Bishop Heber High School

Subject	Year	Term
Biology	9	1

Topic

Cells

Content (Intent)

Prior Learning (Topic) KS3 National Curriculum

Students will have learnt SKILLS including basic microscopy and drawing plant and animal cells. Carrying out practicals safely to obtain reliable results.

Students will have learnt and built upon their KNOWLEDGE about the concept of cells and how they are differentiated to carry out their functions.

Students will have UNDERSTOOD the structure of a cell and its components, methods of viewing cells, how cells are the basic units of living organisms.

Future Learning (Topic) Cells Continued

What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)
Knowledge - To recall the differences in the structures of prokaryote and eukaryote cells. To identify the structure and function of the organelles within a eukaryotic cell. To recall how cells are differentiated for their functions. To recall the different ways molecules are transported across a cell surface membrane and factors which affect it. **Maths Skills** – Magnification calculation, graph drawing, interpretation of data.	**Key Piece of work (Homework)** Pupils given a percentage and formative feedback provided. **End of topic test** Pupils given a percentage, formative feedback and GCSE equivalent grade. **Year 9 end of term 1 ,2 and end of year exams** Pupils given a percentage, formative feedback and GCSE equivalent grade.
Practical Skills – All students will complete the following required practicals: - use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included. - investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.	**Key Piece of work (Homework)** Pupils given a percentage and formative feedback provided. **End of topic test** Pupils given a percentage, formative feedback and GCSE equivalent grade. **Year 9 end of term 1, 2 and end of year exams** Pupils given a percentage, formative feedback and GCSE equivalent grade.

How can parents help at home?

Ensure all class work is completed and homework submitted on time.
Assist in ensuring the active use of the EDUCAKE online learning platform where each pupil is given a personal log on from their teachers.
Encourage pupils to revise for tests and exams and to create revision resources such as flash cards and posters.
Ensure all pupils have all their resources required for science lessons, including knowledge organisers, exercise books, pens and calculators

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading

AQA revision guides
AQA revision cards
EDUCAKE online learning platform.
GCSE POD
BHHS Knowledge Organisers

Vocabulary Lists

Eukaryotic
Plasmid
Prokaryotic
Sub-Cellular Structures
Active Transport
Ribosomes
Differentiation
Mitosis
Stem Cell
Osmosis

Bishop Heber High School

Subject	Year	Term
Chemistry	9	1

Topic

Atomic Structure

Content (Intent)

Prior Learning (Topic) KS3 Science National Curriculum

Students will have learnt SKILLS such as balancing equations, performing practicals safely, identifying trends in reactivity based on the periodic table.

Students will have learnt and built upon their KNOWLEDGE about the concepts of chemical symbols, the periodic table, formulae for elements and compounds, the history around the structure of the atom and the creation of the modern periodic table.

Students will have UNDERSTOOD the concept of how elements in group 1, 7 and 0 react based on their atomic structure.

Future Learning (Topic) Chemical Analysis

What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)
Knowledge Recall the periodic table, historical development of the periodic table. Recall the historic and current model of the atom. The arrangement of elements in the modern periodic table can be explained in terms of their electron arrangement and how that links to their chemical reactivity. Specific reference to the chemical reactivity of group 1, 7 and 0 in the periodic table.	**Key Piece of work (Homework)** Pupils given a percentage and formative feedback. **End of topic test** Pupils given a percentage, formative feedback and GCSE equivalent grade. Formative feedback provided. **Year 9 end of year exams** Pupils given a percentage, formative feedback and GCSE equivalent grade.
Practical Skills – To study, make and recall observations during practicals when reviewing reactivity of group 1, 7 and 0. **Maths Skills** – use of linear equations to calculate relative atomic mass, significant figures. Calculation of Relative Atomic mass with reference to isotopes and their relative abundance.	

How can parents help at home?

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Encourage pupils to revise for tests and exams and to create revision resources such as flash cards and posters.
Ensure all pupils have all their resources required for science lessons, including knowledge organisers, exercise books, pens and calculators

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading	Vocabulary Lists	
AQA revision guides	Atomic Number	Plum Pudding Model
AQA revision cards	Atomic Mass Number	Nuclear Model
EDUCAKE online learning platform.	Isotope	The Noble Gases
GCSE POD	Alkali Metal	The Transition Metals
BHHS Knowledge organisers	The Halogens	Relative Atomic Mass

Bishop Heber High School

Subject	Year	Term
Physics	9	1

Topic

Energy

Content (Intent)

Prior Learning (Topic) **KS2 Science National Curriculum**

Students will have learnt SKILLS such as comparing energy and power quantities with the appropriate units and prefixes in contexts such as domestic fuel bills and energy resources. They will have also applied simple formula to calculate unknowns and make subsequent predictions.

Students will have learnt and built upon their KNOWLEDGE about the concepts of units of energy, know that an energy transfer is expressed as work done and know how it is calculated. They will be aware of different stores of energy. They will have learnt about thermal energy transfer via the mechanisms of conduction and radiation.

Students will have UNDERSTOOD the concept of simple machines in the physics context of moments and pulleys, and the concept of energy transfer between stores of energy.

Future Learning (Topic) **Forces**

What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)
Knowledge There will be a sequence of approximately ten lessons which will include the following themes: Systems and stores of energy; Calculating energy within different stores; Work done and energy transfer; Power; Dissipation of energy; Energy Efficiency; Energy Resources; and Evaluating global energy supplies.	**Key Piece of work (Homework)** Pupils given a percentage and formative feedback. **End of topic test** Pupils given a percentage, formative feedback and GCSE equivalent grade. Formative feedback provided. **Year 9 end term 1 and end of year exams** Pupils given a percentage, formative feedback and GCSE equivalent grade.
Maths Skills– learning new physics equations and applying them in familiar and unfamiliar contexts. The application of collected data into graphs and for analysis. **Practical Skills** -reading appropriate measuring equipment with accuracy and precision, taking repeats, following methods. Required Practical: Investigate the effect of insulation on rates of energy transfer.	

How can parents help at home?

Ensure all class work is completed and homework submitted on time.
Assist in ensuring the active use of the EDUCAKE online learning platform where each pupil is given a personal log on from their teachers.
Encourage pupils to revise for tests and exams and to create revision resources such as flash cards and posters.
Ensure all pupils have all their resources required for science lessons, including knowledge organisers, exercise books, pens and calculators.

Helpful further reading/discussion (including Reading and Vocabulary Lists)

Reading

AQA revision guides
AQA revision cards
EDUCAKE online learning platform.
GCSE POD
BHHS Knowledge organisers

Vocabulary Lists

Stores	Kinetic
Energy Transfer	Potential
Efficiency	Work
Power	Dissipation
Resources	Renewable