Design Technology Curriculum & Progression

Our school is a beacon of light. A place where every child and adult is encouraged to shine brightly and reach their full potential. Through curiosity, courage, and compassion, we shine like a lamp in our classrooms, like a village on a hill in our community, and like shining stars across the wider world.

Year A Curriculum Overview

	Autumn		Spring		Summer	
	Impact & Power		**Perspective & Empathy**		**Celebration & Change**	
Year 5/6	How can a powerful torch be made?		Are all floating structures powerful?		What is the impact of bag design vs function?	
Year 3/4	What is the power of a lever?		How powerful is the structure of an Anglo Saxon Home?		How does design impact a Coat of Arms?	
Year 1/2	What impact does design have on a weather dial?		How can design make a windmill work efficiently?		Why is the design of a puppet important?	
EYFS	Why am I marvellous?	What is your superpower?	What Tales do we enjoy?	What is it like in the great outdoors?	Why do we celebrate everyone?	Where have I been & where will I go?

Year B Curriculum Overview

	Autumn		Spring		Summer	
	Responsibility & Risk		**Culture & Diversity**		**Reflection & Legacy**	
Year 5/6						
Year 3/4						
Year 1/2						
EYFS	Why am I marvellous?	What is your superpower?	What Tales do we enjoy?	What is it like in the great outdoors?	Why do we celebrate everyone?	Where have I been & where will I go?

An inclusive Design Technology Curriculum: Supporting Children with SEND

At Stelling Minnis CE Primary School, we believe all pupils should have the opportunity to learn to the best of their capabilities through a broad and balanced, inclusive curriculum. For our pupils with a Special Educational Need, we scaffold their learning to provide them with the strongest opportunities for success in our school. We believe firmly in the SEND Code of Practice's statement that 'every teacher is a teacher of SEN' and that our pupils with SEN should be provided with the same opportunities as their peers in our school. This means that, with their learning being personalised to meet their areas of need, they feel included in the classroom and make progress year on year. Reasonable adjustments are made in all lessons to enable this. When planning for Design Technology, class teachers will adapt their lessons where necessary using ideas taken from this list, however it is important to remember this list is not exhaustive and other adaptations may be needed for children with specific needs

Resources	Multi Sensory	Teacher Communication	Assessment
• Displays for access of information • Art and Design storage systems are easily identifiable and easy to access for all pupils where appropriate. • Tasks are made accessible using specialist equipment including specialist scissors, cutting tools, different styles of pencils, paintbrushes. • Generic frames are used to help children hold down their work. • Within art, drawing aids such as grids, templates, viewfinders are available. • Pupils who have mobility/dexterity difficulties can access software to stimulate traditional materials and techniques e.g. 2paint, Paint3D. • Pupils can use cameras to photograph images where they cannot draw them.	Pupils are given additional time to explore materials, tools and resources in order to process their purpose and use. • Real objects relating to the Cornerstones projects are used so pupils can see, touch, feel and smell and develops their sense of choice and independence when completing their own art and design projects. • Pupils are given the opportunity to see tools and equipment being used by an adult prior to their activity. • Visual scaffolding, reminders and prompts are used to show pupils with processing difficulties how to safely use art and design equipment. • Pupils with fine motor control difficulties are encouraged to use hands and other more accessible objects to create their outcome.	• Pupils art and design work are displayed to enhance pupil sense of achievement • Pre and over-learning of language is encouraged to support pupils with SEND and to enable them to access further learning. • Instructions are given clearly and reinforced visually where necessary. • Questions are worded at an age-appropriate level, avoiding complex vocabulary and sentence structures for pupils with SEND. • Alternative communication modes are utilised to meet pupil need e.g. signing, braille. • Text, visual aids are checked for clarity and accessibility for all pupils including pupils with SEND. • Specific use of language vocabulary may include: expression, tone, texture, shade, print, impressionism, technique, strokes.	• Assessment drives adaptation. Pre/over-learning is used to support pupils who have not made the expected progress. • Pupils are encouraged to express their art and design skills through multi-sensory approaches and techniques. • Sketch books over time are used to establish progress for all pupils including pupils with SEND

