Topic	Practical skills in science	**Level**	Key Stage 3 and GCSE (or any course for students aged 11-16)
Outcomes	1. To work as a scientist		

Assessment landscapes are printed onto card at the start of the year and placed into students' books. When a skill is taught and performed in a lesson then students/teachers/peers can tick and date the relevant skill to show they have developed in that area.

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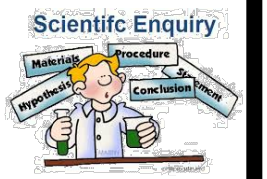
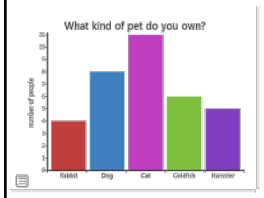
Name of scientist: …….

Working as a Year 7 Scientist

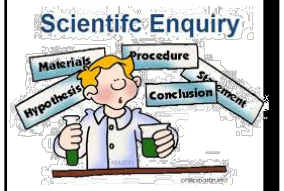
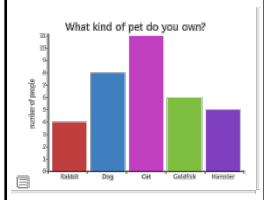
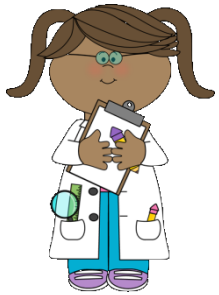
Teacher: …….

Skill Area	Term 1		Term 2		Term 3	
Scientific enquiry 	**D1.1** You can come up with a testable hypothesis from an observation.	**D1.2** You can explain a hypothesis using your scientific knowledge.	**D2.1-3** You can make and record accurate observations on chemical, biological and physical processes.	**D3.1** You can define and identify the independent variable. **D3.2** You can define and identify the dependent variable. **D3.3** You can define and identify the control variable(s)	**D4.1** You can define and understand the term reliability.	**D4.2** You can define and understand the term validity.
Processing data 	**E1.1** You can draw a bar graph with correct scale, axis and title.	**E1.5** You can draw a scatter graph with correct scale, axis and title.	**E2.1** You can draw a straight line of best fit and recognise when this is valid.	**E2.4** You can describe trends and patters in graphs.	**E3.1** You can draw appropriate tables.	**E6.1** You can state the name, symbol and unit of measurements.
Practical skills 	**F1.1** You can recall where equipment and reagents are stored in the lab.	**F1.2** You know where to put dirty equipment and common lab waste. **F1.3** You can work in a clean and tidy manner.	**F1.4** You can work safely using appropriate safety measures. **F1.6** You can identify hazards in the lab.	**F2.1** You can follow an experimental method successfully. **F2.2** You can collect the correct equipment safely and calmly.	**F4.1** You can use scientific diagrams to draw common lab apparatus.	**F4.2** You can use scientific notation to draw samples seen under a microscope.

Name of scientist: …….

Working as a Year 8 Scientist

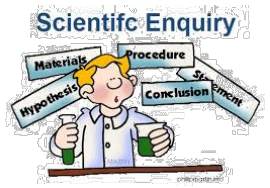
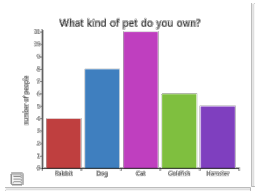
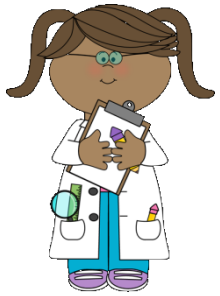
Teacher: …….

Skill Area	Term 1		Term 2		Term 3	
Scientific enquiry 	**D1.2** You can explain a hypothesis using your scientific knowledge.	**D2.1-3** You can make and record accurate observations into a table with units.	**D3.1-3** You can define and identify the independent , dependent and the control variable(s)	**D3.4** You can describe how variables can be manipulated to ensure valid results.	**D4.3** You can define and understand the term precision	**D4.4** You can define and understand there term accuracy
Processing data 	**E1.2** You can draw a histogram with correct scale, axis and title. **E1.3** You can draw a pie chart with correct scale, axis and title.	**E1.4** You can draw a line graph with correct scale, axis and title.	**E2.2** You can draw a curved line of best fit and recognise when this is valid **E2.3** You can identify anomalous results and discuss them.	**E6.2** You can convert between g and Kg, J and kJ, cm^3 and ml, cm^3 and litres.	**E6.3** You can calculate simple percentages and percentage changes.	**E4.1** You can rearrange simple equations without the use of triangles. **E6.4** You can give answers to the appropriate number of sig figs.
Practical skills 	**F1.5** You can distinguish between hazard and risk.	**F2.1** You can follow an experimental method successfully.	**F2.2** You can collect and select the correct equipment safely and calmly.	**F3.1** You can work successfully as a practical pair.	**F4.3** You can understand cross-sections of diagrams.	

Name of scientist: …….

Working as a Year 9 Scientist

Teacher: …….

Skill Area	Term 1		Term 2		Term 3	
Scientific enquiry 	**D1.1-2** You can write a hypothesis and justify it using scientific reasoning.	D1.1 You can make a prediction for an experiment based on the aim and variables.	**D2.1-3** You can make and record accurate observations from a range of experiments.	**D3.4** You can identify variables and describe how they can be manipulated to ensure valid results.	**D4.5** You can evaluate a scientific method with reference to reliability, validity, accuracy and precision.	D You can write a simple method which can be followed to carry out an experiment.
Processing data 	**E2.3** You can identify anomalous results and discuss how anomalous results.	**E3.2** You can draw an appropriate results table for any given method.	**E4.2** You can calculate simple units from formulae. **E6.5** You can use standard form .	**E5.1** You can calculate % error for different items of common apparatus.	**E5.2** You can calculate the total % error for an experiment.	**E5.3** You can comment on how the % error affects the confidence of a conclusion.
Practical skills 	**F1.1** You can recall where equipment and reagents are stored in the lab.	**F1.6** You can demonstrate skilful technique when using basic measuring equipment.	**F2.1** You can follow an experimental method successfully. **F2.2** You can collect and select the correct equipment safely and calmly.	**F3.1** You can work successfully as a practical pair.	**F4.1-3** You can use scientific notation to draw, label and understand cross-sections in diagrams.	You can perform practical tasks with little teacher guidance and obtain concordant results.