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| Know  1  Individual skills | | |  | Integration | | Apply  2  Understand principles | |
| Skills | | | | Strategy | |  | |
| K3  K5  K4  K2  K1 | Identify variables that you could not control properly  Identify aspects of the method that did not go according to plan  Suggest reasons for differences in repeat readings  K10  Compare your results to someone else's  Comment on whether your findings fit with known scientific explanations |  | | | Analyse strengths and weaknesses in your inquiry | A2  A1 | Describe how the size of the error in an investigation affects the strength of the evidence  Explain why having someone else repeat the experiment could increase confidence in the conclusion. |
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| A3 | Identify potential sources of random and systematic error |
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| K8  K9  K7  K6 | Suggest better ways to control variables  Suggest ways to improve the method  Suggest ways to reduce measurement errors  Research other possible scientific explanations for your conclusion | K11 | | | Suggest improvements and developments | A4 |  |
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| Key words | | **Random and systematic error**  Random errors are when the same quantity is measured and inconsistent values are obtained. Systematic errors arise from an inaccuracy in the system and give rise to errors of the same value. | | | | |  |
| K12 | **Experimental error** Variations in measurements, owing to the method, measurement techniques, the instrument |