Design Technology Skills Overview. This is an “at a glance” overview. More detailed progression may be found further down the document.							
	EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Design 	Explore ideas through play, talk and early drawings; choose materials freely	Draw and label simple ideas; design with a clear purpose	Create detailed designs; explain choices; consider the user	Use annotated sketches; adapt ideas; consider function and appearance	Research products; develop detailed plans; solve problems creatively	Design using user needs, research and constraints	Design innovative products using technical knowledge and digital tools
Make 	Join and build using basic tools; develop control and coordination	Cut, shape and join materials safely; follow instructions	Measure, cut and join with increasing accuracy	Use tools accurately and independently; improve finish	Select suitable materials and techniques confidently	Use tools, mechanisms and systems precisely	Create high-quality prototypes; manage time and resources effectively
Evaluate 	Talk about what they made; describe likes and dislikes	Say what worked well and what could improve	Evaluate using simple success criteria	Test products and explain strengths and weaknesses	Refine products using feedback and testing	Evaluate function and quality in detail	Test, analyse, refine and justify decisions using evidence

Design Technology Progression of Skills & Curriculum: Cooking & Nutrition

At Stelling Minnis our Cooking & Nutrition is taught through Farm School. Each year group visits the farm, finds out about p roduce, where it comes from, food miles, animal welfare, and nutrition. Then the children get to make something to eat - all local and sustainable. They even use ingredients grown in our own polytunnel

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cooking & Nutrition 	**Food Focus:** **Origin:** Wheat **Produce:** Flour **Product:** Healthy Biscuits	**Food Focus:** **Origin:** Wheat **Produce:** Flour **Product:** Pancakes	**Food Focus:** **Origin:** Chicken **Produce:** Eggs **Product:** Omelette	**Food Focus:** **Origin:** Chicken **Produce:** Chicken **Product:** Chicken Wraps	**Food Focus:** **Origin:** Sheep **Produce:** Lamb **Product:** Kebabs	**Food Focus:** **Origin:** Pig **Produce:** Pork **Product:** Pork Patties	**Food Focus:** **Origin:** Cow **Produce:** Beef **Product:** Beef Burgers
	Disciplinary Knowledge: Explore food preparation, hygiene and healthy choices	Disciplinary Knowledge: Prepare simple healthy foods; understand hygiene	Disciplinary Knowledge: Follow simple recipes; know where food comes from	Disciplinary Knowledge: Prepare savory dishes; understand balanced diet	Disciplinary Knowledge: Measure accurately; adapt recipes; understand seasonality	Disciplinary Knowledge: Understand nutrition; modify recipes for purpose	Disciplinary Knowledge: Plan and cook healthy meals considering dietary needs
	Substantive knowledge: -I know that flour comes from wheat -I know that flour is in some biscuits -I know hygiene is important in cooking -I know that reducing sugar in biscuits is a healthier choice	Substantive knowledge: -I know that wheat is a grain ground to make flour -I know that flour is in pancakes - I know that pancakes use 3 ingredients	Substantive knowledge: -I know that eggs come from chickens -I know how to prepare eggs -I know that eggs are part of a healthy diet	Substantive knowledge: -I know that chicken is a source of protein -I know that chicken is considered a savoury item - I know that protein is important in a balanced diet	Substantive knowledge: -I know how to use scales to measure ingredients -I understand that lambing in the UK takes place at certain times of the year.	Substantive knowledge: -I know that pork should be limited in a diet -I know that pork is a protein and has fat too -I know that some people do not eat pork	Substantive knowledge: -I know that burgers can be made from beef -I know that beef comes from a cow -I know that some people do not eat beef

