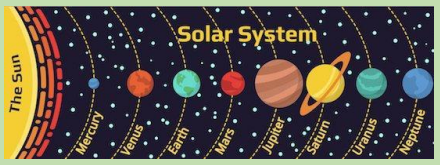
VIOLET WAY ACADEMY

Year 2 – Medium Term Planning

Aspirations – Collaboration – Connections – Creativity - Expression

Unit 2 – The Man on the Moon (6 weeks – Autumn 2)

Experiences / Visits	Planetarium Visit	Space boots wow experience	Forest Schools	
SUBJECT	**PRIOR KNOWLEDGE**	**EXPECTED**	**POSSIBLE MISCONCEPTIONS**	**Further Extension**
SCIENCE KSU **Everyday Materials**	Describe simple physical properties of a variety of everyday materials using everyday language or simple science vocabulary Group and sort everyday materials according to their simple physical properties Name a range of everyday materials including wood, plastic, metal, rock, brick, cardboard Distinguish between an object and the material from which it is made	Know the names of the eight planets in our solar system that revolve around the sun  Know that not all planets are the same and be able to talk about some of their properties (size, moons, rings and temperature) Identify and compare the suitability of a variety of everyday materials for particular uses including: wood, metal, plastic, glass, brick, rock, paper and cardboard Know that some materials are used for more than one thing (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass) Explain how the properties of materials that make them suitable or unsuitable for particular purposes Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Apply their understanding of materials to create a space helmet for an astronaut, explaining the choice of materials in relation to their physical properties **Working Scientifically** Observe closely, identifying and classifying the uses of different materials, and recording their observations Perform simple tests to check the properties of materials BBC Bitesize – identifying materials Space Suit design video	Some children may think: • the moon is a planet (*A moon is an object that orbits a planet and accompanies the planet on its own orbit around the Sun. Not all planets have a moon. Everyone is familiar with Earth's Moon that is clearly visible in the sky. The other planets with moons are Mars, Jupiter, Saturn, Uranus and Neptune*) • the sun orbits the Earth • all planets are the same (*Not all of the planets are the same. The four planets closest to the Sun (inner or terrestrial planets) are smaller than the four outer, giant planets. Some of the planets have rings and some planets have one or more moons*) • materials are only used to make one thing • everyday items are only made from one material (*Some everyday items are made using a mixture of materials*)	Children could come up with their own mnemonic to help people remember the names of the planets in our solar system Explain why a spoon would not usually be made from glass Explain why umbrellas aren't made from cardboard
HISTORY KSU **Significant individual** **Know how…** **Know how to…**	Explore the natural world around them, making observations and drawing pictures of animals and plants Understand some important processes and changes in the natural world around them, including the seasons Describe what they see, hear and feel whilst outside Understand the effect of changing seasons on the natural world around them	Know some key events about space travel and place these in chronological order on a timeline Recount the life of a famous person who lived in the past, including what they did earlier and what they did later • *Neil Armstrong had his first aeroplane ride in 1936, aged 6* • *He flew a fighter jet in 1950* • *He had his first flight in space 1966* • *He was the first man to land on the moon in 1969* Explain the impact of famous people on our lives today • *Neil Armstrong and Buzz Aldrin (Commander and Pilot for first successful moon landing 1969)* • *Mae Jemison (first black woman to travel into space 1992)* Teacher notes – Space history • *1949 Albert II was the first monkey in space. He was a Rhesus monkey, a type of monkey that originally comes from Asia.* • *1957 Russia launched the first satellite into space; Sputnik 1, and the space age had properly begun! Sputnik was the first satellite in orbit around the earth. Today there are over 500 working satellites in space. Sputnik means "Satellite" in Russian.* • *1957 Russian space dog, Laika became the first animal to orbit the earth and her mission helped scientists understand whether people could survive in space.* • *1961 Russian Cosmonaut Yuri Gagarin became the first man in space.* • *1963 The first woman in space was Russian cosmonaut Valentina Tereshkova.* • *1969 On 20th July 1969, Neil Armstrong, and then Buzz Aldrin took "one small step" and became the first men on the moon.* • *1991 In 1989, Helen Sharman entered a competition to become the first British astronaut in space. After 18 months of intensive training, Helen was part of a Russian mission to the MIR space station.* • *1992 Mae Jemmison becomes the first black woman to travel in space*	Some children may think: • humans have travelled to other planets rather than just the Moon • humans have never left the Earth	Talk about space travel events over time and suggest how space travel might evolve in the future

