

Subjects	Objectives	Key Knowledge	Key Vocabulary	Skills	Activities/ Tasks
English	See progression sheets			See progression sheets	Here are some examples of writing tasks that children will complete during this topic. These tasks cover a range of genres and not all tasks will be undertaken: 1. After research, write fact files about superheroes from comic books. 2. Invent own comic book hero and write fact files. 3. Narrative- create superhero descriptions 4. Retell the back story for a known superhero after listening to the original. 5. Invent own superhero and write an adventure story involving them. 6. Write a newspaper report based on the 1969 moon landings/an imaginary landing on a chosen planet. 7. Write a poem (using question stems) about a planet, using figurative language. 8. Write a non-chronological report about the solar system. 9. Write a brief biography about one of the scientists studied. 10. Write short explanations about how the earth moves around the sun, how night and day occur and how the moon orbits the earth. 11. Explanation posters showing the effects of air and water resistance, friction and gravity. 12. Recording of investigations, including explanations, about forces. 13. Scientific reports about how light travels. 14. Recording of investigations into light and shadow
History	N/A			N/A	N/A
Geography	N/A			N/A	N/A
Science	<p>Earth and space –Y5 10-13 Describe the Sun, Earth and Moon as approximately spherical bodies. Describe the movement of the Earth, and other planets, relative to the Sun in the Solar System. Use the idea of the Earth’s rotation to explain day and night and the apparent movement of the Sun across the sky. Describe the movement of the Moon, relative to the Earth.</p> <p>Forces Y5 14, 15 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 gravity and air resistance, water resistance and friction that act between moving surfaces.</p> <p>Light –Y6, 9-12 Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p>	<p>To know that the sun, Earth and Moon are spherical bodies. To know the Earth and other planets move around the sun and are positioned in the Solar System. To know what gravity is and to understand its effects. To know about air resistance, water resistance and friction. To know that light travels in straight lines. To know how we can see things. To know how shadows are formed. To know how to set up and carry out an investigation. To know how to present findings in graphs, charts and tables.</p>	<p>Tier 2 words Spherical Rotation Reflect Deflect Investigate Predictions</p> <p>Tier 3 words Solar system Gravity Air resistance Water resistance Friction Retina Lenses Concave Convex Light source Shadows Phases of the moon Mass Light rays</p>	<p>Asking Questions & Planning Enquiries 1) Use their science experiences to explore ideas and raise different kinds of questions 2) Talk about how scientific ideas have developed over time 3) Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions 4) Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact</p> <p>Testing, Measuring & Recording 1) Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why 3) Make their own decisions about what observations to make, what measurements to use and how long to make them for 4) Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate. 5) Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>Concluding 1) Look for different causal relationships in their data and identify evidence that refutes or supports their ideas</p>	<p>Chd will be given KWL grids or equivalent to complete before finding out about planets, forces and light. They will be encouraged to ask questions which may be answered using research or by investigation.</p> <p>Earth and Space Chd will learn about the different ideas of what shape the Earth is and will use some evidence cards to help them. They will watch a PowerPoint called Spherical Bodies and complete a differentiated activity called ‘Scientific ideas and evidence’ to show their understanding. They will sort a range of evidence into fact and opinion. The chd will learn facts about the different planets and will complete a range of activities, including research, writing and drawing. They will be shown books, photographs, videos and PowerPoints to help them learn and remember these facts. They will then be taught about how the planets move around the Sun and will shown a range of animations and PPT to show how this happens. They will then be taught about geocentric versus heliocentric beliefs about the solar system. They will be read a story which tracks different beliefs across the ages, starting with early humans. They will be given the beliefs of different people and will act out the story of how this belief changed over time. (See Lesson 3 resources). The chd will learn about how night and day occurs by being shown videos and photographs as well as using a range of different sized spherical objects to demonstrate how night and day occurs. The chd will then explain orally and in writing how day and night occur. The chd will look at a short PowerPoint about how the moon orbits the earth and about the different stages of the moon. They will make small models of the earth, sun and moon and will then show to the rest of the class how these bodies rotate/orbit around each other. They will write a short explanation about this.</p> <p>Forces After completing a KWL grid or equivalent about forces, the children will be reminded of the work they have previously done on forces in KS1 and LKS2. They will then be reminded on the different types of forces that can act upon objects, including pushes and pulls, gravity, air resistance and water resistance. They will then be given differentiated bingo cards whereby the teacher calls out a force e.g. gravity and they have to write it onto the correct place on their bingo mat. LA chd will have initial</p>