Year Group	Core Concepts					
	Impact & Power (Term 1 and 2)		**Perception & Empathy** (Term 3 and 4)		**Celebration & Change** (Term 5 &6)	
EYFS	Key Question? What is my superpower? -Introduce simple design planning – drawing an idea before making it.		Key Question? What is it like in the great outdoors? -Children explore materials found outdoors and talk about their features and uses -		Key Question? Where have I been and where am I going? -Introduce maps and route design	
Year 1 & 2	Key Question: What impact does design have on a weather dial? 		Key Question: How can design make a windmill work efficiently? 		Key Question: Why is the design of a puppet important? 	
	Learning Objectives 1. To explore different types of dials and understand their purpose. 2. To explore and test different mechanisms that make dials move. 3. To design a weather dial with moving parts for a specific purpose. 4. To make and evaluate my weather dial, explaining what works well and what could be improved.		Learning Objectives 1. **To investigate what makes a good windmill design and how different windmills spin.** 2. **To design a windmill that spins easily.** 3. **To build a windmill using different materials.** 4. **To test and evaluate our windmill design.**		Learning Objectives 1. To discover different puppet designs and how they move. 2. To design a finger puppet for a class puppet show. 3. To make a finger puppet that matches my design. 4. To evaluate how well my puppet works and how it could be improved.	
	Disciplinary Knowledge Year 1	Disciplinary Knowledge Year 2 -Explore and use mechanisms, including	Disciplinary Knowledge Year 1 -Explore how things move using simple mechanisms (e.g. wheels and axles).	Disciplinary Knowledge Year 2 -Explore and use mechanisms such as sliders and levers.	Disciplinary Knowledge Year 1 -Explore and use mechanisms, including	Disciplinary Knowledge Year 2 -Explore how things move using simple mechanisms (e.g. wheels and axles).

	Explore and use mechanisms such as sliders and levers. -Begin to use simple design criteria to communicate ideas. -Use simple tools safely and effectively to make a product. -Begin to evaluate ideas and products.	wheels, axles, and pivots. -Select from and use a range of tools and materials to perform practical tasks. -Generate, develop, model, and communicate ideas through talking, drawing, and mock-ups.	=Investigate different materials and say which are suitable for a purpose. -Build simple structures and begin to join materials together. -Talk about what they like and dislike about a product. -Draw simple designs and explain ideas verbally	-Begin to use simple design criteria to communicate ideas. -Use simple tools safely and effectively to make a product. -Begin to evaluate ideas and products.	wheels, axles, and pivots. -Select from and use a range of tools and materials to perform practical tasks. -Generate, develop, model, and communicate ideas through talking, drawing, and mock-ups.	Investigate different materials and say which are suitable for a purpose. -Build simple structures and begin to join materials together. -Talk about what they like and dislike about a product. -Draw simple designs and explain ideas verbally
	Substantive Knowledge I know how a dial mechanism can make a weather dial function. I know that design serves a purpose and can have impact on the user. I know how to plan, create, and evaluate a purposeful product.		**Substantive Knowledge** I know that windmills use wind to turn blades. I know that these clades rotate around a central point called an axle. I know that size, shape and material of blades affect how easily a windmill spins. I know that a stable structure helps a windmill work effectively.		**Substantive Knowledge** I know puppets are designed for a purpose and that the design of the puppet affects how well it works. I know that materials have different properties which will affect its use. I know a finger puppet must fit securely and be easy to move.	
	Links with NC: -Generate, develop, model, and communicate ideas through talking, drawing, and templates.		**Links with NC:** -Select from and use a range of tools and materials to perform practical tasks. -Evaluate their ideas and products against design criteria.		**Links with NC:** -Design purposeful, functional, appealing products for themselves based on design criteria. -Explore and evaluate a range of existing products.	
	Vocabulary Design, dial, mechanism, move, wheel, pivot, slider, lever, measure, pointer, rotate, weather, impact, purpose, evaluate.		**Vocabulary** Wind, blade, axle, rotate, spin, friction, structure, stable, design, material, join, mechanism, base, test, evaluate, improve.		**Vocabulary** Design, puppet, finger puppet, material, fabric, felt, join, attach, cut, stick, decorate, structure, fit, stable, evaluate, improve, character, movement, flexible, purpose, performance.	