		• *2000 The first permanent crew moved into the International Space Station (ISS), where crews of astronauts have been living ever since.* Timeline website Planet website - NASA Planet website - Britannica		
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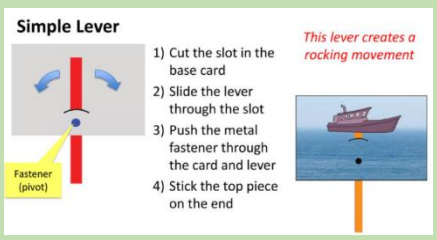
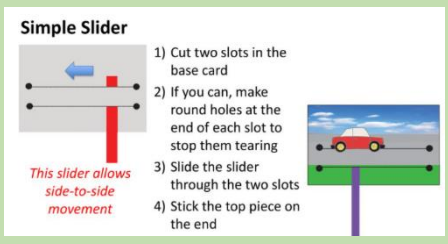
DESIGN AND TECHNOLOGY KSU **Mechanisms – sliders and levers** **Know….** **Know how to….**	Children will have explored a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function independently and with others Design / Make / Evaluate: Castle with moving drawbridge Focus on hinges: Cutting battlements, door with a hinge, safely putting a hole through card, threading string to create moving drawbridge	**RESEARCH**: Know that sliders and levers can make things move Know the type of movement generated using a slider and a lever Understand how a slider and lever allow movement Product analysis – explore how real cards that include a slider or lever works Use the words: up, down, left, right, vertical and horizontal to describe movement **DESIGN**: Design a Christmas card with a simple moving mechanism (e.g. using a slider where Santa's sleigh moves across the sky / or a lever for a sledge sliding down a hill) **MAKE**: Know how to cut and assemble simple mechanisms using card and scissors **EVALUATE**: Evaluate their lever or slider card and compare it to their original design. What worked well? What could be improved? How to make moving pictures (sliders and levers)    	Some children may think that: • design is only about making something look beautiful (*the product should be appealing but it also has a particular purpose – in the case of the cards, the moving parts make them fun and interesting*) • all pictures are still • all pop-up books use flaps	Explain why the tools and resources I used were the right tools and resources for the job Design a page of a favourite story book to include a moving picture. Would a lever or mechanism work best? Why? i.e. vertical slider for a rocket or a lever for a boat
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COMPUTING KSU **Coding** ***(Purple Mash)*** **Know…** **Know how to….**	**Coding Y2** Understand what an algorithm is Create a computer program using simple algorithms Know how the turtle object moves and understand how to use the repeat command with an object Understand how use the repeat command Understand how to use the timer command Know that the turtle and character objects have different properties and move in different ways Compare the actions of the turtle and character objects **Spreadsheets Y1** Understand what a spreadsheet looks like, navigate and enter data. Use some vocabulary related to spreadsheets Add clipart images to a spreadsheet Use the 'move cell' and 'lock' tools Use the 'speak' and 'count' tools in 2Calculate to count items	**Coding (Focus – Debugging, Different object types)** Know what debugging means Understand the need to test and debug a program repeatedly Know how to debug simple programs Create programs using different kinds of objects whose behaviours are limited to specific actions Predict what the objects will do in other programs, based on their knowledge of what the object is capable of Explain how they know that certain objects can only move in certain way (as that is what the objects were limited to) **Spreadsheets** Know what rows and columns are in a spreadsheet Know how to open, save and edit a spreadsheet Know how to copy and paste shortcuts in 2Calculate. Know how to use a spreadsheet to add amounts Use 2Calculate to solve a simple puzzle Know how to add and edit data in a table layout Know how to use the data to manually create a block graph manually	Some children may think: • they are not able to code and need to be brilliant at maths (*coding can be mastered gradually, step by step*)	Challenge: Provide pupils with additional spreadsheet data, from which they will create simple block graphs, and answer related questions given to them

