

1 Development of scientific thinking

Students should be able to:	Examples of what students could be asked to do in an exam
WS 1.1 Understand how scientific methods and theories develop over time.	<p>Give examples to show how scientific methods and theories have changed over time.</p> <p>Explain, with an example, why new data from experiments or observations led to changes in models or theories.</p> <p>Decide whether or not given data supports a particular theory.</p>

Model	Atomic Structure
Previous Theory (how it supports observations + limitations)	
Evidence for and how the theory changed.	

Model	Formation of universe
Previous Theory (how it supports observations + limitations)	
Evidence for and how the theory changed.	

Model	Formation of the Solar system
Previous Theory (how it supports observations + limitations)	
Evidence for and how the theory changed.	

Students should be able to:	Examples of what students could be asked to do in an exam
WS 1.2 Use a variety of models such as representational, spatial, descriptive, computational and mathematical to solve problems, make predictions and to develop scientific explanations and understanding of familiar and unfamiliar facts.	<p>Give examples to show how scientific methods and theories have changed over time.</p> <p>Explain, with an example, why new data from experiments or observations led to changes in models or theories.</p> <p>Decide whether or not given data supports a particular theory.</p>

Model	

Students should be able to:	Examples of what students could be asked to do in an exam
WS 1.3 Appreciate the power and limitations of science and consider any ethical issues which may arise	<p>Explain why data is needed to answer scientific questions, and why it may be uncertain, incomplete or not available.</p> <p>Outline a simple ethical argument about the rights and wrongs of a new technology.</p>