

<b>Exam Board:</b>	AQA
<b>Subject:</b>	Chemistry
<b>Paper:</b>	Chemistry Paper 1
<b>Marks available:</b>	<b>70</b>
<b>Length of paper:</b>	75 minutes
<b>Topics:</b>	Atomic structure, periodic table, bonding, quantitative chemistry, chemical changes, energy changes

### Exam Information, guidance and hints

#### Command words:

- Complete - Fill in gaps/add labels
- Balance - Add large numbers only in front of chemical formula
- Give - Recall a simple fact
- Draw - Draw a symbol, diagram or graph
- Describe - Give details about an event, idea or a process
- Explain - Give reasons for an event, idea or process (use because/so)
- Define - write the meaning of a word or term
- Compare - Identify how things are similar/different
- Suggest - Use your own knowledge in an unfamiliar context
- Plan - Write a method for carrying out a practical
- Calculate - Use numbers in a formula
- Name - Recall the name of a piece of equipment or person
- Estimate - Use data and evidence to predict a value

#### Online Resources

- [Cognito past papers](#)

#### Hints/tips:

- Ensure you tick the right number of boxes on multiple choice questions
- Use a ruler for straight lines of best fit but not curved lines.
- For calculation questions, use the equations provided
- Ensure you give to answers to the stated number of significant figures or decimal places
- When asked about observations, refer to what you can see happening, not what you know is happening at a molecular level
- When comparing, use comparative language such as **whereas, larger, smaller etc**
- Ensure you refer to data in graphs and tables when asked to in order to support your explanations
- Uncertainty is calculated by dividing the range of the data by 2.
- Positive ions have lost electrons to become positive and negative ions have gained electrons to become negative
- Concentration = mass / volume
- **Higher only:** Concentration = moles / volume

#### Foundation Example Papers and Markschemes

#### Higher Example Papers and Markschemes

<a href="#">2018 F Paper</a>	<a href="#">Annotated P1</a>	<a href="#">2018 MS</a>	<a href="#">2018 H paper</a>	<a href="#">Annotated P1</a>	<a href="#">2018 MS</a>
<a href="#">2019 F Paper</a>	<a href="#">Annotated P1</a>	<a href="#">2019 MS</a>	<a href="#">2019 H Paper</a>	<a href="#">Annotated P1</a>	<a href="#">2019 MS</a>

<a href="#">2020 F Paper</a>	<a href="#">Annotated P1</a>	<a href="#">2020 MS</a>	<a href="#">2020 H Paper</a>	<a href="#">Annotated P1</a>	<a href="#">2020 MS</a>
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### PLC Chemistry Paper 1 - Mock 1

Topic	Key information related to topic	Sparx Code	Resources/Information related to topic	How well do you understand this topic? RAG		
				Red	Amber	Green
Atoms	Identify compounds, elements and mixtures	R447	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.03">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.03</a>			
Atoms	Describe how the model of the atom has developed and changed over time	R793	<a href="https://www.youtube.com/watch?v=Q8y4x5EEIm8">https://www.youtube.com/watch?v=Q8y4x5EEIm8</a>			
Atoms	Describe Rutherford's alpha scattering experiment	R793	<a href="https://www.youtube.com/watch?v=qAlpNXO_FR E">https://www.youtube.com/watch?v=qAlpNXO_FR E</a>			
Atoms	Calculating atomic mass using isotope abundance	R646	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.02">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.02</a>			
Atoms	Identify the correct equipment to separate mixtures	R550	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.06">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.06</a>			
Atoms	Identify the numbers of protons, neutrons and electrons in an atom	R945	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.01">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.01</a>			
Atoms	Draw and describe the electronic structure in atoms	R945	<a href="https://www.youtube.com/watch?v=kvTzdD1eGU Q&amp;t=213s">https://www.youtube.com/watch?v=kvTzdD1eGU Q&amp;t=213s</a>			
Atoms	Describe the reactions of the group 1 elements	R406	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.14">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.14</a>			
Atoms	Describe the reactions of the group 7 elements and explain their trends	R580	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.15">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.15</a>			
Atoms	Describe the process of distillation	R550	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.07">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_1.07</a>			
Bonding	Describe how ions are formed	R868	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_2.01">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_2.01</a>			