Year 3/4	**Key Question:** What is the power of a lever? 	**Key Question:** How powerful is the structure of an Anglo Saxon Home? 	**Key Question:** How does design impact a Coat of Arms? 
	Learning Objectives 1. To explore how a Shaduf works and why it is useful. 2. To design a model of a Shaduf 3. To build a working Shaduf 4. To evaluate a Shaduf against its purpose	**Learning Objectives** 1. To explore the features and function of Anglo-Saxon houses 2. To test materials and joinings to build a stable model 3. To design a model of an Anglo Saxon house using appropriate materials 4. To build and evaluate a model of an Anglo-Saxon house and evaluate against design criteria	**Learning Objectives** 1. To understand the purpose and meaning of Viking shields and symbols 2. To develop a symbolic design based on research 3. To construct the shield using textile materials to assemble accurately 4. To evaluate and reflect on the process and meaning of the design
	Disciplinary Knowledge Year 3 - Investigate how simple machines work - Select and use tools and materials	**Disciplinary Knowledge Year 4** - Investigate and test levers to understand how they work - Select and use tools and materials appropriately -	**Disciplinary Knowledge Year 3** - Compare modern and historical structures - Experiment with natural materials - Evaluate the strength and join of materials - Select materials and justify choices - Build a 3D structure from a 2D plan - Evaluate work based on design criteria	**Disciplinary Knowledge Year 4** - Use secondary sources to research structures - Investigate materials for strength and joining - Construct using appropriate techniques and tools - Evaluate strength of model	**Disciplinary Knowledge Year 3** - Thread a needle - Do basic running stitch - Cut, shape and layer fabric accurately - Join fabric using stitching or glue - Evaluate product and suggest improvements	**Disciplinary Knowledge Year 4** - Thread a needle independently - Use a running stitch to join fabrics together accurately - Use a layering technique - Evaluate work and make improvements
	Substantive Knowledge	**Substantive Knowledge**	**Substantive Knowledge**

	- I know that a Shaduf is a type of lever - I know how to use lever mechanisms - I know how a lever works - I know the difference between fixed and loose pivots - I know that different materials perform differently	- I know Anglo-Saxon houses were made from wood, straw and mud - I know Anglo-Saxon houses were built for function and needed strength and shelter - I know that houses were rectangular with sloped roofs and no windows. - I know that Anglo-Saxon houses had one room with a fire in the middle and a smoke hole - I know roofs need internal wooden beams to keep it up.	- I know the use and meaning behind Viking shields - I know the cultural significance of colour and pattern - I know how symbols and patterns represent identity - I know that textiles can be joined using stitching or glue
	Links with NC Understand and use mechanical systems in their products	**Links with NC** Apply understanding of how to strengthen more complex structures.	**Links with NC** Use research and develop design criteria to inform the design Select and use a wide range of materials including textiles Perform practical tasks like cutting and joining accurately
	Vocabulary Shaduf, fulcrum, lever, effort, irrigation	**Vocabulary** Structure, strengthen, stability, shape, join	**Vocabulary** Viking, symbol, shield, identity, design, pattern, assemble, accuracy, evaluate, Norse Symbols, needle, thread, pins, joinings
Year 5 & 6	**Key Question:** How can a powerful torch be made? 	**Key Question:** Are all floating structures powerful? 	**Key Question:** What is the impact of bag design vs function? 
	Learning Objectives 1. I can explore and evaluate Existing Torch products. 2. I can understand and use electrical circuits and switches 3. I can design a functional torch with electrical circuits and a switch 4. I can construct and evaluate my designed torch.	**Learning Objectives** 1. I can investigate floating structures and evaluate their effectiveness. 2. I can design a floating structure for a specific purpose and user. 3. I can construct a floating structure following a design specification. 4. I can test and evaluate a floating structure against agreed success criteria.	**Learning Objectives** 1. I can investigate how bags have been designed over time to meet different users' needs and purposes. 2. I can generate and develop design ideas for a bag based on a given design brief. 3. I can choose and use appropriate textiles, tools and sewing techniques to construct a functional bag.

