = \sigma AT^4$

Wien's law, $\lambda_{max}T = 2.90 \times 10^{-3}$ m K

Intensity, $I = \dfrac{P}{A}$

Trignometric parallax (not parsecs),Standard candles

Intensity inverse square law, $I = \dfrac{L}{4\pi d^2}$

A simple Hertzsprung-Russell diagram and its relation to the life cycle of stars

Main sequence, white dwarfs and red giants.

Doppler effect for em-radiation Redshift, $z = \dfrac{\Delta\lambda}{\lambda} \approx \dfrac{\Delta f}{f} \approx \dfrac{v}{c}$

Hubble's law, $v = H_0 d$. Gravitational attraction slows expansion of Universe. Average mass-energy density of the Universe affects whether indefinite expansion or final contraction.

The Hubble constant Dark matter.

How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)
Investigate the inverse square law with lamps and LDR Use of spectra from different galaxies.	Homework Booklet 10 marked and written feedback given Test 10 marked, graded and feedback given

How can parents help at home?
Check that the homework booklet 10 is completed

Helpful further reading/discussion

Reading **Advanced Physics for you chapter 29**	Vocabulary Lists *See front of homework booklet*	Careers Links