KEY STAGE 3 PROGRESS LADDER

SUBJECT: Biology

STM STAGE	Biological Ideas	Biological Methods	Collecting and Presenting Data	Data and Conclusions	Evaluating
1	▲ Simple description ■ Make suitable observations with help	▲ Follow instructions to do an experiment ■ Safely carry out an experiment	▲ Record observations in tables ■ Draw a simple bar chart	▲ Describe what is found out in an experiment	▲ Comment on how well the experiment was carried out
2	▲ Describe using few key words ■ Make simple observations	▲ Identify control variables ■ Understand why experiments are repeated ● Recognise some hazards	▲ Record results in a table, adding relevant units ■ Plot a graph including axes labels and units	▲ Describe a simple trend and begin to make a conclusion	▲ Identify where the experiment went well and where there were problems ■ Identify a result that doesn't fit the pattern
3	▲ Explain with some key words ■ Connect ideas	▲ Identify and control key variables ■ Recognise risks as high or low	▲ Draw a simple table to record results ■ Plot a graph including axes labels and units and attempt a line of best fit	▲ Make a conclusion from results ■ Explain using some biological knowledge	▲ Decide if results match what was predicted ■ Identify anomalous results from a set of repeats ● Suggest a simple way of improving the method
4	▲ Explain ideas with a range of key words ■ Use evidence or examples e.g. model ● Connect 2 or more ideas in detail	▲ Identify independent and dependent variables ■ Comment on resolution of equipment ● Identify an experimental control ★ Suggest ways to minimise risks	▲ Draw tables to collect data including repeats and processed data ■ Independently draw and label graphs with suitable scale and units with few errors	▲ Describe and explain a relationship using data and biological knowledge	▲ Explain which data supports a prediction and which does not ■ Compare repeat data and explain which ones need to be repeated ● Explain an improvement to a method
5	▲ Explain more complex ideas or detailed explanation ■ Use evidence or examples effectively ● Connect more complex ideas	▲ Recognise which variables cannot be fully controlled ■ Recognise how accurate data can be collected ● Explain what a control is and its role in an experiment	▲ Draw tables as before but showing a high degree of precision ■ Independently draw accurate graphs including suitable lines of best fit and range bars where applicable	▲ Use calculations to describe a trend ■ Use detailed biological knowledge and understanding to explain a conclusion	▲ Detailed explanation of how much the data matches predictions ■ Identify and explain which data has led to an anomalous result in the overall trend ● Use of key terms such as repeatable, reproducible, precision, validity