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

	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 my product will look like what materials I will use ways that I can join my materials what the next step to making my product will be what I like and dislike about my product	**I know:** what materials are people make things using materials **I know how to:** ***see art progression grid*** think about what my product will look like join materials together to make a product say what I like and dislike about my product	join fix weak strong materials design build models structure construction	**Text or Designer:** **What can I make with the materials around me?** **Resources/staff subject knowledge:**

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
Year 1 Technical Knowledge Design Make Evaluate	**I know:** what a freestanding structure is practical ways of making a structure stronger, stiffer and more stable. the correct technical vocabulary I can use who I will design and make a product for what simple tools and equipment I can use what materials I can use to create a chosen product why I have made specific choices what the safety rules are how well my product matches my plan any changes that I needed to make whilst creating my product what I would change or keep the same if I was to make my product again.	**I know:** people build houses **<u>I know how to:</u>** build a freestanding structure make a freestanding structure stronger, stiffer and more stable use technical vocabulary correctly. use my own experiences to help generate ideas. suggest ideas and explain what I am going to do communicate my ideas through talking, drawings and mock ups (where appropriate) model my ideas select and use simple tools and equipment to perform a job including marking out, cutting, joining, 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. talk about what changes I made throughout the creating of my product	Cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder planning, investigating, design, user, purpose, ideas, product make, user, purpose, product evaluate, user, purpose, product, like, dislike, who, how, why	**Text or Designer:** **Text – 3 little pigs** Elizabeth Wilbraham Facts for Kids (kiddle.co) Can I make a house that would withstand the puffs of the Big Bad Wolf? **<u>Resources/staff subject knowledge:</u>** **<u>Simple Freestanding Structures</u>** • Basic beam bridge • Chair • Den • Houses • Towers • Flower Stems • Pop-Up cards

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
Year 2 Technical Knowledge Design Make Evaluate	**I know:** how simple 3D textile products are made my ideas should be realistic and focus on what the user wants. what my design criteria is what tools and equipment I can use what skills and techniques I can use what the hygiene and safety rules are what went well what needs to be improved what my next steps are	**I know:** that people use materials to create products. **I know how to:** use a template to create two identical shapes join fabric using different techniques including running stitch, glue, whip or blanket stitch and stapling. explore different finishing techniques use correct technical vocabulary linked to my project use a simple design criteria, my own experiences and my knowledge of existing products to generate ideas. explore a range of existing products relating to my design criteria. describe who my product is for and what it will do. communicate my ideas through talking and drawings. model my ideas. suggest what I will do next follow my plan select and use appropriate tools and equipment to perform practical tasks. choose suitable skills and techniques to perform a practical task select from a range of new materials, components, junk modelling equipment and simple construction kits to build and create a product. confidently explain my choices. follow hygiene and 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 (written and verbal)	Joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, running stitch, needle, fabric, quality, suitable, features investigating, planning, design, user, purpose, ideas, design criteria, product, function make, user, purpose, ideas, design criteria, product, function	**Text or Designer:** D&T information sheet.docx History of Puppetry | Puppet Theatre Origins (theaterseatstore.com) **Can I use stiches, techniques to to make toys and puppets?** **Resources/staff subject knowledge:** ***Refer to Art progression grid during this topic*** ***Finishing techniques include:*** • ***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.***

