Definitions and Concepts for OCR (B) Physics GCSE

Topic 7: Ideas About Science

*Definitions in **bold** are for higher tier only*

Definitions marked by '' are for separate sciences only*

Accuracy - How close the measurement is to the true value.

Cause-effect link - A relationship between two variables whereby a change in one causes a change in the other.

Controlled variable - A variable that remains constant throughout the experiment.

Correlation - The relationship between 2 variables. Correlation does not necessarily mean a change in one variable is causing a change in the other - it is not the same as a cause-effect link.

Extrapolation - The extension of a graph, curve, or line following the trend of the data.

Hazard - Something that may cause harm. For example, a chemical that causes burning if it comes into contact with the skin is a hazard.

Hypothesis - A tentative explanation for an observed phenomenon. It is used to make a prediction about how, in a particular experimental context, a change in a factor will affect the outcome. ✣

Interpolation - The estimation of unknown data within a range of known values.

Outlier - A data point that is significantly different to the rest of the data set. An outlier should be treated as data, unless there is a clear reason to reject it.

Peer review - The evaluation of new scientific claims by other scientists in the same field to ensure it is valid, original and of high quality.

Perceived risk - Refers to people's perception of a particular risk.

Precision - Refers to the measurement being the same, or very similar, each time the experiment is carried out.

Prediction - A guess as to what might happen based on what is observed.

Random error - An error in measurement caused by an unpredictable or unknown change.

Range bars - They are drawn at each point in a graph indicating the highest and lowest measurements of repeats of each mean.

Reliability - A measure of the consistency of the results. If an experiment is reliable the same result is found after each repeat.

Repeatability - The closeness of measurements to the original result if they were to be repeated again under the same conditions by the same person.

Reproducibility - The closeness of measurements to the original result if they were to be repeated again under different conditions by a different person.

Risk - The possibility that an individual may be harmed by the hazards identified in an experiment.

Scientific theory - A general explanation that applies to a large number of situations or examples (perhaps to all possible ones), which has been tested and used successfully, and is widely accepted by scientists. ✧

Standard units - A system of measurement that is agreed upon internationally.

Systematic error - An error in measurement caused by a recurring error in the environment or experiment. This means the measured value will always be different to the true value.

Validity - Refers to how well the measurement reflects reality.

✧ Definition taken from: OCR GCSE Physics B J259 Specification