|  |  |  |  |
| --- | --- | --- | --- |
| Know1Individual skills |  | Integration | Apply 2Understand principles |
| Skills | Strategy |  |
| K3K5K4K2K1 | Identify variables that you could not control properlyIdentify aspects of the method that did not go according to planSuggest reasons for differences in repeat readingsK10Compare your results to someone else'sComment on whether your findings fit with known scientific explanations |  | Analyse strengths and weaknesses in your inquiry | A2A1 | Describe how the size of the error in an investigation affects the strength of the evidenceExplain why having someone else repeat the experiment could increase confidence in the conclusion. |
|  |  |
| A3 | Identify potential sources of random and systematic error |
|  |  |
|  |  |
|  |  |  |  |  |  |
| K8K9K7K6 | Suggest better ways to control variablesSuggest ways to improve the methodSuggest ways to reduce measurement errorsResearch other possible scientific explanations for your conclusion | K11 | Suggest improvements and developments | A4 |  |
|  |  |
|  |  |
|  |
|  |
|  |  |  |  |
| 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  |