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ART AND DESIGN KSU **Texture and Form** **Pattern** **Know…** **Know how to….**	Create 3D models from imagination, experience or observation – children used natural materials to create sculptures based on the work of Andy Goldsworthy	Ask questions about art and artists that create figurative sculpture using clay (Coille Hooven and Brendan Hesmondalgh) exploring similarities and differences Describe artwork and comment on, or provide an opinion about, a piece of artwork Practise using hands to sculpt clay by squashing and rolling (creating different shapes) Experiment with tools to create patterns in clay Sketch designs for a 3D alien model (identify what shapes they will need to create with the clay) and review what they and others have done, saying what they think and feel about it Shape and form clay to a specific design (alien design – shape different parts) Use slip clay (old bits of clay and water) and a tool (to score the pieces to stick) to join the clay pieces together Know how to indent clay to create patterns and textures Show an understanding of the term 'additive sculpture' (sticking parts together) Identify what they might change in their current work or develop in their future work Teachers notes: BBC Sculpture video (including clay)  Coille Hooven (figurative sculpture using clay)   Brendan Hesmondhalgh is a Yorkshire based sculptor who works primarily in clay, wax and bronze	Some children may think: • if they make a mistake, they can't correct it when working with clay • paintings are art, sculpture is not	Redesign their alien using what they identified from their evaluation (i.e. maybe they think the pattern should be different)

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PE **KSU** ***(Power of PE)*** **Know…** **Know how to….**	Move fluently, changing direction & speed easily & avoiding collisions & developing spatial awareness Use different movements, speeds & pathways Follow direct instructions when moving around a space Travel in different directions with control and fluency. Change direction safely when moving Respond appropriately to an increasing range of directions with control Develop effective catching technique Watch others, describing what they see	Move fluently, changing direction & speed easily & avoiding collisions & demonstrating good spatial awareness Use different movements, speeds & pathways when moving around the space Follow direct instructions when moving around a space and be able to make informed decisions about movement, speed and direction Show control when responding to a range of directions and when deciding own movement, direction and speed Travel in different directions with control and fluency independently and with a partner Change direction safely when moving, know how to turn on the feet, bending the knees Develop effective catching technique and use this to catch an object with increasing accuracy and control Watch others, describing what they see and making comments about how to improve their own technique	Children may think: • The faster you move the better *(speed of movement will be best judged by what is around them i.e. if they need to negotiate obstacles, being able to move side to side will be more important than speed)*	See 'Stages for differentiation' on 'Power of PE' Y1 Multi skills planning document

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RE **KSU** **Creation Story (Christianity)** ***(Discovery RE)*** **Know…** **Know how to….**	Talk about a gift that is special to them Recall some of the Christmas story Suggest a gift they would give to Jesus	***Theme**: Christmas – Jesus as a gift* ***Concept**: Incarnation* ***Religion**: Christianity* ***British Values**: Individual Liberty, Mutual Respect, Tolerance* ***SMSC**: Spiritual, Moral* Know how they could help solve a problem by showing love Remember and recall the Christmas story Reflect on the Christmas story and the reasons for Jesus' birth Understand that Christians believe Jesus was a gift from God and begin to explain why Christians think God gave Jesus to the world	Some children may think: • presents are the only types of gifts (*we also talk about giving the gift or kindness or showing someone you care – this can be just as valuable, or more valuable, to someone than a present that has been bought)*	Explain how Jesus coming to the world shows Christians how they can love and help people and the world – how might Christians do this?
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PSHE **KSU** **Celebrating Difference** ***(Jigsaw PSHE)*** **Know…** **Know how to….**	Identify similarities and differences between people in their class Know what bullying is and how it might feel Know who to talk to if they feel unhappy or are being bullied Know how to make friends	Begin to understand that sometimes people make assumptions about boys and girls (stereotypes) Understand some ways in which boys and girls are similar and different and accept that this is OK Understand that bullying is sometimes about difference (use the STOP acronym Several Times On Purpose when talking about bullying) Know how to get help if they are being bullied Recognise what is right and wrong and know how to look after myself Understand that it is OK to be different from other people and to be friends with them Understand that differences make us special and unique	Some children may think: • we all should be the same • one gender is better than another	Suggest solutions to 'What if?' problems What if someone thought that only boys play with cars What if someone said only girls could wear pink? What if someone was being mean to you because they thought you were different in some way?

NB: Music is taught by specialist music teachers from Rock it! Music. Please see the Music Knowledge, Skills and Understanding Progression grid for further details.