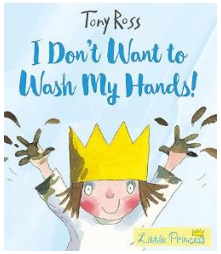
Medium Term Plan Hollinswood Primary School and Nursery
D&T - Spring

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
EYFS – Technical Knowledge Design Make Evaluate	**I know:** what hygiene means what healthy means. which foods are healthy. what my product will look like what foods I will use what the next step to making my product will be what I like and dislike about my product	**I know:** the differences between a healthy and unhealthy lifestyle **I know how to:** keep my teeth healthy explain how to keep my teeth healthy using good oral hygiene. talk about what would be a healthy meal make healthier choices when it comes to food think about what my product will look like make healthy choices when it comes to planning a meal create a healthy meal chop say what I like and dislike about my product	hygiene healthy nutrition eat	**Text or Designer:** **How can I wash my hands and keep myself health?**  **<u>Resources/staff subject knowledge:</u>** Linked to healthy lifestyles initiative

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Year 1 Technical Knowledge Design Make Evaluate	**I know:** what sliders and levers are that different mechanisms produce different types of movement. correct technical vocabulary I can use. who I will design and make a product for what my design criteria will be what simple tools and equipment I can use what suitable materials I can use what the safety rules are. whether I met my design criteria	**I know:** that mechanisms are a system or structure of moving parts that performs some functions particularly in a machine **I know how to:** use sliders and levers use correct technical vocabulary use my experiences to help me generate ideas suggest ideas and explain what I am going to do communicate my ideas through talking, drawings and mock ups (where appropriate) begin to model my ideas select and use simple tools and equipment to perform a job including marking out, cutting joining and finishing select from a range of suitable materials to create a chosen product explain my choices follow safety rules evaluate my finished product against my plan	slider lever pivot slot bridge/guide card masking tape paper fastener join pull push up down straight curve forwards backwards guide planning investigating design user purpose ideas product make user purpose product evaluate user purpose product like dislike who how why	**Text or Designer:** **Text – Traditional tales (create moving pictures)** **<u>Resources/staff subject knowledge:</u>** **Topic – Sliders and Levers**

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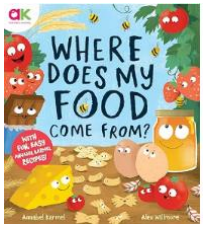
Year 2 Technical Knowledge Design Make Evaluate	**I know:** where food comes from (meat comes from animals and fruits and vegetables are grown. which foods are healthy and unhealthy. that a healthy diet includes fruits and vegetables and protein. food is needed to provide energy for my body correct technical vocabulary I can use to talk about my product. who I am making a product for and what they want what my design criteria is explore a range of existing products relating to my design criteria. my ideas should be realistic and focus on what the user wants what tools and equipment I can use what skills and techniques I can use what the safety rules are.	**I know:** that chefs are people who design and create meals that seasonal food is more sustainable **<u>I know how to:</u>** prepare a simple dish safely and hygienically without using a heat source. make healthier choices when making my product. have a variety of fruits, vegetables and protein in my product. use a simple design criteria, my own experiences and my knowledge of existing products to generate ideas. describe who my product is for and what it will do to benefit them. communicate my ideas through talking, drawings and mock ups (where appropriate). suggest what I will do next whilst making my product. follow my plan select and use appropriate tools and equipment to perform practical tasks. choose suitable skills and techniques to perform a practical task confidently explain my choices. follow safety rules. evaluate my product by discussing how well it works in relation to its purpose, the user and whether it meets the design criteria	healthy unhealthy fruit and vegetables equipment and utensils sensory vocabulary: soft juicy crunchy sweet sticky smooth sharp crisp sour hard flesh/skin/seed/pip/core slicing peeling cutting squeezing healthy diet choosing ingredients tasting investigating planning design user purpose ideas design criteria product function make user function evaluate user ideas recycle like/dislike	**Text or Designer:** **What can I eat to fuel my body?**  **<u>Resources/staff subject knowledge:</u>** (13) Starting a Food Revolution in School | TED + GBS Present Torchbearers - YouTube