Topic: Super Heroes/Earth and Space

Durham Lane Primary School: Topic Planning
Term: Autumn 1 and 2

Class: 5/6 **Teacher:** Mrs Eastwood/Miss Barrett

	<p>Explain that we see things because light travels from light sources to the eye or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>			<p>3) Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results</p> <p>Evaluating</p> <p>1) Use their results to make predictions and identify when further observations, comparative and fair tests might be needed</p>	<p>letters to help them match the words to the pictures. Next the chd will be given a story and will find the types of forces which are being used in it e.g the magician lifts a magic wand=magician's force pulling up, gravity pulling down.</p> <p>The chd will have weight and mass explained to them. They will then carry out an investigation using scales and Newton meters. They will be asked if they think there will be a link between weight and mass, make predictions and then draw conclusions from their data. They will present their findings in tables and then in a line graph showing how the heavier object will have a greater mass and that 1N equals approximately 100g.</p> <p>Write a short biography about Sir Isaac Newton.</p> <p>Then the chd will be taught about air resistance. They will be asked to make 3 parachutes for an imaginary parachute company who wants them to find which parachute falls the slowest. They will be asked to construct a fair test changing a range of variables. They will be asked to decide which observations they will make and will use measurements as appropriate. They will then record their measurements and be shown how to repeat their test to ensure their results are correct. They will present their findings to the rest of the class.</p> <p>The chd will then be introduced to the concept of water resistance and will look at the different variables that have to be taken into account when designing boats. They will use diagrams to understand and to explain the concept of water resistance. They will complete activity sheets about this and be able to discuss what variables keep vessels afloat.</p> <p>Finally for forces, pupils will be introduced to the idea of friction. They will be given some concept cartoons with statements about friction and will discuss if they are true or false.</p> <p>Light</p> <p>Chd will be invited to share their ideas about how we see things and then asked how they think light travels. They will share ideas in groups, using diagrams and adding questions about things they are unsure of.</p> <p>They will then be given information about how light hits an object and how it is then reflected from that object into the eye. They will create human models using wool to show how light travels and how we see things and will then create their own labelled diagrams.</p> <p>Further work will be done on light reflection and the angle of reflected ray compared to incident ray. They will investigate angle of reflected rays and will be involved in thinking of ways to record their answers. Then the chd will work in pairs to make a periscope, using mirrors, that they can use to see over the top of their tables whilst sitting below.</p> <p>The chd will use a range of prisms to investigate white light being refracted into different colours. This will be linked to art work on colour mixing and how it is different to mixing coloured light. They will carry out an investigation about looking at objects through different coloured filters. This will involve making predictions, recording observations and using their results to give explanations, using scientific language.</p> <p>Chd will be asked to think about what they know about shadows and will be shown a PowerPoint called "Changing Shadows" where there will be different statements about shadows which they must sort into true/false. They will then be encouraged to think of questions to investigate e.g. if I move the object further from the light, will it make a bigger/smaller shadow? If I change the colour of my object, will the shadow change? If I use a bigger torch, will the shadow be bigger? They will think about what measurements to make, their predictions and their recording. They will be asked to give explanations for their conclusions and will share with the class. This will be written in an explanation text about how shadows are formed.</p>
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<p>Art</p>	<p>1) To create sketchbooks to record their observations and use them to review and revisit ideas.</p> <p>2) To improve their mastery of art and design techniques, including drawing and painting with a range of materials</p> <p>3) Learn about great artists in history</p>	<p>Exploring/ Evaluating and developing ideas To be able to use pencils to trial their ideas. To know how to collect comic book pictures to help in their work.</p> <p>Drawing To know how to sketch characters in different positions. To know how to use light and shade to draw the phases of the moon. To know how to sketch characters in different positions. To understand how to create dark and light shades.</p> <p>Painting To know what the Pop Art movement is and how these artists use colour. To know how to use colour and pattern in similar ways to pop artists.</p> <p>Artists To know about the work of Roy Lichtenstein and Andy Warhol. To know about the artist Peter Thorpe and to use abstract art to emulate his work.