DT Curriculum Overview

The policy is written with consideration to our school commitment to the Rights of the Child and our achievement of becoming a Rights Respecting School and it complies with Article 28 of the UNCRC 'Every child has the right to an education' as well as Article 29 'Education must develop every child's personality, talents and abilities to the full'. Although direct reference to this is not continuously made, the policy has been written with full awareness of our responsibility and commitment to children's Rights.

At Wingate Primary School, Design and Technology is an inspiring, rigorous and practical subject that encourages children to learn to think and intervene creatively to solve problems, both as individuals and as members of a team. Resilience is a key theme running through our DT curriculum, and the children are encouraged to become innovators and risk-takers. At Wingate Primary School, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts. We also aim to make links to designs and designers throughout history, providing opportunities for children to critically reflect upon and evaluate their designs. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. This gives learning purpose and relevance to the children.

Rights:
Article 3 – The best interests of the child must be a top priority in all things that affect children.
Article 17 – Every child has the right to reliable information.
Article 28 – Every child has the right to an education.
Article 29 – Education must develop every child's personality, talents and abilities to the full.
Article 24 – Every child has the right to the best possible health. Governments must work to provide clean water and nutritious food.

	Autumn Half Term	Spring Half Term	Summer Half Term
Rec.	-Explore different materials freely, in order to develop their ideas about how to use them and what to make. -Develop their own ideas and then decide which materials to use to express them. -Join different materials and explore different textures. -Create closed shapes with continuous lines, and begin to use these shapes to represent objects. -Draw with increasing complexity and detail, such as representing a face with a circle and including details. -Use drawing to represent ideas like movement or loud noises. -Explore colour and colour mixing. -Show different emotions in their drawings – happiness, sadness, fear etc.	-Explore, use and refine a variety of artistic effects to express their ideas and feelings. -Return to and build on their previous learning, refining ideas and developing their ability to represent them. -Create collaboratively, sharing ideas, resources and skills. -Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue. -Children will be encouraged to select the tools and techniques they need to assemble materials that they are using e.g creating masks. -Making lanterns, Chinese writing, puppet making · Children will explore ways to protect the growing of plants by designing scarecrows.	-(Creating with Materials) Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. -Share their creations, explaining the process they have used. -Make use of props and materials when role playing characters in narratives and stories. -(The Natural World) Explore the natural worl around them, making observations and drawing pictures of animals and plants. -Symmetrical butterflies -Provide children with a range of materials for children to construct with. -Junk modelling, houses, bridges boats and transport. -Design and make rockets. Design and make objects they may need when playing pirate games, thinking about form and function. -Father's Day Crafts

	-Mondrian recreation of art and discussion of prime colours. -Colour mixing	-Pastel drawings, printing, patterns on Easter eggs, Life cycles, Flowers-Sun flowers -Mother's Day crafts Easter crafts Home Corner role play -Colour mixing (take away colours in art area and discover ways to make them again) -Puppet shows: Provide a wide range of props for play which encourage imagination.	-Water pictures, collage, shading by adding black or white, -Salt dough fossils
Rec. Vocabulary	Materials, feel, shapes, loud, noise, hear, colour, mix, make, build, join, tools, draw, like, dislike, sad, happy	Plan, draw, design, make, build, tools, join, colour, like, dislike, better, worse, feelings, glue, puppet, lantern, sun flower, Easter	Ideas, change, like, dislike, better, worse, different, final, fossil
Y1 NC Objectives	**Textiles** -To design purposeful, functional, appealing products for themselves and other users based on design criteria. -To explore and evaluate a range of existing products. -To evaluate their ideas and products against design criteria. -To select and use a wide range of materials and components, including textiles according to their characteristics.	**Food** -To use the basic principles of a Healthy and varied diet to prepare dishes. -To understand where food comes from.	**Mechanisms** -To select from and use a range of tools and equipment to perform practical tasks. -To explore and evaluate a range of existing products. -To evaluate their ideas and products against design criteria. -To build structures exploring how they can be made stronger, stiffer and more sustainable. -To explore and use mechanisms in their products.
Y1 Vocabulary	Planning, investigating design, evaluate, make, user, purpose, ideas tools, fabrics (specific to what is used), template, pattern pieces, mark out, join, decorate, finish	Planning, investigating, design, evaluate, make, user, purpose, ideas Specific fruit and vegetable names, names of equipment and utensils. source, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin,	Planning, investigating, design, evaluate, make, user, purpose, ideas cut, fold, join, fix, structure, wall, tower, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder.

		slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.	
Y1 Skills (topic specific)	**Making:** -Choose suitable tools for making -Mark, cut and shape materials and components, with some support. -Join, assemble and combine textile materials with some support -Choose suitable textiles	**Making:** - Follow safety and food hygiene procedures -Describe textures -Wash hands & clean surfaces -Say where some foods come from, (i.e. plant or animal) -Describe differences between some food groups (i.e. sweet, vegetable etc.) -discuss how fruit and vegetables are healthy -Cut, peel and grate safely, with support	**Making:** - Choose suitable tools for making - Join, assemble and combine materials and components -Begin to use levers or slides
Year 1 Skills (used in every topic)	**Researching:** -Understand what a product is and who it is for -Understand how a product works and how it is used -Identify where you might find this product **Designing:** -Explain what product they will be designing and making -Explain who their product will be used by -Describe what their product will be used for -Discuss what their steps for making could be -Represent ideas through talking and drawing **Evaluating:** -Talk about their design ideas and what they have made. -Make simple judgements of how the product met their design ideas.		

Y2 NC Objectives	**Structures** -Build structures, exploring how they can be made stronger, stiffer and more stable. -Design purposeful, functional, appealing products for themselves and other users based on design criteria. -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. -Select from and use a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing] -Evaluate a range of existing products -Evaluate their ideas and products against design criteria	**Food** -Use the basic principles of a healthy and varied diet to prepare dishes -To understand where food comes from -Design purposeful, functional, appealing products for themselves and other users based on design criteria. -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology -Select from and use a range of tools and equipment to perform practical task. -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristic. -Explore and evaluate a range of existing products. -Evaluate their ideas and products against design criteria	**Textiles** -Design purposeful, functional, appealing products for themselves and other users based on design criteria. -Explore and evaluate a range of existing products. -To select from and use a wider range of materials and components, including textiles -Generate, develop, model and communicate their ideas through talking, drawing, templates. -Evaluate their ideas and products against design criteria
Y2 Vocabulary	investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function 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	investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function Varied, appealing, Appropriate fruit and vegetable names and names of equipment/utensils. Originate, source soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.	investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function Joining, tools, fabrics and components (specifically being used), template, pattern pieces, mark out, decorate, finish

Y2 Skills (topic specific)	**Making:** - Choose suitable tools for making whilst explaining why they should be used - Measure, mark, cut and shape materials and components - Join, assemble and combine materials and components - Use finishing techniques, including skills learnt in Art.	**Making:** - explain hygiene and keep a hygienic kitchen -describe properties of ingredients and importance of varied diet -say where food comes from (animal, underground etc.) -describe how food is farmed, home-grown, caught -describe “five a day” -cut, peel and grate with increasing confidence	**Making:** -measure textiles -join textiles together to make a product, and explain how they did it -carefully cut textiles to produce accurate pieces -explain choices of textile
Year 2 Skills (used in every topic)	**Researching:** -Understand what a product is and who it is for -Understand how a product works and how it is used -Identify where you might find this product -Identify the materials used to make the product -Express an opinion about the product **Designing:** -Use own experiences and existing products to develop ideas -Explain what product they will be designing and making -Explain who their product will be used by -Describe what their product will be used for and how it will work -Explain why their product is suitable for the intended user -Discuss what their steps for making could be -Represent ideas through talking, drawing and computing – (where appropriate) -Choose materials to use based on suitability of their properties -Create templates/pattern pieces and explore materials whilst developing idea **Evaluating:** -Talk about their design ideas and what they have made. -Make simple judgements of how the product met their design idea -Suggest how their product could be improved.		

Y3 NC objectives	**Mechanisms** -To use research and develop design criteria to inform the design of products. -To understand and use mechanical systems. -To evaluate their products.	**Textiles** -To select from a wider range of products. -Select from and use a wider range of materials and components, including textiles -To evaluate their products.	**Food** -To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
Y3 Vocabulary	user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing mechanism, lever, linkage, pivot, slot, bridge, rotary	user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing fabric, specific names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance	user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing name of relevant ingredients and equipment, utensils, techniques, 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
Y3 Skills (topic specific)	**Making:** -Choose suitable tools for making whilst explaining why they should be used. -Use design criteria whilst making. -Join, assemble and combine materials and components with some accuracy -select appropriate tools / techniques -alter a product after checking, to make it better -begin to try new/different ideas -use simple lever and linkages to create movement	**Making:** Measure, mark, cut and shape textile materials with some accuracy -Join, assemble and combine textile materials with some accuracy -Choose textiles considering appearance and functionality -begin to understand that a simple fabric shape can be used to make a 3D textiles project	**Making:** -carefully select ingredients -use equipment safely -make a product look attractive -Think about how to grow plants to use in cooking -Begin to understand food comes from UK and wider world -describe how healthy diet= variety/balance of food/drinks -prepare and cook some dishes safely and hygienically -grow in confidence using some of the following techniques: mixing, spreading, kneading and baking

