Investigative Learning
Curriculum Progression Map

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Science	***ELG: The Natural World*** Know the names of the main parts of the human body (head, arms, legs, body/torso). Make simple observations of animals. Know about some similarities and differences between living things. Know the features of their own immediate environment. Know how some environments might vary from one another. Talk about some similarities and differences in relation to plants. Make simple observations of plants. Talk about the similarities and differences between natural and made objects. Know that weather changes and talk about these changes.	In Years 1 – 6, we follow White Rose Science scheme of learning for Science. White Rose Science Website White Rose Science National Curriculum Mapping					

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Design and Technology	**Designing**	Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively sharing ideas, resources and skills. ***ELG: Creating with Materials***	***Rainmakers & Fruit Salad*** Make close observations and provide descriptions of existing products. ***Rainmakers & Fruit Salad*** Experiment with ideas. ***Can a home move?*** Use own ideas to design something and describe how their own idea works. ***Can a home move? & Moving dinosaur model*** Design a product that moves. ***Rainmakers & Can a home move?*** Explain to someone else how they want to make their product and make a simple plan before making.	***Bug Hotel & Bread*** Evaluate and assess existing products using design criteria. ***Bug Hotel & Bread*** Generate a range of ideas and options to approach a task. ***Bug Hotel & Bread*** Design purposeful, functional, appealing products for themselves and others based on design criteria.	**Fishing for Treasure Game & Pizza** Generate as many ideas and options as possible to approach a task or problem, building on and combining these. **Fishing for Treasure Game & Pizza** Prove that a design meets a set design criteria. ***Catapults* & Fishing for Treasure Game & Pizza** Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them.	***Ear Muffs & Chocolate Crispy Christmas Cakes*** Consider how existing products might be improved and how well they meet the needs of the user. ***Ear Muffs & Chocolate Crispy Christmas Cakes*** Learn from and build on their own and others' ideas and experiences. ***Electric Lamps & Chocolate Crispy Christmas Cakes*** Use ideas from other people when designing. ***Electric Lamps & Ear Muffs*** Produce a plan and explain it. ***Electric Lamps & Ear Muffs*** Communicate ideas in a range of ways, including, sketches, drawings which are annotated and Computer Aided Design (CAD).	***Improving Victorian Gruel*** Investigate and analyse existing products considering a wide range of factors. ***Making African Instruments*** Produce a detailed, step-by-step plan. ***Making African Instruments & Funky Furnishings*** Explain how a product will appeal to a specific audience. ***Making African Instruments & Funky Furnishings*** Come up with a range of ideas after collecting information from different sources.	***Houmous Wraps*** Use research into existing products and market research to inform the design of their own product. ***Wind Turbines & Houmous Wraps*** Use knowledge of existing products to design their own functional product for a particular purpose and audience. ***WW2 Inventions & Periscopes*** Learn from and build on their own and others' ideas and experiences. ***WW2 Inventions & Periscopes*** Apply understanding and make connections across the curriculum. ***Wind Turbines & Periscopes*** Generate, develop, model and communicate their ideas using a range of ways, including the use of CAD.

