Subject name D & T

Year group 1 and 2 Topic: What do I know about where I live? **Year A** Autumn 1 and 2 **Build houses to burn (Great Fire of London) Structure**	
Key Learning Children will have the opportunity to learn to generate, develop, model and communicate their ideas of building a house through talking and drawing. Begin to be able to convey how they would make a structure stronger.	**Vocabulary** Glue, product, materials, drill, screw, nail, strengthen, ingredients, characteristics, joining, finishing, cutting, shaping, structures, stronger, stiffer, stable
Required Prior Knowledge Children should know and be able to: • Construct with a purpose in mind. • Select tools and techniques needed to shape, assemble and join materials.	**Endpoint** I can: • Think of ideas and explain them in different ways, including drawing and talking about them. • Select the right kind of materials based on what the materials are like. • Build structures and explore how they can be made stronger, stiffer and steadier.
Year group 1 and 2 Topic: What's out there? **Year A** Spring 1 and 2 **Make Rockets (Structure)**	
Key Learning Children will design their own rockets, experimenting with different ways of joining the materials together. They will be reminded of all the skills they gathered in the previous project on the structural D&T strand so that they can consolidate what they have learnt.	**Vocabulary** Glue, product, materials, drill, screw, nail, strengthen, ingredients, characteristics, joining, finishing, cutting, shaping, structures, stronger, stiffer, stable
Required Prior Knowledge	**Endpoint**

Children should know and be able to: • Construct with a purpose in mind. • Select tools and techniques needed to shape, assemble and join materials.	I can consolidate what I have learnt in the previous term: • Think of ideas and explain them in different ways, including drawing and talking about them. • Select the right kind of materials based on what the materials are like. • Build structures and explore how they can be made stronger, stiffer and steadier.
Year group 1 and 2 Where can we go? Year A Summer 1 and 2 **Punch and Judy pop up toy (mechanism)**	
Key Learning Investigate how simple mechanisms can make moving pictures for use in storytelling activities. They then have a go at making their own simple levers and sliders. Finally, children evaluate their pop up toy.	**Vocabulary** slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards
Required Prior Knowledge Children should know and be able to: Mechanism starts in KS1	**Endpoint** I can: • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to this project.
Year group 3 and 4 Topic: Diggin' it **Year A** Autumn 1 and 2 **Create Anglo-Saxon/ Viking clothes (tunics)**	
Key Learning Children will learn simple basic techniques: measuring, matching thread and material colour, the use of contrasting colours for design impact, and basic stitching. Children will develop skills in needlework and design, make and finally evaluate the Anglo-Saxon/ Viking	**Vocabulary** fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance

clothes created.	
Required Prior Knowledge Children should know and be able to: • To understand what textiles are. • To know how to perform a simple running stitch. • To know how to use, dyeing, embellishment and printing techniques. • To understand how to join textiles together. • To select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing). • To select from and use a wide range of materials and textiles according to their characteristics.	**Endpoint** I can: • Research and design an interesting, useful and appealing product that is aimed at certain people or groups. • Develop and communicate my ideas through discussion. • Select from and use tools and equipment to perform tasks (for example cutting, shaping, joining and finishing). • Select from and use a wider range of textiles, according to how useful and attractive they are. • Measure, mark-out, cut and shape materials with some accuracy. Assemble, join and combine materials with some accuracy.
Year group 3 and 4 Topic: Do you dare?. **Year A** Spring 1 and 2 **Circus light up clown/ring**	
Key Learning Children will have opportunities to enhance their knowledge and understanding of electrical systems and develop an understanding of series and parallel circuits and different types of switches. They will be given the chance to apply their knowledge of electric circuits in a purposeful way by designing and making a battery operated light which will be controlled by a switch. Children will decide upon the design criteria for the light by considering who will use it, where it will be used and what for. Finally, children will complete a detailed evaluation of their final product.	**Vocabulary** 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, purpose, function, prototype, design criteria, innovative, appealing, design brief
Required Prior Knowledge Children should know and be able to: Electrical systems are first introduced in LKS2.Children will not have been taught about electrical systems in EYFS and KS1.	**Endpoint** I Can: • Use my design criteria to evaluate my completed product. • Explain whether products can be recycled and reused. • Talk about key inventors and designers.