Year 3 Skills (used in every topic)	**Researching:** -Identify who made the product, when it was made and what its purpose is -Identify what the product has been made from -Evaluate the product on design and use **Designing:** -Describe the purpose of their product and how it will work -Identify design features that will appeal to intended users -Explain how parts of their product works -Generate realistic ideas that meet needs of user -Share and discuss ideas with others -Order the main stages of making -Choose materials to use based on suitability of their properties -Create pattern pieces and prototypes **Evaluating:** -Evaluate pre-existing products detailing what works well and what could be improved. -Use design criteria to evaluate product, identifying both strengths and areas for development.

Y4 NC objectives	**Textiles** -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 -select from and use a wider range of materials and components, including materials and textiles, according to their functional properties and aesthetic qualities -evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**Structures** -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	**Food** -generate, develop, model and communicate their ideas through discussion select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities -evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
Y4 Vocabulary:	design brief, design criteria, user, purpose, function, prototype, evaluating, appealing, planning, annotated sketch. fabric, (names of fabrics that are relevant to task), fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance.	planning, design criteria, user, purpose, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, function, annotated sketch, appealing girder, beam, strut, 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, assemble, accuracy	design brief, design criteria, user, purpose, function, prototype, appealing, planning, annotated sketch, evaluating name of appropriate herbs/ingredients, utensils, 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, kneading, mixing, grating

Y4 Skills (topic specific)	**Making:** -Choose suitable tools for making whilst explaining why they should be used. -Measure, mark, cut and shape textile materials and components with some accuracy -Join, assemble and combine textile materials and components with some accuracy -Use finishing techniques, including skills learnt in Art with some accuracy	**Making:** - Choose suitable tools for making whilst explaining why they should be used. Use design criteria whilst making - Measure, mark, cut and shape materials and components with some accuracy - Join, assemble and combine materials and components with some accuracy	**Making:** - Choose suitable ingredients for making whilst explaining why they should be used. -measure ingredients -Follow safety and food hygiene procedures - use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
Year 4 Skills (used in every topic)	**Researching:** -Identify who made the product, when it was made and what its purpose is -Identify what the product has been made from -Evaluate the product on design and use -Where possible, research facts about famous inventors/ chefs / designers etc linked to product **Designing:** -Describe the purpose of their product -Identify design features that will appeal to intended users -Explain how parts of their product works -Develop their own design criteria and use for planning ideas -Generate realistic ideas that meet needs of user and take into account availability of resources -Order the main stages of making -Choose materials to use based on suitability of their properties -Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate) -Create pattern pieces and prototypes **Evaluating:** -Use design criteria to evaluate product-identifying both strengths and areas for development with increasing detail. -Consider the views of others, included intender user, whilst evaluating their product. -Suggest improvements that could be made, considering materials and methods that have been used.		

Y5 NC objectives	**Textiles** -To generate, develop, model and communicate their ideas through discussion and diagrams. -To select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities -To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	**Mechanisms** -To select from and use a wider range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing], accurately. -To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].	**Food** -To investigate and analyse a range of existing products. -To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. -To understand and apply the principles of a healthy and varied diet.
Y5 Vocabulary	Design, decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype seam, seam allowance, wadding, reinforce, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears	design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, axle, motor, annotated drawings, diagrams, mechanical system	design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype ingredients, yeast, dough, bran, flour, wholemeal, 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
Year 5 Skills (topic specific)	**Making:** - Measure, mark, cut and shape materials accurately - Join, assemble and combine materials accurately - Demonstrate problem solving skills when encountering a mistake or practical problem - think about user and aesthetics when choosing textiles -use own template	**Making:** -Choose suitable tools for making whilst explaining why they should be used. Use design criteria whilst making - Measure, mark, cut and shape components accurately - Join, assemble and combine components accurately - Demonstrate problem solving skills when encountering a mistake or practical problem -Refine a product after testing	**Making:** - Demonstrate problem solving skills when encountering a mistake or practical problem -explain how to be safe / hygienic and follow own guidelines -present product well - interesting, attractive, fit for purpose -understand food can be grown, reared or caught in the UK and the wider world -describe how recipes can be adapted to change appearance, taste, texture, aroma -explain how there are different substances in food /

