DT CURRICULUM PROGRESSION MAP

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Belthorn Academy Primary School DT Curriculum

DT intent

The intention of the DT curriculum at Belthorn Academy is to nurture and promote creative thinkers who are equipped with the necessary knowledge and skills needed to solve the designing needs of the world in which they live. Through well planned sessions, which expose learners to working with a range of materials in a variety of relevant contexts, teachers aim to develop children's confidence to tackle larger projects in a systematic and planned way. Children will be able to take calculated risks. By designing and making quality products based on the needs of others, children will become confident in their own abilities, take ownership of their learning and be confident in the knowledge that success comes from mistakes. They will develop a sense of achievement and pride and discover areas of interest that may contribute to their futures.

Character Education

Our school values seek to ensure that through our curriculum we teach our children to be ambitious, passionate, kind, confident, happy, safe, valued, resilient and accepting. These values permeate through everything we do as a school.

We promote Character Education in History through the following:

- Critical thinking – when designing and evaluating their products
- Ambition and Resilience – attempting new skills and persevering when things go wrong
- Communication – articulating how they want their finished product to look and why

In addition, Design and Technology education provides a number of opportunities to develop pupils' character through visits, visitors and discussions around careers:

- Visits to local industries
- external visitors including: local architect, environmentalists, builders, local chefs
- Career discussions about: building, designing, kitchen work, tailors, engineering,
- Clubs: Baking, Cooking, Lego club, sewing club,

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	The pre-school DT curriculum focuses on developing physical skills necessary for handling and manipulating simple tools, materials and resources. Activities revolve around exploration and are subject to the interests of the cohort and aim to equip learners with confidence to engage and take calculated risks.					
Reception	Fundamental skills		Junk modelling		Cooking	
Year 1	**Construction** Simple toys – peg dolls		**Sewing** Hand puppets	**Cooking** Fresh produce	Design and Technology not taught in Summer term.	
Year 2	**Sewing** Recycled soft toys		**Construction** Inventions to take care of where we belong	**Cooking** Festive family foods		
Year 3	**Cooking** Conserving food and resources		**Sewing** Keeping things safe on holiday	**Construction** Models with lights		
Year 4	**Construction** Electric cars		**Cooking** European food	**Sewing** Flags		

Year 5	**Cooking** Feeding people	**Construction** Levers and linkages - Bridges	**Sewing** T-shirt design	
Year 6	**Cooking** Great British bake off	**Construction** Cam toys	**Sewing** Being unique	

Pre-School					
	Curriculum Content Skills and knowledge	**Key vocabulary**	**Authentic outcome**	**Cultural Capital/ SMSC / British Values**	**Evidence**
Pre-School should have constant access to areas that enable learners to develop fundamental skills throughout the year.	Fine motor skills needed to use scissors to cut paper and card Explore other joining methods eg gluing, taping and stapling. Handling a range of materials and exploring their properties. Developing spatial awareness through using a range of construction toys. Develop interest and enjoyment in mixing ingredients to bake and cook. Following simple verbal instructions.	Cut Snip Join Scissors Chop Fold	Children make a variety of items throughout the year as part of celebrations in their own and others' cultures Discussions are based on personal experiences	Discussions about personal likes and dislikes develops their sense of self. Children explore items from a range of cultures. Children are encouraged to explore the world around them and begin to consider how things are made. Through looking at products from around the world, children can develop their sense of awe and wonder	Floor book Wall displays Photograph on the iPad.

Reception					
	Curriculum Content Skills and knowledge	**Key vocabulary**	**Authentic outcome**	**Cultural Capital/ SMSC / British Values**	**Evidence**
Pupils in Reception should have constant access to areas that enable learners to develop fundamental skills throughout the year. Reception progresses on from nursery in aspects of independence and with a little more structure for given tasks. Opportunities should be taken to discuss and use wider vocabulary.	Fine motor skills needed to use scissors to cut paper and card Explore other joining methods eg gluing, taping and stapling. Handling a range of materials and exploring their properties. Developing spatial awareness through using a range of construction toys. Develop interest and enjoyment in mixing ingredients to bake and cook. Following simple verbal instructions.	Cut Snip Join Scissors Chop Fold Stir Staple Fabric Material specific vocab.	Children make a variety of item throughout the year as part of celebrations in their own and others' cultures Discussions are based on personal experiences	Discussions about personal likes and dislikes develops their sense of self. Children explore items from a range of cultures. Children are encouraged to explore the world around them and begin to consider how things are made. Through looking at products from around the world, children can develop their sense of awe and wonder	Floor book Wall displays Photographs on the iPad.

