Learning Programme – KS3 Science

1st Year Science: Summer Term

Topic/ Content	Objectives/Skills Success Criteria (Developing/Secure/Excellent)	Homework	Assessment	Stretch & Challenge (Thirst for Learning)	GCSE Spec Ref:
1. Chemistry: Acids and Alkalis	**Acids and Bases** D state characteristics of acids and bases (using knowledge of everyday examples). S describe the hazards of acids and bases and how to handle them safely. E describe the differences between concentrated and dilute solutions of an acid. **Indicators** D state what is meant by an indicator. S determine what colour red cabbage pH indicator goes in acids/bases. E discuss the limitations of red cabbage indicator and suggest what would be required for a more accurate indicator. **pH scale** D state what the pH scale determines and identify the best indicator to distinguish between solutions of different pH. S describe what factors affect the pH of a solution. E use data and observations to determine the pH of a solution and explain what this shows. **Neutralisation** D state the reactants and products of a neutralisation reaction. S describe a method for making a neutral solution from an acid and alkali and how this could be tested. E explain how neutralisation reactions are used in different situations.	1 x assessed homework task DSE success criteria provided.	1 x progress check (exam question practice). DSE success criteria provided.		AQA 4.4.2.2 4.4.2.4

	Naming salts D state how a salt is made. S state the types of atoms that make up named salts. E state the names of particular salts based on the reactants that formed them. **Making salts** D state how a salt is made by a chemical reaction. S recap separating techniques and describe how these could be used to separate the products of this chemical reaction. E use data and calculation to calculate the % yield. **Acid rain** D describe how acid rain is formed. S describe the effects of acid rain. E state the causes of acid rain and suggest possible solutions to the formation of acid rain.				
2. Physics: Space	**Our Solar system** D describe the solar system (Sun and planets). S understand where Earth is within the Solar system. E discuss different scientific theories of the Solar system. **Day and Night** D state how long a day is on Earth. S explain why Earth's days are of a certain length, and explain why these differ on different planets. E describe how the tilt of the Earth affects the day length throughout the year. **The seasons** D state how long a year is on Earth. S explain why Earth's years are of a certain length, and explain why these differ on different planets. E describe how the tilt of the Earth affects the seasons of different hemispheres on Earth.	1 x assessed homework task DSE success criteria provided.	1 x progress check (exam question practice). DSE success criteria provided.		AQA 4.8.1.1

	Phases of the moon D name the phases of the moon. S explain why you see phases of the moon. E explain why you see phases of particular planets from Earth, but not others. **Artificial satellites** D state different types of artificial satellites (acknowledging that the moon is a natural satellite). S describe the role of artificial satellites. E explain how artificial satellites collect and return data to Earth. **Scale of the Universe** D state what is meant by a light year. S understand where our Solar system is within the Universe. E evaluate different models of the solar system and explain why they are usually inaccurate.				
3. Biology: Ecosystems	**Classification-animals** D know that organisms can be classified according to their physical characteristics. S use keys to classify organisms into groups based on their physical characteristics. E discuss the importance of classification as a tool for scientists. **Classification-plants** D know that organisms can be classified according to their physical characteristics. S use keys to classify organisms into groups (flowering/non-flowering etc) based on their physical characteristics. E discuss the importance of classification as a tool for scientists. **Food chains** D state what a food chain is and identify producers, consumers, predators and prey.	1 x assessed homework task DSE success criteria provided.	1 x progress check (exam question practice). DSE success criteria provided. 1 x end of term assessment (Biology/Chemistry/ Physics)-exam question practice. DSE success criteria provided.		OCR Gateway B4.1a

	S state what is represented by the arrows in a food chain. E explain how bioaccumulation as well as changes in producer and consumer populations can disrupt food chains. **Food webs** D state what a food web is and identify producers, consumers, predators and prey. S identify how different food chains interlink to form a food web. E explain how bioaccumulation as well as changes in producer and consumer populations can disrupt food chains. **Pyramids of number** D interpret a pyramid of number and understand what is meant by a trophic level. S construct a pyramid of number to represent a food chain. E to compare the number of organisms in each trophic level to the amount of energy provided for their consumer. **Habitats and adaptations** D state examples of animals and plants that have adapted to their habitats. S identify reasons organisms must adapt to their habitat (competition/weather and climate etc). E describe how specific animals and plants have adapted to their habitats, explaining the reasoning behind these adaptations.				

The homework highlighted in red or green is used when forming judgements/interim grades. The final grades are based on the one off end of unit assessment. Tasks highlighted in green will be self or peer assessed with marks recorded. Tasks highlighted in red will be teacher assessed with diagnostic feedback provided.