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Bonding	Explain what happens during ionic bonding including electron transfers	R557	<a href="https://www.youtube.com/watch?v=MdU44WeiLps">https://www.youtube.com/watch?v=MdU44WeiLps</a>			
Bonding	Describe how simple covalent compounds are formed and represent them as dot and cross diagrams	R467	<a href="https://www.youtube.com/watch?v=7IkYm7ZgiAw">https://www.youtube.com/watch?v=7IkYm7ZgiAw</a>			
Bonding	Explain the properties of alloys	R596	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.1">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.1</a>			
Bonding	Describe the structure of fullerenes and graphene	R916	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.09">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.09</a>			
Bonding	Describe the structure of diamond and graphite	R916	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.08">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.08</a>			
Bonding	Describe the properties of ionic compound	R562	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.03">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.03</a>			
Bonding	Describe the properties of covalent compounds	R876	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.07">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_2.07</a> <a href="https://www.youtube.com/watch?v=ZeJubj0KWdM">https://www.youtube.com/watch?v=ZeJubj0KWdM</a>			
Bonding	Describe the bonding and properties of polymers	R371	<a href="https://www.youtube.com/watch?v=EP0zfm_FVqc">https://www.youtube.com/watch?v=EP0zfm_FVqc</a>			
Bonding	Describe the structure and properties of giant covalent compounds	R916	<a href="https://www.youtube.com/watch?v=RVV8pncaA7A">https://www.youtube.com/watch?v=RVV8pncaA7A</a>			
Bonding	Describe the properties of metallic structures	R928	<a href="https://www.youtube.com/watch?v=tRKkGRBndto">https://www.youtube.com/watch?v=tRKkGRBndto</a>			
Chemical	Identify and name state changes between	R211	<a href="https://www.youtube.com/watch?v=hkBrw2fG75U">https://www.youtube.com/watch?v=hkBrw2fG75U</a>			

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Changes	solids, liquids and gases					
Chemical changes	Identify displacement reactions	R640	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.06">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.06</a>			
Chemical changes	Describe how molten electrolysis works	R672	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.1">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.1</a>			
Chemical changes	Explain how aqueous electrolysis works	R279	<a href="https://www.youtube.com/watch?v=6WjC_Vi4roA">https://www.youtube.com/watch?v=6WjC_Vi4roA</a> <a href="https://www.youtube.com/watch?v=mL7mkqyLpS0">https://www.youtube.com/watch?v=mL7mkqyLpS0</a>			
Chemical changes	<b>HT ONLY: Write half equations to show what happens during electrolysis</b>	R792	<a href="https://www.youtube.com/watch?v=W9ngXNxSy0">https://www.youtube.com/watch?v=W9ngXNxSy0</a>			
Chemical changes	Explain how to make a pure dry sample of salt	R412	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_11.01">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_11.01</a>			
Chemical changes	Explain how to separate metals from oxides	R483	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.08">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.08</a>			
Chemical changes	Explain the difference between acids and bases	R529	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.01">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.01</a>			
Chemical changes	<b>HT ONLY: Explain the difference between strong and weak acids</b>	R629	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.03">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.03</a>			
Chemical changes	Describe the electrolysis of aluminium oxide works	R672	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.11">https://cognitoedu.org/coursesubtopic/c2-gcse-aq-a-h-t_4.11</a>			
Chemical changes	<b>HT ONLY: Explain how the pH scale works and what it shows.</b>	R309	<a href="https://www.youtube.com/watch?v=4pIHhXfGZIE">https://www.youtube.com/watch?v=4pIHhXfGZIE</a>			
Quantitative	Explain the law of conservation of mass	R533	<a href="https://www.youtube.com/watch?v=YZi5DnMX0X">https://www.youtube.com/watch?v=YZi5DnMX0X</a>			

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chemistry			<a href="https://www.youtube.com/watch?v=M&amp;pp=ygUZRONTRSBjb25zZXJ2YXRpb24gb2YgbWFzZcw%3D%3D&amp;pbjreload=102">M&amp;pp=ygUZRONTRSBjb25zZXJ2YXRpb24gb2YgbWFzZcw%3D%3D&amp;pbjreload=102</a>			
Quantitative chemistry	<b>HT ONLY: Calculating mass and moles</b>	R624	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.03">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.03</a>			
Quantitative chemistry	Calculate relative formula mass and percentage by mass	R195	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.01">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.01</a>			
Quantitative chemistry	Calculate the concentration of solutions <b>HT ONLY: Calculating concentration using moles</b>	R807 H: R262	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.08">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_3.08</a>			
Quantitative chemistry	Balance chemical equations and explain what is happening during a chemical reaction	R994	<a href="https://www.youtube.com/watch?v=qquOFYOplD0">https://www.youtube.com/watch?v=qquOFYOplD0</a>			
Energy changes	Investigate how temperature changes in different practical situations	R466	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_11.04">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_11.04</a>			
Energy changes	Describe what endothermic and exothermic reactions are	R833	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_5.01">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_5.01</a>			
Energy changes	Draw and describe energy profile graphs	R675	<a href="https://www.youtube.com/watch?v=hNNvlsQLSV8">https://www.youtube.com/watch?v=hNNvlsQLSV8</a>			
Energy changes	<b>HT ONLY:</b> Calculate bond energies to determine if a reaction is endothermic or exothermic	R769	<a href="https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_5.02">https://cognitoedu.org/coursesubtopic/c2-gcse-aqa-h-t_5.02</a>			