Science Age Related Expectations - Year 7 Pathways

		Knowledge and Understanding (KU)		Mathematical Skill (MS)		Analyse Data (AD)		Evaluate Evidence (EE)	
Pathway 1-3	1	**KU** Some basic subject knowledge demonstrated, with some errors		**MS** Some basic calculations attempted, not always accurately		**AD** Simple conclusions drawn from data or observations		**EE** Simple judgements made	
	2	**KU** Some basic scientific knowledge demonstrated		**MS** Most basic calculations attempted, not always accurately		**AD** Conclusions drawn from data or observations using some basic science		**EE** Comments relating to experimental methods or data with simplistic science	
	3	**KU** Good scientific knowledge evident		**MS** Simple calculations handled with accuracy		**AD** Conclusions drawn from data or observations with sound science reasons		**EE** Comments made relating to experimental methods, using scientific terminology	
	4	**KU** Scientific knowledge and understanding demonstrated across a range of concepts		**MS** Calculations carried out accurately		**AD** Good conclusions drawn from a range of evidence		**EE** Evaluative comments made, using a good range of scientific terminology	

		Knowledge and Understanding (KU)		Mathematical Skill (MS)		Analyse Data (AD)		Evaluate Evidence (EE)	
Pathway 4-6	1	**KU** Scientific knowledge evident		**MS** Simple calculations handled with only occasional errors		**AD** Conclusions drawn from data and evidence		**EE** Comments made relating to experimental methods	
	2	**KU** Good scientific knowledge and understanding evident		**MS** Simple calculations handled with accuracy		**AD** Good conclusions drawn from data and evidence		**EE** Comments made relating to experimental methods, using scientific terminology	
	3	**KU** Scientific knowledge and understanding demonstrated across a range of concepts		**MS** A range of calculations carried out accurately		**AD** Good conclusions drawn from a wide range of evidence		**EE** Evaluative comments made, using a range of scientific terminology	
	4	**KU** Good scientific knowledge and understanding demonstrated across a broad range of concepts		**MS** A broad range of calculations carried out accurately		**AD** Coherent conclusions drawn from a wide range of evidence		**EE** Evaluative comments made, using a good range of complex scientific terminology used in context	

		Knowledge and Understanding (KU)		Mathematical Skill (MS)		Analyse Data (AD)		Evaluate Evidence (EE)	
P a t h w a y 7 - 9	1	**KU** Good scientific knowledge and understanding demonstrated		**MS** Calculations carried out accurately		**AD** Coherent conclusions drawn from a wide range of evidence		**EE** Evaluative comments made, using scientific terminology	
	2	**KU** Good scientific knowledge and understanding demonstrated across a range of concepts		**MS** A range of calculations carried out accurately		**AD** Complex conclusions drawn, involving multiple variables.		**EE** Evaluative comments made, using a good range of scientific terminology	
	3	**KU** Good scientific knowledge and understanding demonstrated across a broad range of concepts		**MS** Calculations carried out accurately in a broad range of contexts		**AD** Graphs used with skill to process information (gradient or rate of change etc)		**EE** Evaluative comments made, using a broad range of relevant scientific terminology	
	4	**KU** Excellent scientific knowledge and understanding demonstrated across a broad range of concepts		**MS** Complex calculations carried out accurately		**AD** Mathematical processing, including graphs is used to show new insights into patterns.		**EE** Evaluative comments made, using a good range of complex scientific terminology used in context	

Science Age Related Expectations - Year 8 Pathways

	Knowledge and Understanding (KU)		Mathematical Skill (MS)	Analyse Data (AD)	Evaluate Evidence (EE)	
P a t h w a y 1 - 3	1	**KU** knowledge and understanding shown, with gaps	**MS** simple calculations carried out, with some errors	**AD** analysis of data with simple relationships is carried out	**EE** some relevant comments on method and reliability	
	2	**KU** a range of knowledge and understanding shown with some gaps	**MS** calculations carried out with few errors	**AD** data involving more complex relationships is analysed	**EE** some relevant comments on method and reliability, with suggested improvements	
	3	**KU** a broad range of knowledge and understanding shown	**MS** more complex calculations carried out, with the occasional error	**AD** analysis of data shows insight, involving multiple variables	**EE** suggested improvements on method to increase reliability and validity of investigations	
	4	**KU** A wide range of knowledge and understanding demonstrated mainly in familiar contexts.	**MS** calculations carried out with fluency and accuracy	**AD** analysis of data shows insight, involving multiple variables, often in unfamiliar contexts	**EE** experimental accuracy and validity are commented on, and improvements suggested with good science reasons	

	Knowledge and Understanding (KU)		Mathematical Skill (MS)	Analyse Data (AD)	Evaluate Evidence (EE)	
P a t h w a y 4 - 6	1	**KU** a range of knowledge and understanding demonstrated with gaps	**MS** calculations carried out with few errors	**AD** data involving more complex relationships is analysed	**EE** some relevant comments on method and reliability, with suggested improvements	
	2	**KU** an increasing range of knowledge and understanding demonstrated	**MS** calculations carried out with fluency and accuracy	**AD** analysis of data shows insight, involving multiple variables	**EE** suggested improvements on method to increase reliability and validity of investigations	
	3	**KU** A wide range of knowledge and understanding shown using some complex concepts	**MS** increasingly complex calculations carried out with fluency and accuracy	**AD** analysis of data shows insight, involving multiple variables, often in unfamiliar contexts	**EE** experimental accuracy and validity are commented on, and improvements suggested with good science reasons	
	4	**KU** A broad range of knowledge and understanding demonstrated, with some complex concepts mainly in familiar contexts	**MS** complex calculations carried out with fluency and accuracy, with multiple variables	**AD** critically analyses quantitative data	**EE** investigations are refined, in light of data analysis, considering accuracy and validity	

		Knowledge and Understanding		Mathematical Skill (MS)		Analyse Data (AD)		Evaluate Evidence (EE)	
P a t h w a y 7 - 9	1	**KU** A wide range of knowledge and understanding shown		**MS** simple calculations carried out with fluency and accuracy		**AD** analysis of data shows insight, involving multiple variables		**EE** suggested improvements on method to increase reliability and validity of investigations	
	2	**KU** A wide range of knowledge and understanding shown using some complex concepts		**MS** calculations carried out with fluency and accuracy		**AD** analysis of data shows insight, involving multiple variables, often in unfamiliar contexts		**EE** experimental accuracy and validity are commented on, and improvements suggested with good science reasons	
	3	**KU** A broad range of knowledge and understanding demonstrated mainly in familiar contexts.		**MS** complex calculations carried out with fluency and accuracy, with multiple variables		**AD** critically analyses quantitative data		**EE** investigations are refined, in light of data analysis, considering accuracy and validity	
	4	**KU** relevant and comprehensive knowledge and understanding, applied correctly to both familiar and unfamiliar contexts using accurate scientific terminology		**MS** a range of mathematical skills used to perform complex scientific calculations		**AD** Critically analyse quantitative and qualitative data to draw logical conclusions		**EE** Critically evaluate and refine methodologies, and judge the validities of scientific conclusions	