</p>	<p>Tier 2 words Observe Realistic Positions Vibrant Texture</p> <p>Tier 3 words Comic books Light Shade Artefacts Pop Art Primary, secondary, complementary colours Foreground Background Abstract</p>	<p>Exploring/ Evaluating and developing ideas - Develop sketch book - Select and record from observation, experience and imagination and develop ideas confidently, using suitable materials confidently - Question and make thoughtful observations about starting points and select ideas for use in their work, recording and annotating in sketchbooks - Improve quality of sketchbook with mixed media work and annotations - Develop artistic/ visual vocabulary when talking about own work and that of others - Begin to explore possibilities, using and combining different styles and techniques - Think critically about their art and design work</p> <p>Drawing - Develop close observational skills -Observe and use a variety of techniques to show the effect of light on objects and people e.g. use rubbers to lighten, use pencil to show tone, use tones of the same colour -Look at the effect of light on an object from different directions. Produce increasingly accurate drawings of people Work on sustained, independent, detailed drawings.</p> <p>Painting - Controlling and experimenting particular qualities of tone, shades, hue and mood - Explore the use of texture in colour (link to texture unit) with sawdust, glue, shavings, sand and on different surfaces - Use colour to express moods and feelings - Explore the texture of paint – very wet and thin or thick and heavy – add PVA to the paint - Develop painting techniques using different types of paint e.g. acrylic, water colour - Demonstrate a secure knowledge about primary and secondary, warm and cold, complementary and contrasting colours - Considering colour for purpose - Carry out preliminary studies, test media and materials and mix appropriate colours - Show an awareness of how paintings are created - consider artists use of colour and application of it - Choose appropriate paint, paper and implements to adapt and extend their work</p>	<p>Exploring/ Evaluating and developing ideas Use a range of pencils and colours to trial ideas in their sketchbooks. Use a variety of stimuli e.g. pictures, toys, masks for children to choose their own starting points. Include photographs and annotations of their work as it progresses, in their sketchbooks and encourage correct vocabulary about perspective, tone, shading and light. Collect pictures of comic book heroes for use in sketchbooks.</p> <p>Drawing Sketch own superheroes, using imagination/ideas from other comic book heroes. Use actual pictures to draw from, using observational skills. Look at comic book artists and decide which ones they want to copy from. Look at how they could add light and shade to their drawings to make them look more realistic. Use toys, masks and other artefacts to explore the use of light. Sketch in different positions- close up, flying etc. Use different media e.g. pencil, paint, pastels, chalk, felt tips for their observational drawings.</p> <p>Look at phases of the moon and observe how the light of the sun makes a difference to how the moon appears in the sky. Do this as part of science lessons.</p> <p>Painting Look at Pop Art movement especially Roy Lichtenstein and Andy Warhol. Look at how these artists use colour and shape to reflect mood. Look at the Pop Art movement using Tate gallery https://www.tate.org.uk/kids/explore/what-is/pop-art Use photographs of themselves and then use spotty paper to complete pictures in style of Lichtenstein/Warhol https://thecraftyclassroom.com/crafts/famous-artist-crafts-for-kids/andy-warhol-art-project-for-kids/</p> <p>Use paintings by Warhol as inspiration to develop their own work in same style. Use YouTube to create their own pop art words using different styles of lettering, different colours and different patterns for effect. (Youtube pop art for kids Artimee) https://www.youtube.com/watch?v=N6MMd7DEie0</p> <p>Use You tube to show how to do lettering in pop art style (Mrs Bialy's Art Class) https://www.youtube.com/watch?v=r1Jit6UuxT0</p> <p>Look at primary, secondary and complementary colours. Do colour wheels and use this knowledge when doing Pop Art style pictures. Explore use of colour in Pop Art. Then look at the work of Warhol when doing lips. Use the following Youtube video for children to explore colour: https://www.youtube.com/watch?v=tyi_ZPXKeKU</p> <p>Look at painter, Peter Thorpe's work. Explore foreground and background and look at his abstract art. Explore his use of colour and emulate using different textures of paint e.g. add sand, PVA glue and look at the effect on their backgrounds.</p>
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<p>DT</p>	<p>Textiles (Making a fabric pouch)</p> <ol style="list-style-type: none"> 1) use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups 2) generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 3) select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 4) investigate and analyse a range of existing products 5) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 6) apply their understanding of how to strengthen, stiffen and reinforce more complex structures 7) understand how key events and individuals in design and technology have helped shape the world 	<p>Design, Make and Evaluate:</p> <ul style="list-style-type: none"> • To know how to plan, design and make a fabric pouch for their own superhero. • To know how to use finishing techniques so that the final product matches the 'superhero' it was designed for. • To know that evaluating a final product can lead to a better product being created next time. <p>Textiles:</p> <ul style="list-style-type: none"> • To know about a range of pouch/purse type products available and the different fastening methods used. • To know how to join different parts of the pouch/pieces of fabric together effectively and securely. • To know how to select and add effective and appropriate fasteners to a fabric product. • To know about some key designers of innovative and successful bags/purse/pouches. 	