

Space physics

OxfordAQA International GCSE Physics 9203 space physics full package

1. Space physics

Space physics

Gravity gathers dust into stars, stars fuse the elements, and the red-shift of distant galaxies tells us the whole universe is expanding from a beginning 14 thousand million years ago

OxfordAQA's final topic closes the course with stellar life cycles, orbits and the Big Bang evidence

2. Life cycle of a star

Life cycle of a star

Stars form when gravity pulls dust and gas (mainly hydrogen and helium) together — smaller lumps become planets

In the long main sequence, hydrogen fuses to helium in the core and gravity balances the outward forces

3. Solar system and orbital motion

Solar system and orbital motion

The solar system: eight planets orbiting the Sun, plus moons, asteroids, dwarf planets and comets

The Milky Way is one of thousands of millions of galaxies, each with thousands of millions of stars

4. Red shift and the expanding universe (P)

Red shift and the expanding universe (P)

A moving wave source changes the observed wavelength (the Doppler effect): receding sources stretch waves — longer wavelength, lower frequency

The further a galaxy, the faster it recedes and the bigger the red-shift — space itself is expanding, pointing back to a very small beginning: the Big Bang

Check yourself

Check yourself

Work each checklist line against the worked examples named in the handout.

Redo any line you cannot close without the handout open.