Year 1						
Term	**Unit Name**	**Procedural knowledge**	**Knowledge**	**Key vocabulary**	**Authentic Outcome**	**Cultural Capital/ SMSC / British Values**
Autumn	**Simple toys**	Join appropriately for different materials and situations e.g. glue and tape. • Mark out materials to be cut using a template.	Simple knowledge of material properties. How to join materials using the most appropriate methods. Correct, safe use of scissors	Material Cut tear join fasten measure	Using real people as a user for their toy. Toys can be given as a gift	Learning to consider others needs and wants Exploration of toys from times in history as well as from other cultures and backgrounds.
Spring 1	**Hand puppets**	Cut out shapes which have been created by drawing around a template onto fabric. • Join fabrics by using running stitch, glue, staples, over sewing, tape. • Decorate fabrics with attached items such as buttons, beads, sequins, braids, ribbons.	Properties of some fabric Selecting correct tools	Running stitch Seam Fabric Needle Thread sequins	Puppets used for story telling in EYFS	Understanding how toys and life has changed
Spring 2	**Fresh produce**	Develop a food vocabulary using taste, smell, texture and feel. • Group familiar products e.g. fruit and vegetables.	Know where some food comes from Understand the need for variety of foods in a diet.	Nutrition Healthy Fruit Vegetable Hygiene Texture	Parents open morning where they are able to come in and sample the children's food	Understanding of healthy living choices and how these can affect wellbeing.

		• Cut, peel, grate, chop and range of ingredients. • Work safely and hygienically. • Measure and weigh food items, non - statutory measures e.g. spoons, cups.		Origin	Surveys are done within school to see what people like/dislike.	
Constant Skills	**Developing, planning and communicating ideas** Follow verbal instructions •Explain what they are making and which materials they are using • Name the tools they are using • Describe what they need to do next • Select materials from a limited range that will meet the design criteria • Select and name the tools needed to work the materials • Select appropriate technique explaining First……Next……Last…. • Explore ideas by rearranging materials • Model ideas with kits, reclaimed materials • Select pictures to help develop ideas • Use pictures and words to convey what they want to design and make • Describe their models and drawings of ideas and intentions • Use kits/reclaimed materials to develop an idea • Use drawings to record ideas as they are developed		**Using Materials** Fold, tear and cut paper and card. • Cut along lines straight and curved • Curl paper. • Use simple pop ups. • Use a hole punch. • Insert paper fasteners for card. • Create hinges.		**Evaluating** • Say what they like and do not like about items they have made and attempt to say why • Talk about their designs as they develop and identify good and bad points • Talk about changes made during the making process • Discuss how closely their finished products meet their design criteria	

	• Discuss their work as it progresses • Add notes to drawings to help explanations		

Year 2						
Term	**Unit Name**	**Procedural knowledge**	**Knowledge**	**Key vocabulary**	**Authentic Outcome**	**Cultural Capital/ SMSC / British Values**
Autumn	**Recycled soft toys**	• Join fabrics using running stitch, over sewing, blanket stitch. • Prototype a product using J cloths. • Use appropriate decoration techniques. • Understand the need for patterns. • Create a simple pattern.	Appropriate tools for cutting A range of stitching techniques Understand seam allowance.	Sustainable Recycle Seam allowance Stuffing Blanket stitch Embroidery Prototype pattern	Links to the whole school Geography aim to increase sustainability.	
Spring 1	**Mobile Inventions to help the environment**	Make vehicles using construction kits which contain free running wheels. • Use a range of materials to create models with wheels and axles (tubes, dowel, cotton reel) • Attach wheel to chassis. • Cut dowel using a hacksaw and bench hook • use glue gun supervised by an adult.	Understand how structures can be strengthened Secure knowledge of cutting materials Understand that different methods can be used to achieve the same outcome.	Chassis Axle Dowel		

