SHAMBLEHURST PRIMARY SCHOOL ENQUIRY PLANNING MODEL

Year Group: 5 2020-21

SHAMBLEHURST PRIMARY SCHOOL

Shamblehurst Curriculum – Year 5 Medium Term Planning – Term

Active Learners	Basic Skills	Creative Learners
● Seek out and enjoy challenges ● Collaborate with others ● To show commitment and perseverance ● To assess themselves and others	● To speak clearly and convey ideas ● To read and communicate in writing efficiently and effectively ● To calculate efficiently and apply skills to solve problems ● To use new technologies confidently, purposefully and safely	● To ask questions to extend their thinking ● To generate ideas and explore possibilities ● To overcome barriers by trying out alternatives or new solutions ● To connect ideas and experiences in inventive ways

Concepts:	Perseverance	Influence	Passion	Curiosity

Enquiry Question
Curiosity and Perseverance - where would we be without them?

Mind-map

Global Neighbour

Create an invention, innovation or idea to help British farmers continue to care for the environment and become Climate Super Heroes.

English

Non-chronological report on the rocky planets.

Newspaper report

Diary and journal entries

Descriptive setting writing

Lead Curriculum subject 1

Science

Earth and space

Forces

Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests. Reporting and presenting findings from enquiries

Lead Curriculum subject 3

ICT

Know how to design and create a more complex program to achieve a desired outcome
Know how to debug a program with increasing confidence
Know how to decompose a problem for each sub section
Identify errors and know how to correct them in programs and algorithms
Begin to identify patternsin algorithms that help to solve specific problems

Enquiry question Curiosity and Perseverance - where would we be without them?

Lead Curriculum subject 2 DT

Describe and explain the purpose of their products with increasing confidence

•Indicate, describe and explain, with reasoning, the design features which will appeal to the intended users

•Know and understand the different research types there are – surveys, interviews questionnaires and web-based resources. Use one of these to gather the views of others which will impact on their design link to the needs, wants and preferences

•Know and develop their own design technique

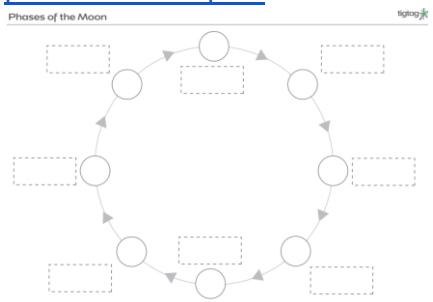
•Know how to use prototypes and pattern pieces in the design process

•Know how to use annotated sketches, cross-sectional drawings and exploded diagrams in the design process

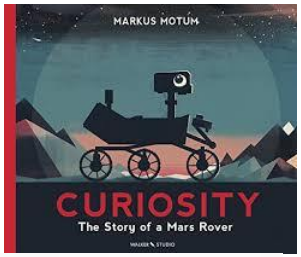
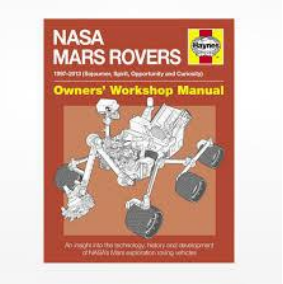
•Know how to use a computer aided design program to develop and communicate their ideas

Know how to generate innovative ideas, drawing on their research and making decisions taking into account constraints, such as, resources, time and cost

Key Learning From main trunks – use Skills and Progression documents to inform planning. What will the children learn?	How? What opportunities am I going to give the children so that they can learn?	Outcomes What will the learning look like? How will the learning be recorded?
• Describe the movement of the Earth, and other planets, relative to the Sun in the solar system • Describe the movement of the Moon relative to the Earth • Describe the Sun, Earth and Moon as approximately spherical bodies • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky Begin to plan different types of scientific enquiry to answer questions Begin to decide which variables to control ● Make accurate and precise measurements ● Decide what to observe, how long to observe for and whether to repeat them ● Take accurate and precise measurements using standard units ● Select equipment on my own and can explain how to use it accurately ● Set up a range of comparative and fair tests ● Begin to explain which variables need to be controlled and why	Immerse using non-chron books. Write a non-chron report. Outdoor activity using fruit to replicate the size and distance of the solar system. Use of BBC Stargazing to support understanding. Model outside of the Sun and planets to rotate around the sun . Guided Reading texts to support understanding . Models and videos used to show moon phases. Moon observation diary completed observing the moon phases over a month. https://www.bbc.co.uk/bitesize/clips/z3jd7ty Oreo observation to support understanding of the moon phases. https://sciencebob.com/oreo-cookie-moon-phases/  	Model and practical evidence photos and explanation in enquire books. Moon diary seen in Artstrong entries Guided Reading evidence in enquiry book . Pictures and explanations of moon phases Practical experiment to explain the movement of the sun across the sky using shadows and tracking shadows experiment .

• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.	https://www.stem.org.uk/resources/elibrary/resource/445275/paxi-and-our-moon-phases-and-eclipses  Plan and carry out a practical experiment using parachutes made of a range of materials to effect the air resistance . Friction experiments. https://carrotsareorange.com/experiments-on-friction/ Demonstrate friction using a variety of experiments, making links to how scientist had to investigate different surfaces in order to understand how Curiosity and Perseverance could travel across Mars. Air resistance - How can we slow the Mars Rovers down to land? - What material would be best ? - Children to conduct parachute experiments. To identify the effects of water resistance by creating and racing streamlined boats. To explore the effects of water resistance.file:///C:/Users/lauren.stapleton/	Planned experiment in books and pictures in books. Results from experiment and a summarising statement linking to air resistance and gravity . To identify the effects of water resistance by creating and racing streamlined boats.

	AppData/Local/Temp/Temp1_tp2-s-296-science-forces-water-resistance-year-5-lesson-pack-4-english_ver_2.zip/Lesson%20Plan.pdf	

Key Learning From main trunks – use Skills and Progression documents to inform planning. What will the children learn?	How? What opportunities am I going to give the children so that they can learn?	Outcomes What will the learning look like? How will the learning be recorded?
• Describe and explain the purpose of their products with increasing confidence • Indicate, describe and explain, with reasoning, the design features which will appeal to the intended users • Know how to reinforce and strengthen a 3D framework • Know and develop their own design technique • Know how to use prototypes and pattern pieces in the design process • Know how to use annotated sketches, cross-sectional drawings and exploded diagrams in the design process • Know how to use a computer aided design program to develop and communicate their ideas • Know how to generate innovative ideas, drawing on their research and making decisions taking into account constraints, such as, resources, time and cost **Evaluate** • Explain how particular parts of the products work • Know the strengths and weaknesses of their own products and understand the need for suggesting areas for improvement • Know that taking into consideration the views of the intended users will impact on the design and making of their product • Critically evaluate their design and design criteria to adapt their product during the making process	Using the book Curiosity Journey of a Mars Rover and https://mars.nasa.gov/msl/home/ immerse chn in the design process of building Curiosity . Explore the terrain of Mars and make links to its design .   Use of owners manual to explore cross sections , prototypes,	**Make and design rovers for different planets. Design a rover fit for purpose for the planet they have designed .** **Design and make 3D Curiosity / Perseverance a Mars Rover from wood using a variety of tools and materials .** **Sketches , models and 3D sketches practised in Art books .**

	annotate sketches and cross sections.  	

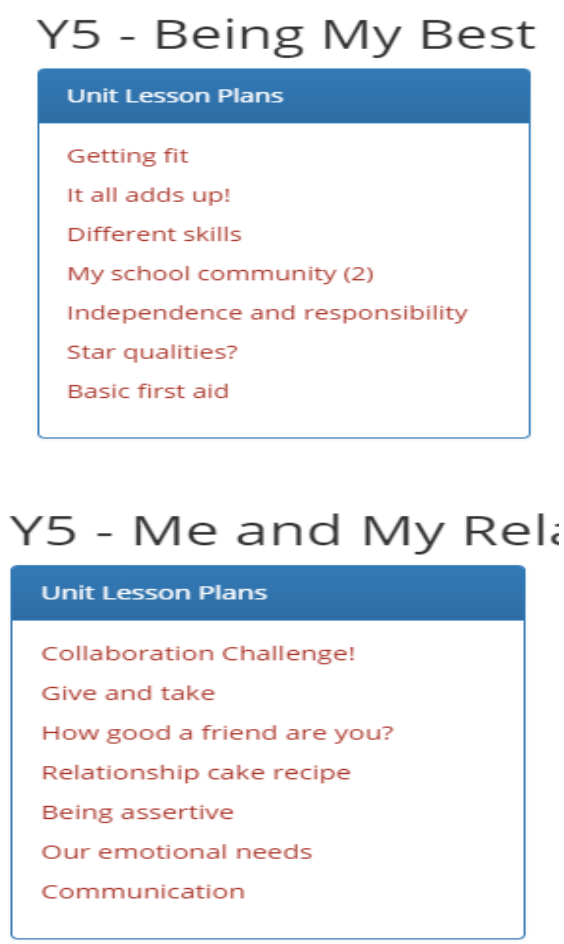
Key Learning From main trunks – use Skills and Progression documents to inform planning. What will the children learn?	How? What opportunities am I going to give the children so that they can learn?	Outcomes What will the learning look like? How will the learning be recorded?
now how to design and create a more complex program to achieve a desired outcome Know how to debug a program with increasing confidence Know how to decompose a problem for each sub section Identify errors and know how to correct them in programs and algorithms Begin to identify patterns in algorithms that help to solve specific problems	Children use SCRATCH to begin to programming skills Espresso coding tool used to support understanding of designing a code, and debugging https://www.discoveryeducation.co.uk/free-resources#sec-970934 https://www.discoveryeducation.co.uk/free-resources#sec-970934	Crumble Board programming tool to create complex programs to achieve a desired outcome. Debug a program when something goes wrong. Create a code to correct a problem . CRUMBLE software programmed to get Rovers to move and respond to the code.

