Key stage 3 Curriculum map 2019-20			Subject: Science			
Year 7	Half term 1 Sept – October	Half term 2 November – December	Half term 3 January - Feb	Half term 4 February – April	Half term 5 April - May	Half term 6 June - July
Weeks	7 weeks	7 weeks	6 weeks	6 weeks	5 weeks	7.5 weeks
Module	**STEM CHALLENGES**	**B:** Movement **P:** Magnets	**P:** Forces **C:** Matter	**B:** Cells **POND** Ecology (Intro)	**B:** Reproduction / Puberty **P:** Waves – Light, Sound, Mechanical	**C:** Separating mixtures **POND** Ecology
Key learning questions	What is stability? What makes a good and bad structure? How do you make something balance? What is the importance of foundations? Will substances mix? What will happen when they mix? What gas is given off? What is an acid? What is an alkali? What is aerodynamics and how does it work? Why surface area is important in aerodynamics? What do you predict will happen?	How many bones are in the human body? Can you point to and name some bones in your body? Why do we need muscles? Why do skeletons have joints? What is an antagonistic pair? What does a magnet do? How do you think a magnet works? What does repel mean? What happens when something is attracted?	What do forces do? How can we demonstrate using a force in daily life? Which forces can we feel? Why does friction happen? How do we draw diagrams showing forces acting on objects? If two forces are acting on an object how can we predict how they affect the movement of the object? What are the units for speed? How is speed measured? How could speed be calculated? Which factors will affect the speed of a moving object? What is everything made from? What are the different states of matter? Can you think of the differences in the properties of the different states of matter? Is changing in state a chemical or physical change?	Why are plant cells different to animal cells? What job does a nucleus do? How can we collect and examine a plant cell? How can we collect and examine an animal cell?	What does the term puberty mean? What changes happen to our bodies and minds as we grow into adults? What is different about puberty for males and females? How do humans reproduce? Does every living thing reproduce the same way? How do light, sound and mechanical waves work? How do scientists know they exist?	What do we mean by a mixture? What is a substance, can we think of some examples? What happens when substances are mixed together, what do they become? How can we separate more than 1 substance? What different ways are there? What is an ecosystem? Can we think of some examples? What ecosystems can we explore around Homewood? Why do people recycle? What might live in the pond? How do the creatures live? What can we identify under our magnifying glasses?

			How can you tell whether the following are solids, liquids or gases? How can we change the state of ice to a liquid? How can we change water to a gas? How are the particles different for solids liquids and gases? Can we categorise some of these items into solids, liquids or gases?			
Off-site opportunity	**STAY ON SITE**					Arundel Wildfowl Wetlands Trust
Extended writing	**Favourite STEM activity** (Evaluation WWW/EBI)	**Chicken Leg Dissection practical write up** (Logical sequence)	**Describe changes of matter** (Description)	**How to prepare a slide** (Logical sequence)	**Testing ears and reasons** (Description)	**Wetlands** (Fact file – writing for information)
Assessment End of module	Display of photos taken from experiments/challenges		Make models of solids, liquids and gases using plasticine.			
Celebration of achievement: **outcome, display, presentation, class book etc.**	Eye Scream video footage.	Display of chicken wings dissection Magnet Fishing Game	Display	Teach another year group how to prepare a slide	Audio tests try different types including the 'mosquito test' designed to annoy teenagers with a specific frequency only young people can hear.	Trip to Arundel Wetlands
PD passport						