Spring 2	**Festive Family Foods**	• Group familiar products e.g. fruit and vegetables. • Cut, peel, grate, chop and range of ingredients. • Work safely and hygienically. • Measure and weigh food items, non - statutory measures e.g. spoons, cups.	Understand the need for variety of foods in a diet Develop a food vocabulary using taste, smell, texture and feel. Explain where food comes from.	Texture Peel Grate	Visits to other culture settings External visitors in to explore cooking in different cultures.	
Constant Skills	**Developing, planning and communicating ideas** Follow verbal instructions •Explain what they are making and which materials they are using • Name the tools they are using • Describe what they need to do next • Select materials from a limited range that will meet the design criteria • Select and name the tools needed to work the materials • Select appropriate technique explaining First……Next……Last…. • Explore ideas by rearranging materials • Model ideas with kits, reclaimed materials • Select pictures to help develop ideas • Use pictures and words to convey what they want to design and make • Describe their models and drawings of ideas and intentions • Use kits/reclaimed materials to develop an idea • Use drawings to record ideas as they are developed • Discuss their work as it progresses • Add notes to drawings to help explanations		**Using Materials** Fold, tear and cut paper and card. • Cut along lines straight and curved • Curl paper. • Use simple pop ups. • Use a hole punch. • Insert paper fasteners for card. • Create hinges.		**Evaluating** · Say what they like and do not like about items they have made and attempt to say why • Talk about their designs as they develop and identify good and bad points • Talk about changes made during the making process • Discuss how closely their finished products meet their design criteria	

Year 3						
Term	**Unit Name**	**Procedural knowledge**	**Knowledge**	**Key vocabulary**	**Authentic Outcome**	**Cultural Capital/ SMSC / British Values**
Autumn	**Conserving and preserving food and resources**	• Develop sensory vocab/knowledge using smell, taste, texture and appearance. • Analyse taste, texture, smell and appearance of a range of foods. • Use tools with accuracy. • Select from techniques for different parts of the process. • Join and combine a range of ingredients. • Begin to use cross - sectional and exploded diagrams. Research needs of user.	Work safely and hygienically. Understand seasonality of fruit and veg. Make healthy eating choices using the eatwell plate. Understand how to use existing products as a starting point for design ideas.	Seasonality User Preserving Stewing Salting Prolong Seal Sustainable		Promoting independence in preparing food
Spring 1	**Keeping things safe on holiday**	Develop vocabulary for tools materials and properties. • Join fabrics using running stitch, over	Understand seam allowance. Use prototype to make a pattern.	Stiffening fabric Seam allowance Blanket stitch		

		sewing, blanket stitch. • Prototype a product using J cloths. • Explore strengthening and stiffening of fabrics. • Use appropriate decoration techniques	Can sew on buttons and make loops. Can recreate some fastenings. Understand the most appropriate stitch for the product.	Over stitch Fleece Cotton Wool Thread Eye (needle)		
Spring 2	**Models with lights (Houses)**	• Use tools with accuracy. • Research needs of user. • Create shell or frame structures, strengthen frames with diagonal struts. • Prototype frame and shell structures. • Measure and mark square selection, strip and dowel accordingly to 1cm. • Use glue gun with close supervision	Understand how linkages can transfer movement Can select different tools and techniques for different parts of the process. Understand how to accommodate circuits in the design to not lose function.	Illuminate Circuit Prototype	Visit from an architect.	Discussed the different opportunities for employment that comes from designing houses.
Constant Skills	**Developing, planning and communicating ideas** • Investigate similar products to the one to be made to give starting points for a design		**Using Materials** • Use linkages to make movement larger or more varied. • Plan a sequence of actions to make a product.		**Evaluating** Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how	

	• Draw/sketch products to help analyse and understand how products are made • Think ahead about the order of their work and decide upon tools and materials • Plan a sequence of actions to make a product • Record the plan by drawing (labelled sketches) or writing • Develop more than one design or adaptation of an initial design • Propose realistic suggestions as to how they can achieve their design ideas • Add notes to drawings to help explanations	• Record the plan by drawing using annotated sketches. • Use tools with accuracy. • Select from techniques for different parts of the process. • Begin to use cross-sectional and exploded diagrams. • Investigate similar products to the one to be made to give starting points for a design. • Research needs of user. • Cut slots. • Cut internal shapes. • Use and explore complex pop ups. • Create nets.	well the finished product meets the design criteria and how well it meets the needs the needs of the user