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Year 3 Technical Knowledge Design Make Evaluate	**I know:** what equipment and utensils I can use to prepare and combine food. the difference between fresh and processed foods that not all processed foods are unhealthy what fruits, vegetables, protein, carbohydrates and dairy are what the Eatwell plate is what it means to have a healthy and balanced diet with a variety of fruits, vegetables and protein. several chefs who have been influential in the industry what a design criteria is what ingredients I will be using to make my product what ingredients might work well together what an annotated diagram is the steps I will take to make my product the names of different utensils I can use the names of ingredients I will use the hygiene and safety rules what evaluate means what went well and what could be made better	**I know:** that chefs are people who design and create meals the names of some famous chefs **I know how to:** use appropriate equipment and utensils to prepare and combine food. cook using a heat source safely use a mixture of fresh and processed foods in my product use correct technical vocabulary during my project gather information about what the user wants from my product make my own design criteria using what I have found out investigate a range of ingredients relevant to my project generate innovative ideas for products using what I have found out confidently discuss my ideas use annotated sketches and diagrams to communicate my ideas plan my main stages of making my product use and select from a range of tools, utensils and equipment with some accuracy related to my product start to make logical changes to my plan as I am making confidently select from a range of new ingredients to create my product follow the hygiene and safety rules test my product against the original design criteria evaluate my final product against my design criteria, including the views of others	equipment utensils techniques texture taste sweet/sour hot/spicy, appearance/smell preference greasy/moist cook fresh savoury hygienic edible grown, reared, caught, froze, tinned, processed, harvested healthy user purpose design model annotated sketch innovative investigate label drawing function design criteria appealing prototype functional design criteria appealing evaluate, functional, innovative, appealing recycle sustainable method construct analyse	**Text or Designer:** 10 Most Famous Spanish Chefs - Discover Walks Blog **Resources/staff subject knowledge:** Famous and influential chefs

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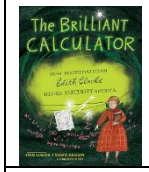
Year 4 Technical Knowledge Design Make Evaluate	**I know:** what an electrical system is what a simple circuit looks like correct technical vocabulary linked to my product several inventors, designers, manufacturers and engineers who have been influential in the design and technology industry what my design criteria is the order that I will make my product in what materials I will need to use the purpose of my product and who its intended user/s is/are what design features I need to include to meet the needs of the intended user/s what tools I can use how to use the tools that are appropriate for my product why I have chosen particular materials for my product, thinking about how they complement the look and functional properties what finishing techniques are what the safety rules are what materials I can choose from what evaluate means what strengths and areas to develop means	**I know:** what electrical systems are **I know how to:** use and apply my knowledge of electrical circuits in Science to my own product use and apply my knowledge of electrical circuits in Computing to my own product (Scratch coding) use correct technical vocabulary linked to my product research information about what the user/s want from my product make my own design criteria based off the wants and needs of the user/s investigate a range of products relevant to my project generate innovative ideas for my product using my research confidently communicate my ideas use annotated sketches and/or diagrams to communicate my ideas plan my main stages of making select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy appropriately choose from a selection of materials and components based on how well they will work with my product Choose suitable finishing techniques for my product Follow safety rules Test and evaluate my product against my design criteria and its intended purpose Identify strengths and areas for development within my product	series circuit, fault, connection, toggle switch, push-to-make switch, push -to -break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device, control box design brief, design criteria, innovative, user, purpose, function, appealing, planning, annotated sketch, diagrams user, purpose, model, prototype, functional, innovative, function, design criteria, appealing evaluating, design brief, design criteria, innovative, prototype, user, purpose, function, appealing, sensory evaluations, recycle, sustainable, who, how, why, what, method, construct, analyse	**Text or Designer:**  **<u>Resources/staff subject knowledge:</u>** ***<u>Refer to Science and Computing MTP during this topic</u>*** ***<u>Finishing techniques include:</u>*** • ***Digital graphics could be combined into the final posters as the background or on the moving parts.*** • ***A picture can be drawn/printed on and cut out from another piece of card and glued on to the levers.*** • ***Windows can be cut out of the backing sheet or extra pieces added so that the picture on the output lever is hidden and then revealed.*** • ***The backing sheet can be cut and shaped to suit the picture.*** • ***Guides can be made using strips of card fixed with masking tape or sticky pads to add height.*** • ***Pieces of information text about recycling can be written/typed, cut out and added onto the poster.*** • ***Materials can be cut out of plastic, newspaper or fabric and glued onto levers.***

