



## Key Vocabulary

### Tier 1

Test	A procedure carried out to investigate a question or phenomenon
Measure	To determine the size, quantity or degree of something using standard units.
Change	To alter a condition or variable in an experiment
Result	The data or outcome obtained from an investigation
Safe	Free from risk of harm or danger

### Tier 2

Data	A statement about what we think
Hypothesis	A scientific prediction with reasoning
Compare	To examine similarities and differences between sets of data
Pattern	A trend or relationship observed in data
Error	A factor that causes a measurement to differ from the true value

### Tier 3

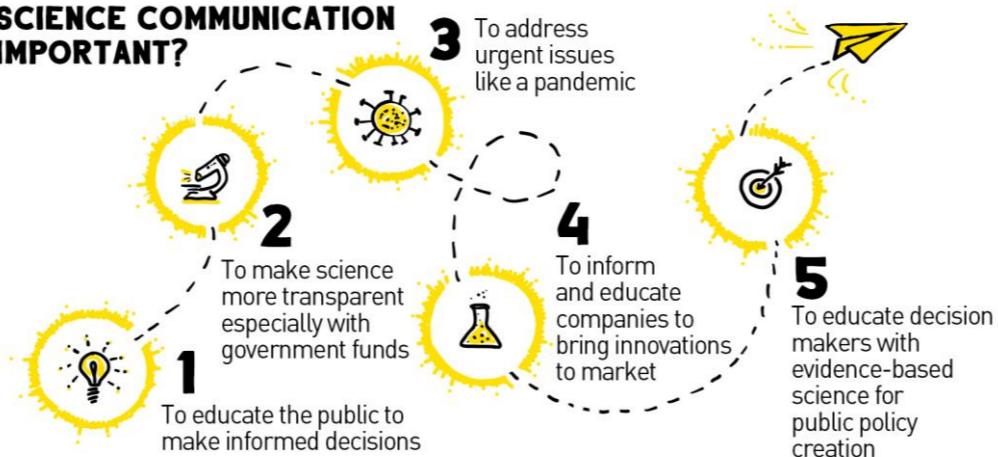
Anomaly (Anomalous result)	A result that does not fit the expected pattern
Precision	The level of detail in a measurement, usually determined by the instrument used.
Repeatability	The ability to obtain the same results when the same person repeats the investigation under the same conditions
Hypothesis	A testable scientific idea or explanation
Prediction	A statement about the expected outcome of an investigation based on prior knowledge.

### Career Links

Research scientist, doctor, Engineer, Pharmacist, Environmental scientist, Forensic Scientist, Quality control analyst, Data analyst, Food scientist, sports scientist, aerospace technician, biotechnologist, Meteorologist, Geoscientist

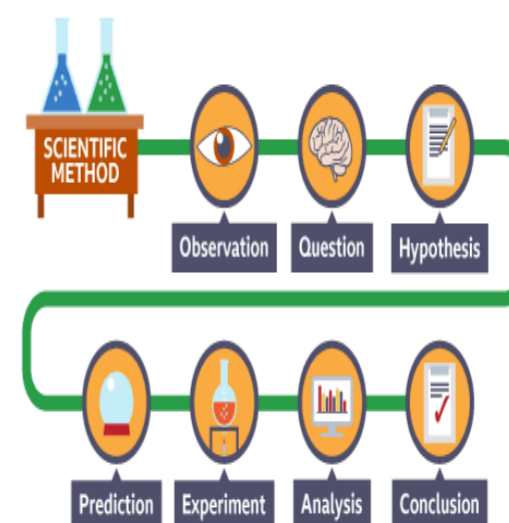
### Homework

## WHY IS GOOD SCIENCE COMMUNICATION IMPORTANT?



## Key Knowledge

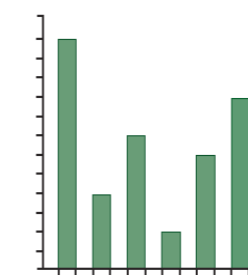
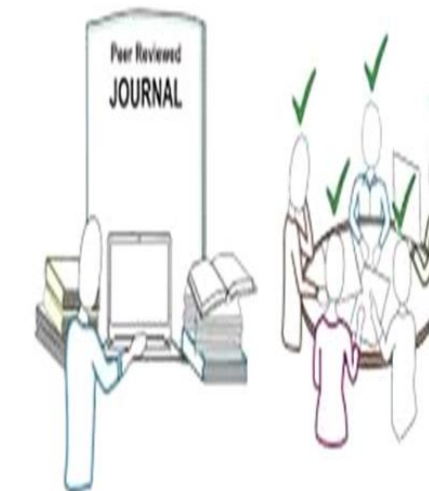
- Scientific investigations must be designed to answer a specific question or test a hypothesis.
- A method should be written as a clear sequence of steps that allows the investigation to be repeated.
- Data collected can be quantitative (numbers) or qualitative (description)
- Results are recorded in a table and may be displayed in graphs to identify patterns or trends.
- Errors can affect results:
  - Random errors happen unpredictably and cause scatter in data
  - Systemic errors consistently shift results away from the true value



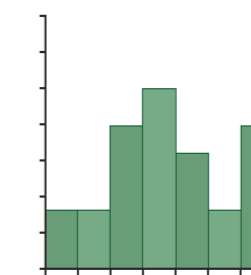
## Assembling a scientific argument



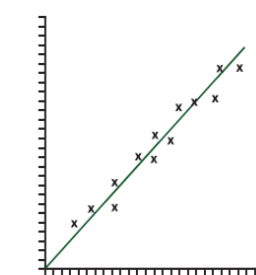
## Peer Reviewed



When one of our variables is discrete, we draw a bar chart.



When continuous data is grouped into categories, we draw a histogram.



When both variables are continuous, we draw a scatter graph.