Year 4						
Term	**Unit Name**	**Procedural Knowledge**	**Knowledge**	**Key vocabulary**	**Authentic Outcome**	**Cultural Capital/ SMSC / British Values**
Autumn	**Electric Cars**	Use tools with accuracy. • Select from techniques for different parts of the process. • Incorporate a circuit with a bulb or buzzer into a model. Measure accurately	Can use electrical systems such as switches, buzzers and bulbs Can select tools accurately. Can understand how to make models more stable Understand and use exploded diagrams. Knowledge of how a product such as a car has developed over time and the reasons for why.	Chassis Axle Rigid Circuit Motion Pulley Motor traction	**Linked to sustainability which is to be covered in Geography. Ideas will reflect knowledge and learning on environmental factors.**	**Developing personal accountability for the planet.** **Exploring the use of practical science (circuits)**
Spring 1	**European food**	• Analyse taste, texture, smell and appearance of a range of foods. • Use tools with accuracy. • Join and combine a range of ingredients. • • Research needs of user.	Have developed a sensory vocabulary Can describe nutritional choices Can identify origins of fruit and veg Understand why different methods are used for different parts of the process.	Hygiene Diverse Texture Seasonality Knead Combine ingredients	Unit explores food in other countries and can show the process of transporting food, areas for growing and climate zones.	**Unit offers opportunities to try foods not tried before.** **Develop knowledge of healthy eating/hygiene** **Experience hands on cooking which may not be able to do at home.**

Spring 2	**Flags**	• Understand seam allowance. • Join fabrics using running stitch, over sewing, blanket stitch. • Prototype a product using J cloths. • Explore strengthening and stiffening of fabrics. • Sew on buttons and make loops. • Use appropriate decoration techniques	Understand how to create a paper pattern and prototype for fabric designs. Understand the types of products that can be carried abroad. Can strengthen fabric using a number of techniques. Knowledge of another country and how it influences designers when creating products.	Seam allowance Abroad Pattern Prototype Fastening Influence Designer	Children to create a personalised flag based on things that are important to them and their family. This can be displayed in school	Exploring self Expressing individuality Broaden knowledge of other countries Develop pride in own heritage.

Constant Skills	**Developing, planning and communicating ideas** • Investigate similar products to the one to be made to give starting points for a design • Draw/sketch products to help analyse and understand how products are made • Think ahead about the order of their work and decide upon tools and materials • Plan a sequence of actions to make a product • Record the plan by drawing (labelled sketches) or writing • Develop more than one design or adaptation of an initial design	**Using Materials** • Use linkages to make movement larger or more varied. • Plan a sequence of actions to make a product. • Record the plan by drawing using annotated sketches. • Use tools with accuracy. • Select from techniques for different parts of the process. • Begin to use cross-sectional and exploded diagrams.	**Evaluating** Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Discuss how well the finished product meets the design criteria and how well it meets the needs the needs of the user

	• Propose realistic suggestions as to how they can achieve their design ideas • Add notes to drawings to help explanations	• Investigate similar products to the one to be made to give starting points for a design. • Research needs of user. • Cut slots. • Cut internal shapes. • Use and explore complex pop ups. • Create nets.	

Year 5						
Term	**Unit Name**	**Procedural knowledge**	**Knowledge**	**Key vocabulary**	**Authentic Outcome**	**Cultural Capital/ SMSC / British Values**
Autumn	**Feeding People**	Prepare food products taking into account the properties of ingredients and sensory characteristics. • Weigh and measure using scales. • Cut and shape ingredients using appropriate tools. • Join and combine foods ingredients appropriately e.g. beating, rubbing in. • Select and prepare foods for a purpose. • Consider influence of chefs such as Hugh F.W. and sustainable fishing. • Devise step by step plans which can be followed by someone else. • Decide which idea to develop.	Know how to scale up recipes for larger groups. Able to follow a sequence of increasingly complex instructions. Can work safely and hygienically making conscious decisions to do so. Can explain the benefits of choosing nutritional foods as part of a balanced diet. To understand why different cooking techniques are used. To know where food comes from and how it is made/grown.	Congregation Sensory Exploded diagram Profile diagram Scales Units of measurement Beating Rubbing Kneading Sustainability.	Prepare food for a celebration for a specific group.	Experience a range of foods from different cultures and religions. Understanding why groups and families eat the food that they do. Time to eat and enjoy food together.