Key Learning From main trunks – Global Neighbours What will the children learn?	How? What opportunities am I going to give the children so that they can learn?	Outcomes What will the learning look like? How will the learning be recorded?
Begin to communicate their concerns and ideas in relation to issues of poverty, injustice and exploitation of the natural world with decision-makers at local, national or global levels. • Make decisions about how to take action, having explored possible responses which go beyond a sense of compassion to a concern for justice. • Where ice can be found on Earth • That the amount of ice on Earth is decreasing • The difference between land ice and sea ice • That melting sea ice does not affect sea levels • That melting land ice does affect sea levels • That it is colder on areas of ice (white) than on land and water (dark) What the greenhouse effect is. • What the greenhouse gases are. • What the positive and negative consequences of the greenhouse effect are. • That without the greenhouse effect there would not be life as we know it on Earth.	Elon Musk Tesla Car in orbit. Use of money and unjust use of money. Is this fair? Is this just? How else could the money be used? Shame image of space junk. Is this fair? Who owns space?  Students do an experiment to understand the principle of the greenhouse effect. Students watch the Paxi video about the greenhouse effect and sort some images according to what they saw in the video.	Letter to Elon regarding concerns around injustice of the expense of his space missions. Could this money be spent on helping our planet rather than causing space pollution? Children will explore the impacts of global warming and melting ice on the Earth. They will learn the difference between land ice and sea ice, and will investigate the respective effects of these melting. They will then design their own experiment to examine how melting ice changes the temperature of the atmosphere. Children will finish by learning about glaciers, and by looking at satellite images of a glacier to consider how much it has melted over a period of time. Children will build a model to understand what the greenhouse effect is and analyse a

• That the human-induced increase in the greenhouse effect is causing global warming. • How to perform temperature measurements.		video to discuss the consequences of an increasing amount of greenhouse gases. inventionfile:///C:/Users/lauren.stapleton/Downloads/WFM_PS_Booklet_lowres.pdf , innovation or idea to help British farmers continue to care for the environment and become Climate Ser Heroes

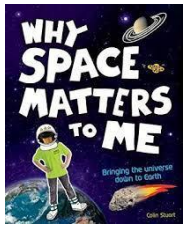
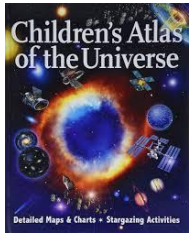
Additional Learning opportunities

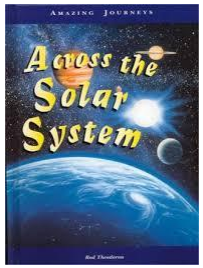
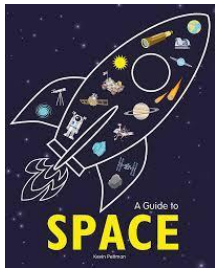
NC Subject	Skills/Knowledge	Outcomes
RE - Concept Belonging	Sequence of activities: Step 1 Communicate: *What does* belonging *mean to me?* Step 2 Apply: *On what occasions and in which situations is* belonging *significant?* Step 3 Enquire: *What does* belonging *mean?* Step 4 Contextualise: *What does this concept mean in religion?* Step 4 Evaluate: *What is the importance of* belonging *to Muslims and to me?*	Children will be able to: 1 Children can describe in simple terms their response to the concept of *belonging.* 2 They can identify simple examples of how *belonging* can be applied in their own and others' lives. 3 They can describe in simple terms what it means to *belong* to something. 4 They can simply describe how *belonging* is important to Muslims. 5 They can evaluate, by describing in simple terms, the importance to believers and to themselves of *belonging*.
RE Unit 2 - the birth narratives	Sequence of activities: **Step 1 – Enquire: *What does* interpretation *mean?*** . **Step 2 – Contextualise: *What does* interpretation *mean in the birth narratives?*** . **Step 3 – Evaluate: *What is the value of the different* interpretations *to Christians? What do I think?*** **Step 4 – Communicate: *What does* interpretation *mean to me?*** **Step 5 – Apply: *On what occasions and in what situations is* interpretation *significant?*** .	Intended learning outcomes: Children will be able to: **Step 1** explain the meaning of the word *interpretation* **Step 2** explain why there are two *interpretations* of the story of the birth of Jesus in the Bible **Step 3** explain the value of the two *interpretations* for Christians and describe some issues raised **Step 4** explain a personal response to the way in which different *interpretations* of situations have been evident in their own experience

