

Blue Pathway								
Purple Pathway								
Orange Pathway								
	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
AO1 Remember	Describe how the seasons are caused	Explain that the Sun is a star.	Explain how seasons occur with reference to tilt and proximity to the Sun	Describe stages in lifecycle of a star	Explain the role of fusion in the life cycle of a star and the formation of the elements	Explain the relationships between speed and radius in a stable orbit	Explain what red-shift evidence suggests about the Universe	Explain the balance of forces in a stable star
	Describe factors affecting the size of gravity	Describe the galaxy	Explain light years					Explain why explanations around the ideas of dark energy and dark matter are still developing
	Explain a leap year	Recall that an observed increase in wavelength results in red-shift	Explain role of gravity in Universe	Explain distribution of heavy elements in Universe	Explain the role of gravity in enabling objects to orbit	Explain how speed is constant but velocity is constantly changing		
AO2 Application	Suggest the creation of the Universe from the Big Bang	Calculate weight	Explain difference between calendar and lunar month	Link knowledge to light waves to explain how light and heat travel to Earth from Sun	Rearrange equations in calculations.	Apply knowledge effectively in a wide range of contexts.	Explain with reference to astronomical scale the relationship between solar system and galaxy	Apply ideas about radius, speed and radius to unfamiliar situations
	Sometimes use data to support evidence.	Use theories to make simple explanations of events.		Interpret data and use it to support evidence.	Use knowledge of seasons in N hemisphere to explain why seasons in S hemisphere are different			Use theories to make detailed explanations of events.
AO3 Analyse and Evaluate	Evaluate basic information to develop simple arguments and explanations.	Consistently draw conclusions consistent with the available evidence.	Evaluate information to develop arguments and explanations.	Evaluate data with reference to potential sources of random and systematic error.	Suggest further questions that may arise from results of investigations and data analysis and evaluation.	Evaluate information systematically to develop arguments and explanations.	Critically analyse qualitative and quantitative data to draw logical, well-evidenced conclusions	Provide detailed and comprehensive explanation based on evidence of the state of the Universe
						Draw detailed, evidence-based conclusions.		
AO3 Experimental Procedures	Identify variables in an investigation	Explain the importance of sampling technique and control variables	Correctly use an appropriate number of decimal places	Plan an experiment and explain the importance of repeat readings	Make more complex and quantitative predictions using scientific knowledge and understanding	Plan valid and reliable experimental methods to test a hypothesis.	Explain accuracy, precision, resolution and reliability	Use all the correct scientific language throughout.