					4. I can evaluate my finished bag against the design brief and suggest improvements.	
	Disciplinary Knowledge Year 5 - Explore existing products by handling and discussing how they work. - To identify basic strengths and weaknesses of a product. - Generate ideas through labelled sketches. - Develop simple design criteria based on purpose. - To assemble electrical components to create a working circuit. - Use tools safely with supervision. - Comment on what worked well and what did not.	Disciplinary Knowledge Year 6 - To critically analyse existing products considering user, function and design decisions. - To explain why specific materials and switches have been used. - Develop innovative ideas responding to a design brief. - To produce detailed annotated designs showing electrical layout. - To construct accurate and reliable electrical circuits. - Explain how well the product	Disciplinary Knowledge Year 5 - Explore and discuss existing floating structures. - Identify what makes a structure stable or unstable. - Generate ideas through annotated sketches. - Measure, mark and cut materials with increasing accuracy. - Test their structure in water. - To observe how well it floats and balances. - To evaluate what worked well and what did not work well. -	Disciplinary Knowledge Year 6 - Analyse existing products to understand design decisions. - To investigate how shape, structure and materials affect performance. - To develop and refine design ideas independently. - Work accurately and independently from a specification. - To apply strengthening or waterproofing techniques. - To measure performance systematically. - To evaluate the boats performance against a measurable criteria.	Disciplinary Knowledge Year 5 - Identify key features and user needs - Plan the making process including materials and tools - Measure, cut and join fabric - Use stitching to help assemble the bag - Evaluate the design and bag made against a design criteria.	Disciplinary Knowledge Year 6 - Identify existing products for function and appeal - Plan the making process including materials, tools and steps - Measure, cut and join fabric with increased accuracy - Use stitching to assemble and decorate the bag` - Critically evaluate products against design criteria and intended user needs.

		meets user needs.				
	Substantive Knowledge - I know products are designed for a specific purpose and the purpose of a torch is to provide light using an electrical power source. - I know that electricity flows only when there is a complete electrical circuit. - I know metals are good conductors, while materials such as plastic are insulators. - I know tools and equipment must be used safely and accurately.		**Substantive Knowledge** - I know that objects float or sink depending on buoyancy. - I know hull shapes affect the boats speed, stability, and handling. - I know that structures must balance strength, stability and weight. - I know that Joining techniques affect structural strength. - I know products need to be tested to check how well they meet design criteria.		**Substantive Knowledge** - I know that a successful bag must be fit for purpose (e.g. strength, size, comfort, storage). - I know how bags have changed over time due to materials, technology and social needs. - I know difference between natural and synthetic textiles. - I know that sewing joins fabrics together.	
	Links with NC - use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, - understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] - investigate and analyse a range of existing products.		**Links with NC** - generate, develop, model and communicate their ideas through discussion, annotated sketches, - 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. - select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.		**Links with NC** - select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities - understand how key events and individuals in design and technology have helped shape the world - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	
	Vocabulary Function, purpose, design, electrical circuit, switch, light emitting diode (LED), battery, series circuit, battery, bulbs		**Vocabulary** Three-dimensional shapes, shell structure, buoyancy, reinforce, joining, adhesives, properties		**Vocabulary** Seam, stitch, pattern pieces, fastenings, needle, thread, template	