	• Describe the purpose of my product. • Indicate design features of my product and explain how particular parts of my product work. • Develop my own design criteria and use these to inform my ideas. • Develop realistic ideas with a clear purpose or person in mind.
Year group 3 and 4 Topic: Stone Age to Bronze Age to Iron Age **Year A** Summer 1 and 2 **Prepare a Stone Age stew**	
Key Learning Children will follow a simple recipe independently or with adult supervision if required, and develop preparation skills such as beginning to use weighing scales and measuring jugs. Learn about what a balanced diet is, begin to understand the nutrients in food that keep the body healthy and active, and know how to use The Eatwell Guide.	**Vocabulary** name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet
Required Prior Knowledge Children should know and be able to: • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the eatwell plate. • Know and use technical and sensory vocabulary as shown in the KS1 cooking and nutrition projects above.	**Endpoint** I can: • Prepare and cook a savoury food safely and hygienically including, where appropriate, the use of a heat source. • Use a range of techniques such as peeling, chopping, slicing, mixing. • Explain that a healthy diet is made up from a variety and balance of different food and drinks.
Year group 5 and 6 Year A What makes America amazing? Autumn 1 and 2 **Build skyscrapers (structure)**	
Key Learning	**Vocabulary**

Children will learn about some of the greatest structures in the world and develop their understanding of more complex free standing structures and how they can be strengthened and reinforced. They will gain knowledge and understanding about how to join and shape materials. Children will then apply these skills, using an iterative design process, to create their skyscrapers. Finally, children will evaluate their skyscrapers against their design criteria.	frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional
Required Prior Knowledge Children should know and be able to: • Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary as used in LKS2 projects above.	**Endpoint** I can: ● Critically evaluate the quality of my design, manufacture and fitness for the purpose of my product. ● Evaluate my ideas and product against my original design specification. ● Talk about a range of key designers and engineers. ● Choose suitable techniques to construct products or to repair items. ● Strengthen materials using suitable techniques.

Year group 5 and 6 Topic: Can you solve the crime? Year A Spring 1 and 2 **Make a burglar alarm**	
Key Learning By thinking about the end user of a product before designing it, children will develop problem solving skills and will gain a better understanding of why designs differ in terms of functionality. Children will design, make and finally evaluate their products.	**Vocabulary** reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit

Required Prior Knowledge Children should know and be able to: ● Understand how a simple circuit is made. ● Understand how series and parallel circuits are made. ● Understand and use electrical systems in their products (series circuits, incorporating switches, bulbs, buzzers and motors)	**Endpoint** I can: ● Understand and use electrical systems, such as series circuits incorporating switches, bulbs, buzzers and motors in my product. ● Be aware of how more complex electrical circuits and components can be used to create functional products. ● Be aware of and use technical vocabulary relevant to this project. ● Generate innovative ideas, drawing on research ● Formulate step-by-step plans as a guide to making.
Year groups 5 and 6 Topic: Can you discover Ancient Egypt **Year A** Summer 1 and 2 **Make Egyptian bread**	
Key Learning Children learn to weigh and measure ingredients with confidence and accuracy. Independently be able to follow a recipe and make simple adaptations. Use cutting techniques that require them to cut food up finely and in evenly sized pieces and begin to separate eggs(if required in the recipe)	**Vocabulary** 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
Required Prior Knowledge Children should know and be able to: ● Know how to use appropriate equipment and utensils to prepare and combine food. ● Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. ● Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.	**Endpoint** I can: ● Select from and use tools and equipment to perform tasks (for example cutting, shaping, joining and finishing). ● Develop and communicate my ideas through discussion. ● Develop and communicate my ideas through diagrams. ● Make food by thinking about a healthy balanced diet. ● Be aware of how to use utensils and equipment including heat sources to prepare and cook food.
Year group 1 and 2 Topic: What was life like for my grandparents when they were my age? **Year B**	