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		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design and Technology	**Making**	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively sharing ideas, resources and skills. ***ELG: Creating with Materials*** ***ELG: Fine Motor Skills***	***Rainmakers & Can a home move? & Fruit Salad*** Use own ideas to make something. ***Can a home move? & Moving dinosaur model*** Make a product that moves. ***Rainmakers & Fruit Salad*** Choose appropriate materials/ingredients and tools from a limited selection. ***Rainmakers & Can a home move? & Moving dinosaur model*** Describe how something works.	***Bug Hotel & Bread*** Make decisions and explain these, e.g. choice of tools, materials / ingredients or techniques (cutting, shaping, joining and finishing). ***Bug Hotel & Beanstalk Sliders & Egyptian Shaduf*** Join materials and components in different ways. ***Bug Hotel & Beanstalk Sliders & Bread*** Be systematic and work through the stages in a task. ***Bug Hotel & Beanstalk Sliders*** Recognise where similar tasks have been done in the past.	***Catapults & Pizza*** Follow a step-by-step plan. **Fishing for Treasure Game & Pizza** Select the most appropriate tools, techniques and materials/ingredients for the task. **Fishing for Treasure Game & Pizza** Choose a material/ingredient for both its suitability and its appearance. ***Catapults* & Fishing for Treasure Game & Pizza** Recognise where similar tasks have been done in the past.	***Electric Lamps*** Make ideas real through experimentation. ***Ear Muffs* & *Electric Lamps*** Identify which tools to use for a particular task and show knowledge of handling the tool. ***Ear Muffs* & *Chocolate Crispy Christmas Cakes*** Identify which material/ingredient is likely to give the best outcome. ***Ear Muffs & Chocolate Crispy Christmas Cakes*** Explain and justify methods and choices e.g. choice of tools, materials/ingredients or techniques. ***Electric Lamps*** Try alternative problem-solving solutions and approaches.	***Improving Victorian Gruel*** Learn from and build on their own and others' ideas and experiences. ***Making African Instruments*** Make a prototype before making a final version. ***Funky Furnishings & Improving Victorian Gruel*** Select the most appropriate method for a particular task. ***Making African Instruments & Improving Victorian Gruel*** Make ideas real through experimentation. ***Funky Furnishings*** Try alternative problem-solving solutions and approaches.	***Wind Turbines & Periscopes & Houmous Wraps*** Identify which tool/utensil to use for a specific practical task and know why it is best for a specific action. ***Wind Turbines & Houmous Wraps*** Know how to use a range of tools/utensils correctly and safely. ***Periscopes & Houmous Wraps*** Select the most appropriate method for a particular task. ***Wind Turbines*** Use technical knowledge and accurate skills to problem solve during the making process. ***Wind Turbines & Houmous Wraps*** Refine and modify methods and ideas in new situations and in a range of contexts.

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Design and Technology	**Evaluating**	Return to and build on their previous learning, refining ideas and developing their ability to represent them. ***ELG: Creating with Materials*** ***ELG: Fine Motor Skills***	***Rainmakers & Can a home move? & Moving dinosaur model & Fruit Salad*** Give opinions about their own and others' work, e.g. Explain what works well and not so well in the model/dish they have made. ***Rainmakers & Can a home move? & Moving dinosaur model & Fruit Salad*** Give reasons for their opinions. ***Can a home move? & Moving dinosaur model*** Suggest how difficulties encountered might have been avoided.	***Bug Hotel & Bread & Beanstalk Sliders & Egyptian Shaduf*** Explain what went well with their work. ***Bug Hotel & Beanstalk Sliders & Bread*** Explain their methods and opinions, and the reasons for choices, e.g. materials/ingredients and techniques used. ***Bug Hotel & Beanstalk Sliders & Egyptian Shaduf*** Suggest possible solutions to problems. ***Bug Hotel & Beanstalk Sliders & Bread*** Evaluate and assess what they have made using design criteria.	***Catapults* & Fishing for Treasure Game & Pizza** Explain their methods and opinions, and the reasons for choices and actions. ***Catapults* & Pizza** Know why a model/dish has, or has not, been successful. ***Catapults* & Pizza** Explain how to improve a finished model/dish. **Fishing for Treasure Game & Pizza** Begin to develop their own evaluations about the merits of their work (e.g. appearance / taste).	***Ear Muffs* & *Chocolate Crispy Christmas Cakes*** Evaluate and suggest improvements for design, considering how well they meet the needs of the intended user. ***Ear Muffs & Chocolate Crispy Christmas Cakes*** Begin to develop their own evaluations about the merits of their work, considering a wider range of factors. ***Electric Lamps & Chocolate Crispy Christmas Cakes*** Present a product in an interesting way.	***Funky Furnishings & Improving Victorian Gruel*** Evaluate their own outcomes, considering the views of others to improve their own work. ***Making African Instruments*** Compare their methods, opinions and conclusions with those of others. ***Making African Instruments & Funky Furnishings*** Evaluate appearance and function against original design criteria. ***Making African Instruments*** Suggest alternative plans; outlining the positive features and draw backs.	***Wind Turbines & Periscopes & Houmous Wraps*** Know how to test and evaluate designed products. ***WW2 Inventions & Wind Turbines*** Evaluate outcomes from a range of perspectives/design criteria.