	-think about how to make product strong and look better -think of a range of ways to join things -begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.	-Grow in confidence about trying new / different ideas -Begin to use cams, pulleys or gears to create movement	drink needed for health -prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source -use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Year 5 Skills (used in every topic)	**Researching:** -Identify who made the product, when it was made and what its purpose is -Identify what the product has been made from and how environmentally friendly the materials are -Evaluate the product on design, appearance and use -Identify the cost to make the product -Where possible, research facts about famous inventors designers linked to product **Designing:** -Understand and gather information about what a particular group or people want from a product, using questionnaires, surveys etc. -Describe the purpose of their product -Identify design features that will appeal to intended users Explain how parts of their product will work -Develop their own design criteria and use for planning ideas -Generate innovative ideas that meet needs of user and take into account availability of resources. -Share and discuss ideas with others -Record a step by step plan for making -Produce lists for the tools, equipment and materials they will be using -Choose materials to use based on suitability of their properties and aesthetic qualities -Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate) - Create pattern pieces and prototypes **Evaluating:** -Use design criteria to evaluate a product- identifying both strengths, areas for development and evaluating whether the product if fit for purpose. -Consider the views of others, included intender user, whilst evaluating their product. -Suggest improvements that could be made, considering materials and methods that have been used.		

Y6 NC objectives	**Electrical Circuits** generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design To apply scientific circuits knowledge to create a product. To understand how key events and individuals in design and technology have helped shape the world. To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products	**Structures** To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. To select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities	**Food** Select from and use a wider range of ingredients, according to their functional properties and aesthetic qualities. evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
Y6 Vocabulary	function, innovative, design specification, design brief, user, purpose, prototype, annotated sketch, user, innovation, research, functional, mock-up, prototype switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit	function, innovative, design specification, design brief, user, purpose, prototype, annotated sketch, user, innovation, research, functional, mock-up, prototype 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. stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent	function, innovative, design specification, design brief, user, purpose, prototype, annotated sketch, user, innovation, research, functional, mock-up, prototype 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

<table>
<tr><td>Year 6 Skills (topic specific)</td><td>Making:
-Choose suitable tools for making whilst explaining why they should be used. Use design criteria whilst making
-Join, assemble and combine materials and components accurately
-Demonstrate problem solving skills when encountering a mistake or practical problem
-use different types of circuit in product
-think of ways in which adding a circuit would improve product</td><td>Making:
-Select materials carefully, considering intended use of the product, the aesthetics and functionality.
-explain how product meets design criteria
-reinforce and strengthen a 3D frame
-Join, assemble and combine components accurately
-Demonstrate problem solving skills when encountering a mistake or practical problem</td><td>Making:
-understand a recipe can be adapted by adding / substituting ingredients
-explain seasonality of foods
-learn about food processing methods
-adapt recipes to change appearance, taste, texture or aroma.
-describe some of the different substances in food and drink, and how they can affect health
-prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source.
-use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</td></tr>
<tr><td>Year 6 Skills (used in every topic)</td><td colspan="3">Researching:
-Identify who made the product, when it was made and what its purpose is
-Identify what the product has been made from and how environmentally friendly the materials are
-Evaluate the product on design, appearance and use
-Identify the cost to make the product and whether it has any other purposes
-Research facts about famous inventors linked to product.
Designing:
-Understand and gather information about what a particular group or people want from a product, using questionnaires, surveys etc
-Describe the purpose of their product
-Identify design features that will appeal to intended users.
-Explain how parts of their product will work
-Create a design description for their product
-Highlight the impact of time, resources and cost within their design ideas
-Generate innovative ideas that meet needs of user.
-Share and discuss ideas with others
-Record a step by step plan for making
-Produce lists for the tools, equipment and materials they will be using
-Choose materials to use based on suitability of their properties and aesthetic qualities
-Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate)
-Create pattern pieces and prototypes.
Evaluating:
-Evaluate the appearance and test the function of a product (own and pre-existing) against the original design criteria, evaluating whether it is fit for purpose.
-Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make.</td></tr>
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