Autumn 1 and 2 **Make a teddy (textiles)**	
Key Learning Children will learn about working with fabric and then set a design criteria. They will learn how to cut out a shape and use a simple running stitch. Children will be given the chance to explore different fabrics that they could use to enhance their designs. Using techniques such as sewing, stapling and glueing. Finally, children will evaluate their product.	**Vocabulary** joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish
Required Prior Knowledge Children should know and be able to: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**Endpoint** I can: ● Design products that are useful and look good. ● Choose the right tools to make something with. ● Explore products, say how good they are and explain how they could be better.
Year group 1 and 2 Topic: Who's at the zoo? **Year B** Spring 1 and 2 **Build a habitat (Mechanism)**	
Key Learning Investigate how simple mechanisms can make moving pictures. They then have a go at making their own simple levers and sliders. Finally, children evaluate their habitat.	**Vocabulary** slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards
Required Prior Knowledge Children should know and be able to: Children have not previously worked with mechanisms.	**Endpoint** I can: ● Explore and use sliders and levers. ● Understand that different mechanisms produce different types of movement. ● Know and use technical vocabulary relevant to this project.

Year group 1 and 2 Topic: Who is Queen Elizabeth? **Year B** Summer 1 **Make a sweet puff pastry (food technology)**	
Key Learning How to follow a recipe that is simple to make but requires pupils to develop particular cooking skills such as mastering using a peeler or grater, practising using a sharp knife. Pupils learn to follow simple recipe instructions with either pictures or simple sentences. Children will learn about a balanced diet, looking after their teeth and be introduced to the importance of eating regular meals and healthy snacks.	**Vocabulary** fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
Required Prior Knowledge Children should know and be able to: ● Begin to understand some of the tools, techniques and processes involved in food preparation. ● Have basic hygiene awareness.	**Endpoint** I can: ● Explain where in the world different foods originate from. ● Understand that all food comes from plants or animals. ● Understand that food has to be farmed, grown elsewhere (e.g. home) or caught. ● Name and sort foods into the five groups in the Eatwell Guide. ● Understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why.
Year group 3 and 4 Topic: What did the Romans do for us? **Year B** Autumn 1 and 2 **Make Roman chariots**	
Key Learning Children will investigate a range of axles and wheels on toy cars. Label the different parts of a car before researching Roman chariots and racing. Children will design their own chariots while considering the most appropriate materials according to their characteristics.	**Vocabulary** shell structure, three-dimensional (3- D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design

	brief design criteria, innovative, prototype
Required Prior Knowledge Children should know and be able to: • Know what materials are. • Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing). • Select from and use a wide range of materials and components including construction materials • Build structures, exploring how they can be made stronger, stiffer and more stable.	**Endpoint** I can: • Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Be aware of and use technical vocabulary relevant to this project. • Indicate design features of my products and explain how particular parts of my product work. • Develop my own design criteria and use these to inform my ideas.

Year group 3 and 4 Topic: What makes a house a home? Year B Spring 1 and 2 **Taste, design and make a pizza**	
Key Learning Children begin to use weighing scales and measuring jugs.Independently or with adult supervision if required, children read and follow a simple recipe. Learn about what a balanced diet is, begin to understand the nutrients in food that keep the body healthy and active, and know how to use The Eatwell Guide.	**Vocabulary** 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, name of products, equipment, utensils and techniques.
Required Prior Knowledge Children should know and be able to: • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are	**Endpoint** I can: • Be aware of how to use appropriate equipment and utensils to prepare and combine food. • Use a range of fresh and processed ingredients appropriate for my product.