		• Use researched information to inform decisions				
Spring 1	**Bridges Levers and Linkages**	Devise step-by -step plans which can be followed by someone else. • Cut safely and accurately to a marked line. • Research and evaluating existing products(including book and web based research). • Consider and explain how the finished product could be improved. • Use appropriate finishing techniques for the project. • Refine their product - review and rework. • Make quality products. • Cut strip wood, dowel, square section wood accurately to 1mm.	Safe and accurate use of tools. Use mechanical systems such as cams, pulleys and gears. Can use mechanical systems such as cams, pulleys and gears. Understand how to carry out product testing to see how it meets the needs of the user.	Cam Shaft Riser Pulleys gears	Bridges are linked to relevant topics (recently war in Ukraine – moving people and supplies)	Learning about service and aid. Developing awareness of others' needs. Develops personal knowledge of national and international events and situations

		• Join materials using appropriate methods. • Use bradawl to mark positions. • Use hand drill to drill tight and loose fitting holes. • Use exploded diagrams to communicate ideas. • Use electrical systems such as motors. • Program, monitor and control using ICT • Incorporate motor and switch into a model. • Use glue gun with supervision.				
Spring 2	**T-shirt design**	Use the correct vocab appropriate to the project. • Create 3D products using pattern pieces and seam allowance. • Pin and tack fabric pieces together. • Join fabrics using oversewing, back stitch, blanket stitch or machine stitching.	Know how to fabrics are combined to create better products with more useful properties. Can understand how to develop an idea in depth including considering alternative models.	Print (technique) Over sew Back stitch	Fashion show with accompanying narrative to explore and justify the choices made	Clothes we wear have a big impact and say a lot about personality and individualism. The project gives learners a chance to explore who they are, what they stand for and what they support. Time can be taken to explore the origin and ethics of modern clothing industry and how this is or is not sustainable in the long run.

		• Decorate textiles appropriately before joining. • Cut safely and accurately to a marked line. • Sketch and model alternative ideas. Research and evaluating existing products (including book and web based research). • Consider user and purpose. • Use appropriate finishing techniques for the project. • Refine their product - review and rework. • Make quality products.				
Constant Skills	**Developing, planning and communicating ideas** • Investigate similar products to the one to be made to give starting points for a design • Draw/sketch products to help analyse and understand how products are made • Think ahead about the order of their work and decide upon tools and materials • Plan a sequence of actions to make a product • Record the plan by drawing (labelled sketches) or writing		**Using Materials** Cut slots • Cut accurately and safely to a marked line. • Use a craft knife, cutting mat and safety ruler under 1:1 supervision if appropriate. • Choose an appropriate sheet material for the purpose.		**Evaluating** · Use the design criteria to inform their decisions about ways to proceed • Justify their decisions about materials and methods of construction • Reflect on their work using design criteria stating how well the design fits the needs of the user • Identify what does and does not work in the product.	

	• Develop more than one design or adaptation of an initial design • Propose realistic suggestions as to how they can achieve their design ideas • Add notes to drawings to help explanations		• Make suggestions as how designs can be improved

Year 6						
Term	**Unit Name**	**Procedural Knowledge**	**Knowledge**	**Key vocabulary**	**Authentic Outcome**	**Cultural Capital/ SMSC / British Values**
Autumn	**Great British Bake-off**	Prepare food products taking into account the properties of ingredients and sensory characteristics. • Taste a range of ingredients, food items to develop a sensory food vocabulary for use when designing. • Weigh and measure using scales. • Cut and shape ingredients using appropriate tools. • Join and combine foods ingredients appropriately e.g. beating, rubbing in. • Show awareness of a healthy diet using eatwell. • Use a range of cooking techniques.	Traditional dishes of Britain from now and the past. A range of cooking and baking techniques required for different products. Specific preparation techniques and why they are needed. (eg not twisting when cutting out scones or they won't rise, leaving dough to prove) Can justify why choices were made. Understand how recipes develop and change over time. Know about the significance of some	Bake Boil Stew Steam Roast Prove (dough) Rise Knock back Beat Rub Fold	Parent event for children to showcase their recipes. Working with school catering team.	Chef visit from a local chef who discusses how he sources and prepares food for different occasions. Exploring ethics of food Preparing foods using ingredients that children may not have experienced before offers the chance to broaden horizons.

