

SP7: **Astronomy** (Paper 1)

Lesson	Objectives Tracker Sheet	Date covered	I know this well	I need to do more work on this
SP7a The Solar System	P7.2P Recall that our Solar System consists of the Sun (our star), eight planets and their natural satellites (such as our Moon); dwarf planets; asteroids and comets.			
	P7.3P Recall the names and order, in terms of distance from the Sun, of the eight planets.			
	P7.4P Describe how ideas about the structure of the Solar System have changed over time.			
	P7.19P Describe how methods of observing the Universe have changed over time including why some telescopes are located outside the Earth's atmosphere.			
SP7b Gravity and orbits	P7.1P Explain how and why both the weight of any body and the value of g differ between the surface of the Earth and the surface of other bodies in space, including the Moon.			
	P7.5P Describe the orbits of moons, planets, comets and artificial satellites.			
	P7.6P Explain for circular orbits how the force of gravity can lead to changing velocity of a planet but unchanged speed.			
	P7.7P Explain how, for a stable orbit, the radius must change if orbital speed changes (qualitative only).			
SP7c Life cycle of stars	P7.16P Describe the evolution of stars of similar mass to the Sun through the following stages: nebula star (main sequence) red giant white dwarf.			
	P7.17P Explain how the balance between thermal expansion and gravity affects the life cycle of stars.			
	P7.18P Describe the evolution of stars with a mass larger than the Sun.			

SP7d Red-shift	P7.11P Describe that if a wave source is moving relative to an observer there will be a change in the observed frequency and wavelength.			
	P7.12P Describe the red-shift in light received from galaxies at different distances away from the Earth.			
	P7.13P Explain why the red-shift of galaxies provides evidence for the Universe expanding			
SP7e Origin of the Universe	P7.8P Compare the Steady State and Big Bang theories.			
	P7.9P Describe evidence supporting the Big Bang theory, limited to red-shift and the cosmic microwave background (CMB) radiation.			
	P7.10P Recall that as there is more evidence supporting the Big Bang theory than the Steady State theory, it is the currently accepted model for the origin of the Universe.			
	P7.14P Explain how both the Big Bang and Steady State theories of the origin of the Universe both account for red-shift of galaxies.			
	P7.15P Explain how the discovery of the CMB radiation led to the Big Bang theory becoming the currently accepted model.			