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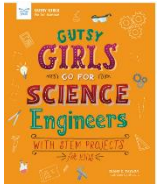
Year 5 Technical Knowledge Design Make Evaluate	**I know:** several women have changed the world in mechanical design what a pulley, gear or cam is that mechanical and electrical systems both have an input and output how gears and/or pulleys can be used to speed up, slow down or change the direction of movement technical vocabulary linked to my project surveys and questionnaires help me find out users wants what my design criteria will be how to select sustainable and useful products techniques I can use to make my product. what an exploded diagrams are what resources will be available to me when making my product resources and equipment I will need to create my product. what tools and equipment are available to me and how to use them appropriately what finishing and decorative techniques are what the safety and hygiene rules are evaluations are an important part of the process within D&T the views of others in response to my product	**I know:** that mechanisms are moving parts of a product electricians and mechanics work with electrical systems and mechanical parts **I know how to:** use gears and/or pulleys to slow down, speed up or change the direction of movement apply my knowledge of computing and science within a design use my knowledge from science circuits to create a product research information about what the user wants through surveys and questionnaires. make my own design criteria using the wants and needs of my user/s. use my design criteria to inform my ideas when planning my product. investigate a range of products including materials, components and techniques that I could use in my product. generate innovative ideas using my research. create an exploded diagrams to communicate my ideas make design decisions based on time and resources constraints. select from and use a range of appropriate tools and equipment accurately to measure and combine appropriate materials and resources. use finishing and decorative techniques suitable for the product follow safety and hygiene rules compare the final product to the original design specification and record my evaluation critically evaluate the quality of the design considering functionality and purpose consider the views of others when evaluating my work	pulley drive belt gear follower transmit motor circuit switch circuit electrical system mechanical system input device output device sparkle motherboard design decisions user purpose design specification design brief exploded diagrams research design criteria annotate functionality authentic user purpose innovative mock-up prototype functionality authenticity design specification design brief, innovative evaluate sustainability method analyse positive negative	**Text or Designer:** How can we use electrical and mechanical systems to make a product? (13) Kate Gleason | Life & Legacy - YouTube  **Resources/staff subject knowledge:** What is a cam and finishing techniques Year Five and Six Spring Term.docx (sharepoint.com) What is a cam and finishing techniques Year Five and Six Spring Term.docx (sharepoint.com) ***Refer to Science and Computing MTP during this topic***

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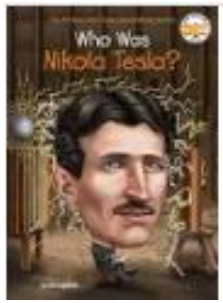
Year 6 Technical Knowledge Design Make Evaluate	**I know:** **who Nikolas Tesla was** what computer aided design is that mechanical **and** electrical systems both have an input, process and an output that mechanical **and** electrical systems both have an input, process and an output correct technical vocabulary linked to my project what pulleys, gears and/or cams are. how gears and pulleys can be used can be used to speed up, slow down or change the direction of movement. what an electrical system is the correct technical vocabulary during my project. that the materials for my proto-type must be sustainable that products have to innovate and have a purpose for a community that my product must be secure and stable what a cross-sectional is what finishing and decorative techniques are what risks are associated with making a product that evaluation and change is how great changes are made	**I know:** that mechanisms, electrical systems and computer aided design are linked that mechanisms are moving parts of a product ***Nikolas Tesla was a scientist, designer and innovator who used mechanical and electrical systems to change the world*** **I know how to:** explore linking between gears and how this affects the speed and direction of movement. apply my knowledge of computing and science within a design use my knowledge from science circuits to apply my knowledge to a product investigate and analyse products linked to my final product generate innovative ideas using my research. develop my own detailed design criteria thinking about the user identify and solve my own design problems create a step-by-step plan including a list of tools, materials and components create a cross-sectional drawing of my design using computer aided design select and use a range of appropriate tools to accurately measure, mark cut and assemble materials use tools safely and effectively to measure mark and cut accurately securely connect electrical components to my carousel use finishing and decorative techniques to create an aesthetically pleasing product evaluate and modify the working features of my product to match my initial design specification critically evaluate my products against my design specification, intended user and purpose	pulley drive belt gear follower transmit motor circuit switch circuit exploded diagrams mechanical system electrical system electrical/mechanical system input device output device sparkle motherboard SEE SCIENCE/ Computing grid design decisions user purpose design specification design brief cross-sectional drawing research design criteria annotate functionality authentic user purpose innovative mock-up prototype	**Text** What product can we make to support our local community?  **<u>Resources/staff subject knowledge:</u>** What is a cam and finishing techniques Year Five and Six Spring Term.docx (sharepoint.com) The Women Who Changed The Tech World (globalapptesting.com) Who is Grace Hopper? - YouTube ***<u>Refer to Science and Computing MTP during this topic</u>***