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Design and Technology	**Technical Knowledge and Skills**		***Can a home move? & Moving dinosaur model*** Make their own model stronger. ***Can a home move?*** Use wheels and axles.	***Egyptian Shaduf & Beanstalk Sliders*** Make a model stronger and more stable. ***Egyptian Shaduf*** Know how levers work. ***Egyptian Shaduf*** Know how the Egyptians used levers to help build the pyramids. ***Beanstalk Sliders*** Measure materials to use in a model or structure.	***Catapults* & Fishing for Treasure Game** Know how to strengthen a product by stiffening a given part or reinforce a part of the structure. ***Catapults*** Work accurately to measure, make cuts and make holes. ***Catapults* & Fishing for Treasure Game & Pizza** Use basic equipment safely with increased accuracy.	***Electric Lamps*** Make links between their learning in different contexts, e.g. links to scientific knowledge of circuits. ***Electric Lamps*** Use electrical systems to enhance the quality of the product. ***Electric Lamps & Ear Muffs*** Measure accurately. ***Electric Lamps*** Use computer aided design software to represent 3D models of real-life objects.	***Making African Instructions & Funky Furnishings*** Make links between their learning in different contexts. ***Funky Furnishings & Improving Victorian Gruel*** Use a range of tools and equipment competently.	***Periscopes*** Use knowledge to improve a made product by strengthening, stiffening or reinforcing. ***Wind Turbines*** Use electrical systems correctly and accurately to enhance a given product. ***Wind Turbines*** Use computer aided design software to represent 3D models of real-life objects. ***WW2 Inventions*** Show that culture and society is considered in plans and designs. ***WW2 Inventions*** Know the impact the Enigma machine had on WW2 and its influence on the modern computer.

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Design and Technology	**Food Technology**	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. ***ELG: Fine Motor Skills*** ***ELG: Managing Self***	***Fruit Salad*** Know that some foods are healthy, whilst others are not. ***Fruit Salad*** Know where food comes from. ***Fruit Salad*** Cut food safely.	***Bread*** Weigh ingredients to use in a recipe. ***Bread*** Describe the ingredients used when making a dish or cake.	***Pizza*** Describe how food ingredients come together. ***Pizza*** Weigh out ingredients and follow a given recipe to create a dish. ***Pizza*** Talk about which food is healthy and which food is not.	***Chocolate Crispy Christmas Cakes*** Demonstrate how to be both hygienic and safe when using food. ***Chocolate Crispy Christmas Cakes*** Bring a creative element to the food product being designed.	***Improving Victorian Gruel*** Demonstrate how to be both hygienic and safe in the kitchen. ***Improving Victorian Gruel*** Work within a budget to create a dish.	***Houmous Wraps*** Explain how food ingredients should be stored and give reasons. ***Houmous Wraps*** Understand the difference between a savoury and sweet dish.