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
Year 3 Technical Knowledge Design Make Evaluate	**I know:** the need for pattern and seam allowances several designers and manufacturers who have been influential in the design and technology industry. what my design criteria will be what a 3D product is what an annotated sketch is what tools and equipment I can use materials I can use for my product what the safety and hygiene rules are what went well what could be improved what my next steps are	**I know:** that textiles is linked to materials and fabrics **I know how to:** strengthen, stiffen and reinforce existing fabrics. securely join fabrics together use correct technical vocabulary throughout my project gather information about what the user wants from my product make my own design criteria using what I have found out in my research investigate a range of 3D textile products relevant to my project generate innovative ideas for product using what I have found out confidently share and discuss my ideas use annotated sketches, diagrams to communicate my ideas plan my main stages of making use and select from a range of tools and equipment with some accuracy related to my product. make logical changes to my plan as I am making confidently select from a range of new materials, components, junk modelling equipment and simple construction kits to build and create my product. choose some suitable finishing techniques for my product. follow the hygiene and safety rules. Test my product against the original design criteria, the intended user and its purpose. Evaluate the ongoing work and the final product with reference to the design criteria and the view of others.	fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, knit, bond, pin, embroidery, banket, cross stitch user, purpose, design, model, annotated sketch, innovative, investigate, label, drawing, function, planning, design criteria, appealing user, purpose, model, prototype, functional, innovative, function, design criteria, appealing user, purpose, evaluate, functional, innovative, appealing, product, recycle, sustainable, who, how, why, what, method, construct, analyse	**Text or Designer:** D&T information sheet.docx Can I re-purpose materials to create a 3D textile Christmas decoration? **Resources/staff subject knowledge:** Seam allowance is the extra space you add around the edge of a pattern piece so that it can be sewn together. ***Refer to Art progression grid during this topic*** ***Finishing techniques include:*** • ***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.***

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
Year 4 Technical Knowledge Design Make Evaluate	**I know:** what levers and linkages are the differences between fixed and loose pivots. several inventors, designers, manufacturers and engineers, who have been influential in the design and technology industry. what my design criteria will be tools I can use materials I can use the hygiene and safety rules what went well what could be improved what my next steps are	**I know:** that mechanisms are a system or structure of moving parts that performs some functions particularly in a machine **I know how to:** explore and use lever and linkage mechanisms use correct technical vocabulary linked to my project research information about what the user/s want from my product make my own design criteria using the wants and needs of user/s investigate a range of 3D products, including levers and linkages, relevant to my project. generate innovative ideas using my research describe in depth the purpose of my product and what design features will meet the wants and needs of the intended user/s use annotated sketches, cross-sectional drawings and labelled diagrams to communicate my ideas. order my main stages of making select and use appropriate tools with some accuracy explain why I have chosen particular materials for my product, thinking about how they complement the look and functional properties. use and appropriately select from a range of materials and components based on how well they work with my product. choose suitable finishing techniques for my product. follow hygiene and safety rules test and evaluate my own products against design criteria and the intended user and purpose evaluate my ideas and products against my own design criteria and identify strengths and areas for improvement in my work	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating, appealing, innovative design brief, design criteria, innovative, user, purpose, function, appealing, planning, annotated sketch, cross-section, diagrams user, purpose, model, prototype, functional, innovative, function, design criteria, appealing	**Text or Designer:** D&T information sheet.docx Kalpana Chawla Rankings And Opinions (ranker.com) **Can I make a creative design using mechanisms and levers?** **Resources/staff subject knowledge:** **What is a mechanical linkage?** A mechanical linkage is a collection of parts joined together to change or help movement. **What is a mechanical lever?** A lever is a simple machine that will make lifting or moving an object easier. ***Finishing techniques include:*** • ***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.***