Key stage 3 Curriculum map 2019-20				Subject: Science		
Year 8	Half term 1 Sept – October	Half term 2 November – December	Half term 3 January - Feb	Half term 4 February – April	Half term 5 April - May	Half term 6 June - July
	7 weeks	7 weeks	6 weeks	6 weeks	5 weeks	7.5 weeks
Module	STEM (space) **C:** Acids and Alkalis	**C:** Chemical Reactions **P:** Energy	**P:** Waves – Heat transfer/Radiation **B:** Variation/Genes	**B:** Ecosystems	**C:** Earth, Resources, Climate	**B:** Circulatory, Respiratory and Digestive system.
Key learning questions	How many planets are in our solar system? What is a star? Are blackholes real? How does a rocket work? What does an astronaut have to do? What are some examples of acids and alkalines? What are the main differences between acids and alkalis? How can we tell if an acid or alkali is strong or weak?		What are genes, how do they define who we are? Why are people different, how comes we don't all look the same? What happens when genes have problems? How do different eye colours work?	How does a seed grow? What does a plant need to survive? Can we describe habitats, populations and community?	What types of water are on the Earth? Are some parts of the earth in danger, why? What resources do we use as humans? What does the term climate mean? Why is the weather different in different parts of the world? What does the equator effect? How has modern technology affected the earth? How can we help the earth?	What organs are part of the digestive system? How does food end up as poo? Where does the blood go in our bodies? Why do we need blood? What job does the heart do? Can we make a model of the heart? What job do our lungs do? How many times do we breathe a day/ in our lifetime? How can we make our heart and lungs stronger? What are the effects of smoking and drinking on our cardio vascular system?
Off-site opportunity				Stanmer Organics – Eco House	Rampion Windfarm	
Extended writing				**Life Cycle of a seed**	**How green is our school?** (Survey, data/graphs)	**Journey of food**

Assessment End of module						
Celebration of achievement: **outcome, display, presentation, class book etc.**	Display of solar system	Whoosh Bottle / Film pot rockets	Powerpoint presentation	Planting – greenhouse / allotment / tyre	Picking/ Harvesting	Making Blood Making a journey of the intestines (using tights and ground up biscuits mixture)
PD passport						

Key stage 3 Curriculum map 2019-20			Subject: Science			
Year 9	Half term 1 Sept – October	Half term 2 November – December	Half term 3 January - Feb	Half term 4 February – April	Half term 5 April - May	Half term 6 June - July
ELC Science	7 weeks	7 weeks	6 weeks	6 weeks	5 weeks	7.5 weeks
Module	**BIOLOGY** **3.1.1** What is the body made of. Outcomes 1-3 **3.1.2** How the body works. Outcome 4.	**3.1.3** How the body fights disease Outcomes 5 – 7 **3.1.4** How the body is coordinated. Outcomes 8-10 **Exam Biology 1** **TDA Bio 2**	**CHEMISTRY** **3.3.1** Atoms, elements & compounds Outcomes 1 – 2 **3.3.2** How structure affects properties. Outcomes 3-4	**3.3.3** Separating mixtures. Outcomes 5-6. **3.3.4** Metals and Alloys. Outcomes 7-9 **3.3.5** Polymers Outcome 10. **Exam Chemistry 3** **TDA Chem 4**	**PHYSICS** **3.5.1** Energy, transfer, resources. Outcomes 1-3 **3.5.2** Forces and Work. Outcomes 4-5	**3.5.3** Speed and stopping distance. Outcome 6-9 **3.5.4** Atoms and Nuclear Radiation. Outcome 10 **Exam Physics 5** **TDA Phys 6**
Key learning questions	How many body parts can we think of? Do we know where some of our organs are inside us? What does the digestive system do? What is the brain's role? What are the components in blood and their roles?	What are the differences between pathogens? Can all diseases be cured or treated with medicines? If not, why not? How does the immune system work? What do antibiotics do? Why do some diseases spread? What are the terms communicable and non- communicable?	Can we describe the differences between atoms, elements and compounds? How does the periodic table help describe elements? What are they categorised into?	How can you tell what a substance and a mixture are? What are the different ways we can separate mixtures? How can you investigate the properties of metals? Are all metals the same? Why is an alloy different to a metal? Where can we find metals? How do we extract them? What is a man-made substance? What are polymers types of? How do they behave – can we heat them, are they flexible? Are they recyclable?	What are some examples of energies? How is energy used to make a car run? What happens when energy is transferred? Does it change or convert? Why?	Why do we need to know about speed? What are the speediest things you can think of quickly? How do we measure speed? What equation do we need to know? What is radiation? How is nuclear power used? What are its advantages and disadvantages?

Off-site opportunity						Uni visit to see how x-rays work
Extended writing			Mind map of properties of atoms elements and compounds.	Write up of experiment to separate different mixtures.		Write up trip to University.
Assessment End of module						
Celebration of achievement: **outcome, display, presentation, class book etc.**			Spaghetti and marshmallow models of elements.	Video of successful experiments shown to other classes/assembly.		
PD passport						