		Year 7 Programme of Study 2020-2021	
		Prior Learning- KS2 narional curriculum ***TO BE REFRESHED AT THE START OF EACH UNIT WITH A BRIDGING LESSON.***	
WK	**Date**	**Topics**	**KNOWLEDGE AND SKILLS**
1	07/09/2020	**B1.1 Cells**: Students should know how to observe and label cells using a microscope. *Higher students should be able to practice calculating magnification and rearrange the equation for magnification*. Be able to describe an animal and a plant cell and compare and contrast the 2 types of cell. Students should be able to label the stuctures in a plant and animal cell and describe their functions. Including specialised cells. Be able to describe diffusion and explain factors that affect rate of diffusion.	**Biology Knowledge:** using a microscope to observe plant and animal cells. Higher ability students should be able to rearrange a formula triangle to calculare magnification. Draw labelled cell diagrams. **Chemistry** - The particulate nature of matter • the properties of the different states of matter (solid, liquid and gas) in terms of the particle model, including gas pressure • changes of state in terms of the particle model
2	14/09/2020		
3	21/09/2020	**(Literacy Task)**	
4	28/09/2020		
5	05-Oct	**C1.1 Particles and their Behaviour**: Use the particle model to explain the 3 states of matter (solids, liquids and gases). Link the state of gas to browian motion. Use the particle model to explain changing state including boiling, evaportation, condensation and sublimation. Cover diffusion linked to the particle model. Use the particle model to explain gas pressure.	
6	12-Oct		
7	19/10/2020	**Assessment** 50% Cells 50% Particles	
HALF TERM			

8	02-Nov	**P1.1 Forces:** Explain what forces do and describe interaction pairs. Explain how forces can stretch and squash objects. Know what friction is and why it is important. Know the difference between contact and non-contact forces, be able to describe graviy. Know the difference between mass and weight. Describe in different situations whether forces are balanced or unbalanced.	**Physics Knowledge**: use scaled diagrams to look at balanced and unbalanced forces. Use the elastic spring practical to show stretching objects. Convert between mass and weight As per half term 1 for skills **Chemistry-** be able to use the symbols from the periodic table to construct simple compound formulae.
9	09-Nov	**(Literacy Task)**	
10	16-Nov	Revision of all topics covered. Assessment cycle covering biology B1.1, chemistry C1.1 and physics P1.1. Reviews of all topics.	
11	23-Nov	**C1.2 Elements, atoms and compounds:** Describe an element and the structure of the periodic table. Describe an atom and its properties. Explain why compounds have different properties to the elements in it.	
12	30-Nov	Be able to write the names and formulas of simple compound	
13	07-Dec		
14	14-Dec	**Assessment** 15% Cells 15% Particles 35% Forces 35% Elements, atoms and compounds	
CHRISTMAS			

15	04-Jan	**B1.2 Structure and function of the body systems:** Explain the hierarchy of organisation in a multicellular organisms. Students need to have an understanding of the structure and function of cells. Including describing the structure and function of the gas exchange system. Describe the process of inhaling and exhaling. Describe the structure and function of the muscles and bones.	**Biology Knowledge:** link knowledge of gas pressure to inhaling and exhaling. **Physics Knowledge:** draw and label transverse and longitudinal waves. Use the formula triangle to calculate the speed of echoes.
16	11-Jan	**(Literacy Task)**	
17	18-Jan	**P1.2 Waves** (has 10 lessons, By the end of the topic students will have a firm understanding of the structure of transverse and longitudinal waves. Including the link to water waves. They will be able to explain that sound is caused by vibrations which travel at different speeds in different medium. Students will be able to explain how the sound changes pitch and loudness. They will understand the structure function of the ear and how echoes and ultrasound are produce and used.	
18	25-Jan		
19	01-Feb	**Assessment** 10% Cells 10% Particles 10% Forces 10% Elements, atoms and compounds 30% Structure and Function of body systems 30% Waves	
20	08-Feb	**Chemistry reteach C1.1 and C1.2**	
HALF TERM			

21	22-Feb	**Revise all chemistry, physics and biology already taught ready for the assessment window. Reteach topics from biology, chemistry and physics.**	**Physics Knowledge:** Use ray diagrams. Conduct the reflection and refraction practicals using ray boxes.
22	01-Mar	**P1.3 Light**: Students will understand how light travels and interacts with different medium. The will be able to explain, using ray diagrams, the principle of reflection, refraction, how the eye and camera work. They will also gain a basic understanding on the different colours of light and how filters work.	
23	08-Mar	**(Literacy Task)**	
24	15-Mar	Re-teach topics from live lessons - lessons to teach organisation, gas exchange, Breathing, Detecting Sound, Wave Equations, EMS and Uses	
25	22-Mar		
Easter			
26	12-Apr	**C1.4 Acids and alkalis**: Be able to describe the properties of acids and alkalis. Describe how indicators are used to describe the pH of a solution. Describe how the pH changes in a neutralisation reaction. Describe the formation of a salt by reacting a metal and an acid.	**Biology Knowledge:** Process of reproduction and reproductive cycles. **Chemistry knowledge** Use the pH scale to identify acids and alkalis. **Chemistry Knowledge**: construct word equations for simple chemical reactions.
27	19-Apr	**B1.3 Reproduction:** Students will learn about human reproduction and how the fetus develops during pregnancy. They will get an introduction to the menstrual cycle, including the sequence of events and the hormones that control the stages. Students will understand plant reproduction, fertilisation, germination and seed dispersal.	
28	26-Apr	Literacy Task	

29	03-May	Start **C1.3 Reactions**: Know the changes that occur in a chemical reactions. Write word equation to represent chemical reactions. Explain the process of combustion of fuels. Explain thermal decomposition reactions using equations. Know that mass is always conserved in chemical reactions. Describe the characteristics of exothermic and endothermic reactions. Describe what a catalyst is and why they are used in the industry.	
30	10-May	Literacy Task	
31	17-May	**Assessment** 10% Cells and Particles 10% Forces and Elements, atoms and compounds 10% Structure and Function of body systems and Waves 10% Light and Acids & Alkalis 30% Reproduction 30% Reactions	
32	24-May	**Reteach P1.1, P1.2 and P1.3**	
HALF TERM			
33	07-Jun	**Complete C1.3 Reactions:** Know the changes that occur in a chemical reactions. Write word equation to represent chemical reactions. Explain the process of combustion of fuels. Explain thermal decomposition reactions using equations. Know that mass is always conserved in chemical reactions. Describe the characteristics of exothermic and endothermic reactions. Describe what a catalyst is and why they are used in the industry.	**Chemistry** Knowledge: construct word equations for simple chemical reactions. **Physics:** Data handling and scale. **Recap of all skills from previous half terms**.
34	14-Jun	**(B1.3 and C1.3 Test)**	
35	21-Jun	**Revise all chemistry, physics and biology already taught ready for the assessment window. Reteach topics from biology, chemistry and physics.**	

36	28-Jun		
37	05-Jul	**P1.4 Space**: This includes objects that can be seen in the night sky, including planets, comets, meteors, satellites, and stars. Students will explore our solar system and study the earth in more detail, including the orbit of the earth and the seasons. Students will also be able to explain the phases of the moon and how lunar and solar eclipses are produced.	
38	12-Jul		
39	19-Jul	**Assessment** 5% Cells and Particles 5% Forces and Elements, atoms and compounds 10% Forces and Elements, atoms and compounds 10% Structure and Function of body systems and Waves 10% Light and Acids & Alkalis 20 % Reproduction 20% Reactions 20% Space	