		• Know where and how ingredients are grown and processed. • Consider influence of chefs such as Hugh F.W. and sustainable fishing. • Devise step by step plans which can be followed by someone else. • Decide which idea to develop. • Use researched information to inform decisions	dishes in Britain and elsewhere in the world.			
Spring 1	**CAM toys**	Devise step-by -step plans which can be followed by someone else. • Cut safely and accurately to a marked line. • Research and evaluating existing products (including book and web based research). • Consider and explain how the finished product could be improved.	Understand the range of uses for paper and card. Knowledge of how materials react when used in certain ways. Know how to use levers to transfer movement Understand pivots and how placement can reduce and increase the range of movement.	Lever Linkage Pivot Riser Score Axel	**Cam toy to show an environmental problem** **Eg litter/drilling**	Children are made more aware of world issues Development of debating issues Personal exploration of opinions and feelings and how this affects their actions.

		• Use appropriate finishing techniques for the project. • Refine their product - review and rework. • Make quality products. • Join materials using appropriate methods. • Use brawdawl to mark positions. • Use exploded diagrams to communicate ideas. • Use glue gun with supervision.	Understand the different levels of pressure needed to cut and score with a knife.			
Spring 2	**Being Individual**	Use the correct vocab appropriate to the project. • Create 3D products using pattern pieces and seam allowance. • Pin and tack fabric pieces together. • Join fabrics using oversewing, back stitch, blanket stitch or machine stitching. • Combine fabrics to create more useful properties.	Understand how fashion has changed over time and know some significant designers. Know how patterns can be altered create 3D products. Explain the order in which actions must be taken when creating a garment. Some history of the textile industry and	Tack Sample Fashion Weave Hem Cuff Collar Waistband Binding	Fashion show. Opportunity to visit some local mills to explore fabric production.	Exploring the history of material trade within the British Empire and America can open up some important discussions regarding how countries make money from fashion. The modern fashion trade and the ethics of fabric manufacture is also a chance to explore the real cost and sustainability of modern clothes.

		• Decorate textiles appropriately before joining. • Combine fabrics to create more useful properties. • Develop one idea in depth. • Cut safely and accurately to a marked line. • Sketch and model alternative ideas. • Use appropriate finishing techniques for the project. • Refine their product - review and rework. • Make quality products.	where different fabrics come from Know the properties of some fabrics and be able to explain why they are used for certain products.			
Constant Skills	**Developing, planning and communicating ideas** • Investigate similar products to the one to be made to give starting points for a design • Draw/sketch products to help analyse and understand how products are made • Think ahead about the order of their work and decide upon tools and materials • Plan a sequence of actions to make a product • Record the plan by drawing (labelled sketches) or writing		**Using Materials** Cut slots • Cut accurately and safely to a marked line. • Use a craft knife, cutting mat and safety ruler under 1:1 supervision if appropriate. • Choose an appropriate sheet material for the purpose.		**Evaluating** · Use the design criteria to inform their decisions about ways to proceed • Justify their decisions about materials and methods of construction • Reflect on their work using design criteria stating how well the design fits the needs of the user • Identify what does and does not work in the product. • Make suggestions as how designs can be improved	

	• Develop more than one design or adaptation of an initial design • Propose realistic suggestions as to how they can achieve their design ideas • Add notes to drawings to help explanations		

DT Impact

- Children will work independently and as part of a team solve real-world problems.
- Children will be able to work safely with tools, selecting appropriate ones for the projects
- Children will ultimately know more, remember more and understand more about Design Technology, and will be able to apply this to other curriculum areas.
- The large majority of children will achieve age related expectations in Design Technology.
- As designer's children will develop designs, ideas, skills and attributes

Children will develop resilience to set backs and understand that success comes from perseverance.