<p>Tier 2 words</p> <p>fabric stitch sew needle thread fastener velcro button logo sewing pattern functionality aesthetics annotations (hot) glue ribbons decorations sequins pom-poms</p> <p>Tier 3 words</p> <p>complementary snap fastener press stud seam seam allowance blanket stitch running stitch tacking whipstitch back stitch prototype reverse pinking shears fraying template design criteria tailors' chalk</p>	<p>Design</p> <ul style="list-style-type: none"> * use research of user's individual needs, wants, requirements for design to ensure product is fit for purpose * create own design criteria and specification * come up with innovative design ideas * produce a logical, realistic plan and explain it to others; be willing to refine. * use annotated sketches, cross-sectional planning and exploded diagrams * make design decisions, considering, resources (and cost Y6) * clearly explain how parts of design will work, and how they are fit for purpose * model and refine design ideas by making prototypes and using pattern pieces, with increasing independence * use computer-aided designs <p>Make</p> <ul style="list-style-type: none"> * use tools/equipment with good level of precision * produce suitable lists of tools, eqpt/materials needed * select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics * create, follow, and adapt detailed step-by-step plans * explain how product will appeal to an audience * accurately measure, mark out, cut and shape components * accurately assemble, join and combine components * apply a range of finishing techniques, with inc accuracy * use techniques that involve a number of steps * begin to be resourceful with practical problems <p>Evaluate</p> <ul style="list-style-type: none"> * evaluate quality of design while designing and making * keep checking design is best it can be. * evaluate ideas and finished product against specification, considering purpose and appearance (stating if fit for purpose Y6) * test and evaluate final product; explain what would improve it and the effect different resources may have had * evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose 	<p>Design</p> <ul style="list-style-type: none"> • Explain that analysing products often involves asking three main questions: does the product work? Does it meet the needs of the target market? How well is it designed and made? When the children are creating a design criteria they should think about how the product will achieve these three key points. • Look at examples of mobile phone cases/purses, pouches (make-up etc) that you have brought in and discuss what the design criteria would have been for each. • Look at key designers of bags, purses etc and discuss likes/dislikes and why they think these products have been successful. • Explain that they will be designing and making a pouch for their own superhero (from literacy work) made from felt. (Show an example of felt.) • Look at the example design criteria on the Lesson Presentation (lesson 1) Children will complete Design Criteria Activity Sheets ensuring that they have included the points from the success criteria in their design criteria. Children only include three points in their design criteria and should be able to list their design criteria in order of priority. • Chn will look at Lesson Presentation (lesson 2) to show how to draw a few initial ideas. How well have these designs met the design criteria? • Children use a plain piece of paper to sketch their initial ideas, creating their designs with their superhero in mind and they will discuss their ideas with their peers, thinking about which design they prefer and why • Chn then to choose which design they want to develop further. Children should be challenged to create original and innovative designs. • Explain that it is important to draw each side of the product so you can think about the design on all sides of the product. • Annotations: Explain that annotations are notes that develop, record and help communicate your thinking. Use the Lesson Presentation to show examples. Developing Annotated Sketches: Children use the Annotated Design Activity Sheet to create annotated sketches of their design for the felt superhero pouch. <p>Make</p> <p>For success in this project the children should be explicitly taught (and given opportunities to practise) the following skills BEFORE they begin to work with the resources for their final product and possibly even before the design stage.</p> <ol style="list-style-type: none"> Chn to be introduced to the word template and explain the advantages of using one. Explain that children will make a template because it is easier to mark measurements on paper rather than fabric and also it is easier to correct mistakes if they are drawing on paper. Chn will be shown how to use cm (10mm) squared paper to create a paper templates and the concept of a seam allowance will be explained/discussed. They will then use given measurements to draw their template onto squared paper. They will pin these to fabric scraps and practise accurate cutting of fabric. They may be introduced to the idea of tailors' chalk. Use the Lesson Presentation (lesson 4) to introduce the different stitches. Children to be given the opportunity and time to practise each of these on scrap pieces of fabric. They can assess the level of difficulty of each and also the strength and appearance and use this to decide which stitch they will use to join pieces of their pouch. Their stitch choice should be added to annotated design. Chn to be shown different fasteners and will discuss how we attach them to fabric and how effective and aesthetically pleasing they are.
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