		Step 5 explain how their ideas about *interpretation* may affect their experiences and others' experiences.
PSHE - Being My Best (Autumn 1) and Me and My Realtionsips (Autumn 2)		Children will be able to: ● Know two harmful effects each of smoking/drinking alcohol. ● Explain the importance of food, water and oxygen, sleep and exercise for the human body and its health. ● Understand the actual norms around smoking and the reasons for common misperceptions of these. ● Demonstrate how to respond to a wide range of feelings in others; ● Give examples of some key qualities of friendship; ● Reflect on their own friendship qualities. ● Explain what is meant by the terms negotiation and compromise; ● Describe strategies for resolving difficult issues or situations ● Identify what things make a relationship unhealthy; ● Identify who they could talk to if they needed help. ● Recognise basic emotional needs, understand that they change according to circumstance; ● Identify risk factors in a given situation (involving smoking or other scenarios) and consider outcomes of risk taking in this situation, including emotional risks.

Geography Where ice can be found on Earth • That the amount of ice on Earth is decreasing • The difference between land ice and sea ice • That melting sea ice does not affect sea levels • That melting land ice does affect sea levels • That it is colder on areas of ice (white) than on land and water (dark) What the greenhouse effect is. • What the greenhouse gases are. • What the positive and negative consequences of the greenhouse effect are. • That without the greenhouse effect there would not be life as we know it on Earth. • That the human-induced increase in the greenhouse effect is causing global warming. • How to perform temperature measurements.	Students do an experiment to understand the principle of the greenhouse effect. Students watch the Paxi video about the greenhouse effect and sort some images according to what they saw in the video.	Children will explore the impacts of global warming and melting ice on the Earth. They will learn the difference between land ice and sea ice, and will investigate the respective effects of these melting. They will then design their own experiment to examine how melting ice changes the temperature of the atmosphere. Children will finish by learning about glaciers, and by looking at satellite images of a glacier to consider how much it has melted over a period of time. Children will build a model to understand what the greenhouse effect is and analyse a video to discuss the consequences of an increasing amount of greenhouse gases.

English Learning Journey English Learning Journey – Year 5

Year 5 **English learning journey** **Outcome:** Task : Non-chronological report / Information text on Rocky Planets Audience: Shamblehurst website and parents. Purpose: To inform and entertain	**Text drivers:** Why Space matters to me.  Children's Atlas of the Universe  Across Solar System	**Key writing objectives from NC:** **Key writing statements:** **To take notes** **To develop initial ideas** **Use technical and precise language** **Use organisational devices** **Engage audience through appropriate headings and subheadings** **To vary sentence length to engage and entertain the reader.** **To use conjunctions to offer opposite facts .** **To use relative clauses** **To use brackets for added information.** **Key reading objectives from NC:** Discuss understanding of what has been read Understanding meaning of text in context To understand subject specific vocabulary

	 Various Information Texts with information about planets. A Guide to Space  https://theplanets.org/venus/ https://solarsystem.nasa.gov/planets/overview/	Distinguish between fact and opinion Retrieve, record and present information extracted **Language for effect:** - Identify how language, structure, and présentation contribue to meaning - Discuss how language used has an effect on the reader. **Transcription:** - Place the possessive apostrophe accurately in words with regular plurals. - Use the first two or three letters of a word to check its spelling in a dictionary. - Spell words, which are often misspelt. - Use further prefixes and suffixes and understand how to add them. - Spell further homophones

	https://nineplanets.org/kids/ https://spaceplace.nasa.gov/planets/en/	To identify the features of non-chronological report using a worked example. To retrieve and record information on rocky planets and identify the features of non-chronological writing. To use research to gather information. To explore unfamiliar language in context To explore technical and precise vocabulary To use a variety of sentence types. To use commas in a list. To use rhetorical questions to engage the reader The use of conjunctions to add detail To use a noun, which , who , where sentence type To use conjunctions to add information To use generalisers to quantify To use modal verbs to show degrees of certainty To write in the present tense To use a relative clause sentence type to add detail The use of contrasting conjunctions to offer opposite facts. Use organisational devices to help reader. To use parenthesis to add / clarify information

		To edit and improve and publish work for an audience. To imitate features of a non- chronological report .