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Computing	**Computer Science**	Follow simple instructions in order. List the steps of a known task in order. Create a short sequence of instructions for a programmable toy. Change instructions to create a different outcome. Read a set of instructions and predict the outcome.	Understand that an algorithm is a set of step-by-step instructions used to carry out a task. Show the ability to sequence and order events or instructions / commands. Show the ability to see wholes and parts of a task / sequence / algorithm. Plan a route for a programmable toy. Create a simple algorithm so a programmable toy will follow a planned route. Make simple predictions and see possibilities when programming. Begin to debug programs when things don't go as planned.	Know how algorithms are implemented as programs on digital devices. Understand that programs execute (work) by following precise instructions. Sequence and order events or instructions / commands. Use logical thinking to explore simple programming language, predicting, testing and explaining what it does. Create a simple but precise program and test it. Begin to test predictions about the behaviour of simple programs. Debug simple programs. Be systematic and work through the stages in a task.	Recognise familiar forms of input and output devices. Explain the purpose of an algorithm. Format algorithms independently. Use logical thinking to explore more complex programming language, predicting, testing and explaining what it does. Write and debug programs that accomplish specific goals. Decompose programs into smaller parts. Make and test predictions about how simple algorithms will work. Use a systematic approach to debugging code, justifying what is wrong and how it can be corrected.	Write a program for an 'on-screen' robot that accomplishes specific goals. Code a simple computer game. Make accurate predictions about the outcome of a program. Make links between possible causes and effects when programming and debugging. Test predictions and look for evidence. Use decomposition as a problem-solving approach to detect and correct errors in programs. Make ideas real though experimentation. Use computer aided design software to represent 3D models of real-life objects.	Write and amend code to create the desired effect. Predict how a program will work based on previous learning. Use repetition within a program. Write more complex programs, which include the use of variable, for a given purpose. Make links between possible causes and effects when programming and debugging. Systematically test predictions when problem-solving. Try alternative problem-solving solutions and approaches to detect and correct errors in programs. Make ideas real though experimentation.	Write and combine increasingly complex algorithms for a purpose. Write a program that combines more than one attribute to control/stimulate a physical system. Develop a sequenced program that has repetition and variables identified. Design a program that uses 2-way selection. Make predictions, showing consideration of possible consequences. Evaluate code to understand its purpose. Use computer aided design software to represent 3D models of real-life objects.

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Computing	**Digital Literacy**	Identify digital devices, e.g. computer, laptop, mobile phone, tablet/iPad. Recognise that keys on a keyboard relate to known letters and numbers. Use a keyboard to type (both on a touchscreen and a traditional keyboard). Use the camera on a tablet to take a photo of something that interests them. Use simple digital drawing tools. Handle devices with care and know how to use them safely and responsibly.	Talk about IT uses in school and in their own home. Recognise and recall the different components of a computer and other familiar digital devices. Know how to login and out of computers. Recognise software used in school for typing (notepad/Word). Type simple words/ sentences (where appropriate). Use caps lock to type capital letters. Explore the use of other keys on the keyboard, including the use of shift key to capitalise individual letters and punctuation. Begin to experiment with font style and size. Identify and use simple digital methods to record information and ideas.	Identify how technology is used in the wider world. Recognise software used in school where information can be inputted using typing (notepad/Word/Seesaw). Know how to open and save a document from/to a specific location within the program. Know how to find previously saved files in folders using File Explorer. Recognise where similar digital tasks have been done in the past. Record information in a variety of digital formats.	Learn and practise effective strategies for touch typing. Recognise where similar digital tasks have been done in the past. Know how to efficiently manipulate font size, alignment, indents, bold, italics and underlining in typed writing. Demonstrate how to insert and image into a word document. Collect and record and present information in a variety of digital formats, using a range of software/apps. Show their understanding of software by organising and summarising. Discern when it is best to use technology and where it adds little or no value.	Practise touch typing to increase efficiency. Learn how to insert shapes and text boxes into digital work. Understand how to format pictures to create different layouts options. Make links between programs/apps use these to transfer skills between programs/apps to create different mediums. Develop, explain and justify methods for collating and recording digital information including the use of presentation programs/app to communicate ideas to an audience. Know that the Internet is a large network of computers and that information can be shared between devices. Know how computer networks enable computers and other devices to communicate and collaborate.	Consolidate the use of touch typing, introducing some common keyboard shortcuts. Know how to insert hyperlinks and understand why they are used. Develop methods for collating and recording digital information, including the creation of graphs and charts. Select the most appropriate software/app for a particular task. Examine options and weigh up pros and cons of different software/apps and layout/presentation choices.	Present data collected in a way that makes it easy for others to understand. Use and adapt a range of methods for collating and recoding digital information. Apply skills and make connections across the curriculum. Examine the pros and cons of different software/apps and layout/presentation choices. Evaluate the appropriateness of digital information and resources. Refine and modify methods and ideas in new situations and in a range of contexts.