part of The eatwell plate. ● Know and use technical and sensory vocabulary as shown in the KS1 cooking and nutrition projects above.	● Be aware of and use relevant technical and sensory vocabulary appropriately. ● Select from and use ingredients according to their function and properties. ● Plan the main stages of making.
Year group 3 and 4 Topic: What makes Northwich special? Year B Summer 1 and 2 **Nodding donkey brine pump (mechanism)**	
Key Learning Children will learn about mechanisms in the real world and how design and technology has helped shape our world. With increasing independence children will produce models that incorporate mechanical systems such as levers, linkages or pneumatic systems to create movement. Children will design, make and finally evaluate their products.	**Vocabulary** three-dimensional (3- D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, laminating font, lettering, text, graphics, decision, evaluating, design brief, design criteria, innovative, prototype
Required Prior Knowledge Children should know and be able to: ● Know what levers, wheels and winding mechanisms are. ● Know how to design and create a product. ● Know how to use given mechanisms to create a product.	**Endpoint** I can: ● Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears) ● Distinguish between fixed and loose pivots. ● Be aware of and use technical vocabulary relevant to this project.

Together we learn, grow and dream

Year group 5 and 6 Year B Mayans
Autumn 1 and 2
Make a headdress

Key Learning Children will learn how to write their own design criteria. They will design products with the user in mind thinking about aesthetics and functionality. Annotated designs will be used to communicate ideas as well as step by step plans. Children will learn how to make a paper template and how to sew a running stitch, backstitch, whip stitch and blanket stitch. Finally, when they have made their headdress, children will learn how to write a detailed evaluation.	**Vocabulary** seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock
Required Prior Knowledge Children should know and be able to: ● Understand what a seam is. ● Know how to use a seam allowance. ● Know how to use a needle and thread. ● Know how to use different techniques when decorating textiles. ● To select from and use a wider range of materials and components, including construction materials and textiles.	**Endpoint** I can: ● Introduce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. ● Understand how fabrics can be strengthened, stiffened and reinforced where appropriate. ● Know and use technical vocabulary relevant to the project.

Year group 5 and 6 Topic: Is there anybody out there?
Spring 1 and 2
Moon buggies Mars rovers

Key Learning Children will learn to create a structural plan, design, make and evaluate the moon buggies created. Children will learn about key designers and engineers that have shaped our world.	**Vocabulary** function, innovative, design specification, design brief, user, purpose, design brief, design specification, prototype, annotated sketch, research, functional, frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent
Required Prior Knowledge Children should know and be able to: • Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary used in LKS2 projects above.	**Endpoint** I can: ● Demonstrate resourcefulness tackling practical problems. ● Critically evaluate the quality of my design, manufacture and fitness for the purpose of my product. ● Evaluate my ideas and product against my original design specification. ● Talk about key designers and engineers. ● Choose suitable techniques to construct products or to repair items. ● Strengthen materials using suitable techniques.
Year group 5 and 6 Topic: How to become an olympic champion Year B Summer 1 and 2 **Make Greek flatbread**	
Key Learning Children learn to weigh and measure ingredients with confidence and accuracy. Independently be able to follow a recipe and make simple adaptations. Use cutting techniques that require them to cut food up finely and in evenly sized pieces and begin to separate eggs.	**Vocabulary** 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, design specification, innovative, research, evaluate
Required Prior Knowledge Children should know and be able to: ● Understand what hygiene means and how to keep surfaces, utensils, and hands clean. ● Read a scale.	**Endpoint** I can: ● Select from and use tools and equipment to perform tasks (for example cutting, shaping, joining and finishing). ● Develop and communicate my ideas through discussion.

• Understand units of measure. • How to follow a recipe. • Name of utensils and equipment needed for food. • Use utensils and equipment correctly. • Control an oven or hob for cooking. • Understand and apply the principles of a healthy and varied diet. • Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. • Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	• Develop and communicate my ideas through diagrams. • Make food by thinking about a healthy balanced diet. • Know how to use utensils and equipment including heat sources to prepare and cook food.