

Progression in science process skills from key stage 2 to key stage 3

From key stage 2

to key stage 3.

Observation

Describing objects, phenomena and events in some detail.

Understanding that human senses sometimes need assistance.

Making repeated observations to check results.

Justifying why, and saying how, observations are made.

Choosing appropriate aids to make observations.

Beginning to link the quality and quantity of observations to 'concepts of evidence.'

Measurement

Making measurements of basic quantities (mass, length, time, volume, temperature).

Choosing equipment suitable for the type of measure to be made.

Reading major scale divisions.

Making repeated and accurate measures of basic and derived quantities (e.g. velocity / rate).

Choosing the appropriate measuring range of a piece of equipment.

Reading minor scale divisions.

Predicting

Making a statement of expectation based on limited scientific reasoning.

Giving some idea of the sequence, order or magnitude of events or effects.

Justifying predictions in terms of science ideas.

Using evidence to give reasoned predictions of the sequence, order or magnitude of events or effects.

Planning

Identifying some effect factors and realising that one has to be changed whilst others are controlled.

Identifying most of the key factors that might have an effect. Selecting factors to control.

Recording

Realising when line graphs and bar graphs should be used. Constructing graphs with some help.

Beginning to decide on axes and scales for graphs.

Constructing line graphs.

Choosing appropriate axes and scales for graphs.

From key stage 2

to key stage 3.

Interpreting evidence

Recognising simple trends and patterns in results.

Describing detailed patterns in results, e.g. changes over time.

Evaluating evidence

Knowing when some results don't fit the pattern and beginning to wonder why.

Identifying and explaining anomalous results.

Realising that single results might not occur again.

Linking reliability of findings to the spread of readings.

Beginning to reflect on experimental design.

Linking reliability to experimental design where appropriate.