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
Year 5 Technical Knowledge Design Make Evaluate	**I know:** Where different foods come from (nationally or imported) How the location of where the food comes from will affect the sustainability of a product Several chefs who have been influential in the design and technology industry. what the Eatwell plate looks like and what it means to have a varied and balanced diet. what fruits, vegetables, protein, carbohydrates, dairy, oils, spreads, vitamins and minerals are. water is a really important part of keeping healthy. what my design criteria is what ingredients and techniques I can use what utensils and equipment I can use thet ingredients I can use what substitution of ingredients means how to make my product more sustainable what went well what could be improved what my next steps are	**I know:** that chefs are people who design and create meals that seasonal food is more sustainable **I know how to:** use a variety of utensils and equipment to prepare and combine food. use a variety of heat sources within my product – this can be done through more than a one course meal explain the seasonality of different foods use correct technical vocabulary during my project Research information about what the user/s want from my product through the use of surveys, interviews, questionnaires and discussion with peers. begin to develop my own detailed design criteria using the wants and needs of my user/s and use this to inform my ideas investigate and evaluate a range of products, including the ingredients and techniques I will use. generate innovative ideas using my research. use cross-sectional drawings, exploded diagrams and begin to make some computer aided design programmes to communicate my ideas. make design decisions based on time, cost and resource constraints. produce a detailed list of equipment and materials I will need for my product. make a step-by-step plan including a list of resources I will need. select from and use a range of appropriate utensils and equipment accurately. use finishing and decorative techniques suitable for what I am making. follow the hygiene and safety rules compare the final product to the original design specification and record my evaluations. test products and critically evaluate the quality and its fitness for purpose Consider the views of others to improve my work	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, sustainability design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, design criteria, annotate design decisions, functionality, authentic, user, purpose, design brief, innovative, design criteria, mock-up, prototype functionality, authenticity, user, purpose, design specification, design brief, innovative, evaluate, annotate, sustainability, who, how, why, what, method, construct, analyse, positive, negative	**Text** D&T information sheet.docx **Can I make a sustainable Greek meal?** 6 Female Greek Chefs We Adore - Women Chefs **Resources/staff subject knowledge:** ***Finishing techniques include:*** • ***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.***

	Substantive knowledge – the stuff of D&T	Disciplinary knowledge – how D&T it is studied	Vocabulary	Big Question and Linked Text
Year 6 Technical Knowledge Design Make Evaluate	**I know:** Where different foods come from (nationally or imported) How the location of where the food comes from will affect the sustainability of a product Several chefs who have been influential in the design and technology industry. what the Eatwell plate looks like and what it means to have a varied and balanced diet.	**I know:** that chefs are people who design and create meals that seasonal food is more sustainable **I know how to:** Use a variety of utensils to prepare and combine food. Use a variety of heat sources within my product – this can be done through more than a one course meal Understand the seasonality of different foods Use correct technical vocabulary during my project	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, sustainability design decisions, functionality, authentic,	**Text** D&T information sheet.docx Can I make an affordable, sustainable, African meal? eastafricachef.com/chef-fatmata-binta-accra-ghana/ **Resources/staff subject knowledge:** ***Finishing techniques include:*** • ***Digital graphics could be combined into the final posters as the background or on the moving parts.***

	what vitamins and minerals are how to substitute ingredients to meet the needs of the intended user/s (allergies, vegetarians, vegans etc) What my design criteria is What ingredients and techniques I can use What utensils and equipment I can use What ingredients I can use I can substitute ingredients How to make my product more sustainable What worked well What needs improving What the next steps are	Research information about what the user/s want from my product through the use of surveys, interviews, questionnaires and discussion with peers. begin to develop my own detailed design criteria using the wants and needs of my user/s and use this to inform my ideas investigate and evaluate a range of products, including the ingredients and techniques I will use. Generate innovative ideas using my research. Use cross-sectional drawings, exploded diagrams and begin to make some computer aided design programmes to communicate my ideas. Make design decisions based on time, cost and resource constraints. Make a step-by-step plan including a list of resources I will need. Select from and use a range of appropriate utensils and equipment accurately. Use finishing and decorative techniques suitable for what I am making. Follow the hygiene and safety rules Continually evaluate and modify the features of my product to match my design specification. Critically evaluate my product against my design criteria. Identify the strengths and areas for development.	user, purpose, design specification, design brief, innovative, research, design criteria, annotate design decisions, functionality, authentic, user, purpose, design brief, innovative, design criteria, mock-up, prototype Evaluate, function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, sustainability, who, how, why, what, method, influence, positive, negative	• ***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.***