Subject: **Science** Year group: **7**

Core Content.
Below is a summary of the key topics that will be covered this year.

Biology	**Chemistry**	**Physics**
Cells & Microscopy	Particles	Energy
Respiration	Solubility & Separation	Astronomy
Photosynthesis	Laboratory Skills	Forces

Key Skills: Working scientifically

Forming hypotheses and making predictions.
Identifying Independent, dependent and control variables in investigations.
Describing how to correctly and safely use items of scientific equipment.
Writing investigation methods.
Making measurements and recording observations.
Plotting graphs and analysing results.
Evaluating data and methods.

GRADE	DESCRIPTOR - Scientific Concepts	DESCRIPTOR - Working scientifically
Yr 7 Grade 7	Pupils at this level have remembered and understood virtually all of the content and concepts explored in the Year 7 curriculum up to the assessment date. They can apply their understanding to new situations and make predictions. They can write detailed and comprehensive explanations.	Pupils are consistently able to: Form scientific questions of their own, plan valid and workable scientific investigations, obtain accurate data and record this in a table, plot a line graph and draw a line of best fit and identify patterns in data.
Yr 7 Grade 4/5	Pupils at this level have remembered and understood most of key content in the Year 7 curriculum up to the assessment date. They can explain most ideas using key vocabulary and can make simple predictions about what they expect to happen in scientific investigations. Their explanations are not always complete.	Pupils are beginning to ask scientific questions and, with guidance, can plan and carry out investigations safely but do not always understand whether results are valid. They can analyse tables and line graphs and explain what the results of their investigations are showing.
Yr 7 Grade 1	Pupils are starting to remember some of the key content explored in the Year 7 curriculum up to the assessment date. They can describe some of the scientific ideas but are not yet able to use their understanding to explain their observations.	Pupils can carry out a scientific investigation safely when given a method but are not yet planning their own investigations. They can collect results carefully in a table and use this to plot bar/line graphs when given some help with the scale. They are beginning to think about asking scientific questions of their own.

Subject: **Science** Year group: **8**

Core Content.
Below is a summary of the key topics that will be covered this year

Biology	**Chemistry**	**Physics**
Human Reproduction & DNA Ecology & Feeding Relationships Nutrition & Digestion Variation, Evolution & Natural Selection	Metals & Non-metals Acids & Bases Geological Changes	Magnets Electrical Circuits Sound

Key Skills: Working scientifically

Forming hypotheses and making predictions.
Identifying Independent, dependent and control variables in investigations.
Describing how to correctly and safely use items of scientific equipment is used.
Writing investigation methods.
Making measurements and recording observations.
Plotting graphs and analysing results.
Evaluating data and methods.

GRADE	DESCRIPTOR – Scientific concepts	DESCRIPTOR - Working scientifically skills
Yr 8 Grade 7	Pupils at this level have remembered and understood virtually all of the content and concepts explored in the Year 7 and 8 curriculum up to the assessment date. They can apply their understanding to new situations and make predictions. They can write detailed and comprehensive explanations.	As well as being able to meet the Yr 7 A skills criteria, pupils are consistently able to identify a range of trends shown in data, identify outliers in data and evaluate the strengths and weaknesses of a scientific method and suggest improvements.
Yr 8 Grade 4/5	Pupils at this level have remembered and understood most of key content in the Year 7 and 8 curriculum up to the assessment date. They can explain most ideas using key vocabulary and can make simple predictions about what they expect to happen in scientific investigations. Their explanations are not always complete.	Pupils are now consistently able to plan and carry out investigations safely. They can obtain accurate results and analyse tables and line graphs and explain what the results of their investigations are showing. They are beginning to identify outliers in data and suggest improvements to methods.
Yr 8 Grade 1	Pupils are starting to remember some of the key content explored in the Year 7 and 8 curriculum. They can describe some of the scientific ideas but are not yet able to use their understanding to explain their observations.	Pupils can carry out a scientific investigation safely when given a method but are not yet planning their own investigations. They can collect results carefully in a table and use this to plot bar/line graphs when given some help with the scale. They are beginning to think about asking scientific questions of their own and are starting to think about how a method might be improved.

Subject: **Science** Year group: **9**

Core Content.
Below is a summary of the Keystage 3 key topics that will be covered this year up until the start of the spring term where Keystage 4/GCSE work begins.

Biology	**Chemistry**	**Physics**
Human Health & Psychology	Elements, Compounds & Atoms Heat	Light & Waves Moments & Pressure

+ Section 1 from each of the Biology, Chemistry and Physics GCSE specifications.

Key Skills: Working scientifically

We will continue to build upon all of the skills developed in year 7 and 8, plus we will develop:

- Scientific models
- Investigation variables
- Repeatability and reproducibility
- Risk assessment
- Fair testing and control groups
- Accuracy and precision
- Errors
- Presenting data in graphs

GRADE	DESCRIPTOR – Scientific concepts	DESCRIPTOR - Working scientifically skills
Yr 9 Grade 7	Pupils at this level have remembered and understood virtually all of the content and concepts explored in the years 7-9 curriculum up to the assessment date. They can apply their understanding to new situations and make predictions. They can write detailed and comprehensive explanations.	As well as consistently demonstrating the mastery of the years 7 and 8 skills, year 9 pupils are confidently and regularly using the correct terminology to design and evaluate scientific investigations which will yield accurate and reproducible data. They can identify sources of error and suggest ways to minimise these.
Yr 9 Grade 4/5	Pupils at this level have remembered and understood most of key content in the year 7-9 curriculum up to the assessment date. They can explain most ideas using key vocabulary and can make simple predictions about what they expect to happen in scientific investigations. Their explanations are not always complete.	Pupils are thinking about variables, controls and risks involved when planning investigations. They are considering sources of error but not confidently and are beginning to identify outliers in data and suggest improvements to methods.
Yr 9 Grade 1	Pupils are starting to remember some of the key content explored in the year 9 curriculum. They can describe some of the scientific ideas but are not yet able to use their understanding to explain their observations.	Pupils are now consistently able to plan and carry out investigations safely. They can obtain accurate results and analyse tables and line graphs and explain what the results of their investigations are showing.