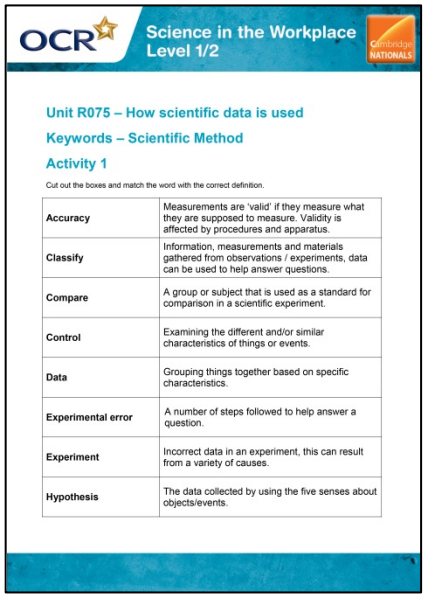
# Unit R075 – How scientific data is used

# Keywords – Scientific Method

## *Instructions and answers for teachers*

*The activities below cover LO4: Be able to communicate scientific information*



OCR Science in the Workplace Level 1/2

Unit R075 – How scientific data is used

Keywords – Scientific Method

Activity 1

Cut out the boxes and match the word with the correct definition.

| | |
|---|---|
| **Accuracy** | Measurements are 'valid' if they measure what they are supposed to measure. Validity is affected by procedures and apparatus. |
| **Classify** | Information, measurements and materials gathered from observations / experiments, data can be used to help answer questions. |
| **Compare** | A group or subject that is used as a standard for comparison in a scientific experiment. |
| **Control** | Examining the different and/or similar characteristics of things or events. |
| **Data** | Grouping things together based on specific characteristics. |
| **Experimental error** | A number of steps followed to help answer a question. |
| **Experiment** | Incorrect data in an experiment, this can result from a variety of causes. |
| **Hypothesis** | The data collected by using the five senses about objects/events. |

Associated files:

Units Card Sort (activity)

Activity 1 – approx. 30 mins


*This activity offers an opportunity for English skills development.*

In this activity learners complete a card match exercise containing all the correct and relevant words they should use in their scientific write ups and reports.

# Activity 1

| | |
|---|---|
| **Accuracy** | A measurement of how close the reading is to the true value |
| **Classify** | Grouping things together based on specific characteristics. |
| **Compare** | Examining the different and/or similar characteristics of things or events. |
| **Control** | A group or subject that is used as a standard for comparison in a scientific experiment. |
| **Data** | Information, measurements and materials gathered from observations/experiments, data can be used to help answer questions. |
| **Experimental error** | Incorrect data in an experiment, this can result from a variety of causes. |
| **Experiment** | A test using observations and variables to discover answers to questions, and/or to check a hypothesis. |
| **Hypothesis** | A testable explanation for observations and questions. |
| **Methods** | An ordered series of steps followed to help answer a question. |
| **Observation** | The data collected by using the five senses about objects/events. |
| **Precision** | The closeness between measured values obtained by repeated measurements. |
| **Prediction** | A statement made about the expected outcome of an experiment based on past experiences/observations. |
| **Procedure** | A number of steps followed to help answer a question. |

| | |
|---|---|
| **Qualitative data** | Data that is based on observable characteristics of things/events. |
| **Quantitative data** | Data that is based on measurable features of things/events such as mass, volume, length, and quantity. |
| **Repeatability** | A measurement is repeatable if the same/similar results can be obtained when repeating the measurements under the same conditions. |
| **Scientific theory** | An explanation for patterns in nature that is supported by scientific evidence which is based on data collected using scientific methods. |
| **Validity** | Measurements are 'valid' if they measure what they are supposed to measure. Validity is affected by procedures and apparatus. |
| **Variation** | Differences between objects, organisms or events that are all of the same basic type eg members of the same species. |
| **Variable** | Something that can affect something being tested, and is therefore a factor that may change in an experiment. |
| **Variable**, **control** | A factor that is controlled/kept the same in an experiment. |
| **Variable**, **dependent** | A factor that is measured in an experiment. |
| **Variable**, **independent** | A factor that can be changed in an experiment by the scientist. |