

**Single Sciences (Biology, Chemistry and Physics) and Combined Science:  
 grade descriptors for GCSEs graded 9 to 1**

| <b>Grades</b> | <b>A01 Recall</b>   | <b>A02 Applying Knowledge</b>   | <b>A03 Analyse and Evaluate</b>  |
|---------------|---|---|--|
| <b>WTG</b>    | Learners <b>to add</b> scientific labels to a diagram   | Learners <b>to recognise objects</b> from diagrammatic representations.                     | Learners <b>order or rearrange</b> a method or process into the correct order  |
| <b>1</b>      | Learners <b>recognise or recall</b> Science Symbols and SI units from a list<br><br>Learners <b>recognise</b> a simple use of a substance or process<br><br>Learners <b>order or rearrange</b> a method or process into the correct order | Learners <b>recognise</b> a simple <b>use</b> of a substance or process                     | Learners <b>find</b> the <b>missing</b> information when given an equation, paragraph or diagram   |
| <b>2</b>      | Learners <b>recognise/identify</b> a part/parts of a diagram  | Learners <b>apply</b> knowledge of the property of a substance to its use.                  | Learners <b>find</b> the <b>correct</b> explanation from an observation/data of a practical shown<br><br>Learners <b>put numbers into an equation</b> and perform a simple calculation.  |
| <b>3</b>      | Learners <b>describe</b> what happens during a scientific process<br><br>Learners <b>recall</b> how to <b>draw</b> a biological, chemical or physical structure<br><br>Learners <b>recall</b> a process or substance and its use          | Learners <b>choose</b> a substance over another when given criteria to <b>judge</b> its use | Learners <b>rearrange</b> a simple equation<br><br>Learners <b>convert</b> using a one-step calculation (e.g. mm to $\mu\text{m}$ )  |
| <b>4</b>      | Learners <b>recall properties</b> of substances and <b>link them with</b> their <b>use</b> .<br><br>Learners <b>draw simple</b> scientific diagrams with <b>some</b> support  | Learners <b>apply</b> scientific understanding to a real-world use/situation                | Learners <b>interpret</b> data using scientific knowledge, processes or ideas<br><br>Learners <b>convert</b> normal numbers into <b>standard form</b> .<br><br>Learners will be able to <b>complete simple</b> calculation from a graph (choose, read and find difference between two numbers) |

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|----------|--|--|--|
| <b>5</b> | <p>Learners <b>add in</b> missing information based on their <b>knowledge</b> and <b>understanding</b> of science</p> <p>Learners <b>draw specific</b> scientific diagrams given minimal information</p>                 | <p>Learners <b>apply</b> scientific knowledge to add labels to a diagram, graph or data.</p> <p>Learners <b>explain</b> with reason why a substance is used in real life with reference to its property.</p>   | <p>Learners will complete simple calculations by <b>substitution</b> of numbers. Learners complete simple calculations using <b>2 or 3 steps</b> and/or convert ordinary numbers to <b>standard form</b>.</p>  |
| <b>6</b> | <p>Learners <b>state</b> a limitation of a model<br/>Learners <b>write</b> a scientific definition</p> <p>Learners <b>explain with reasons</b> some or all <b>part of a procedure</b> in an investigation or process</p> | <p>Learners <b>apply</b> scientific understanding to explain phenomena.</p> <p>Learners <b>explain</b> how a change in an experiment can improve the outcomes/obtain more valid data</p>                       | <p>Learners <b>plot</b> a graph <b>accurately</b>, draw a line of best fit and extrapolate to obtain an unknown value</p> <p>Learners <b>complete a two step calculation</b>, involving finding information and giving the result as <b>significant figures</b>.</p> |
| <b>7</b> | <p>Learners <b>suggest</b> a reason for a part of an experiment using understanding of a scientific process</p>  | <p>Learners <b>explain</b> how a model was <b>changed</b>, citing the <b>evidence</b> and its interpretation.</p>  | <p>Learners <b>evaluate</b> information from the <b>evidence</b> and <b>understanding of a process</b></p>   |
| <b>8</b> | <p>Learners <b>explain</b> an observation in terms of the process and property of substances.</p>  | <p>Learners <b>plan</b> a practical that would lead to a <b>valid</b> outcome by controlling variables</p> <p>Learners <b>apply</b> data from calculations to an observation/chemical or physical Property</p> | <p>Learners <b>justify</b> a given answer/point of view and back them up with an explanation</p> <p>Learners complete calculations <b>involving 3 or 4 steps, choose</b> information and the mathematical operations required.</p>                                   |
| <b>9</b> | <p>Learners <b>correctly</b> choose information from a set of data, and decide <b>without help</b> how to use the data.</p>  | <p>Learners <b>explain</b> how macro- and micro physical properties are interlinked.</p>   | <p>Learners <b>perform several calculations</b> on chosen data on observed phenomena.</p>  |