Design & Technology Curriculum Map

	Design	Research	Make	Evaluate	Technical Knowledge
Year 1	- Identify the purpose and target group for our product - Suggest simple design criteria for our product *(as a whole class - with adult support)* - Begin to develop and communicate our ideas through talking and drawing - Make simple templates and mock-ups for our designs using paper, card or ICT	- Begin to use our own experiences to suggest ideas - Explore and evaluate existing products *(by identifying materials or techniques used, suggesting the purpose and target group and saying what they like or dislike and why)*	- Name and select our own tools - Begin to assemble and join materials using a variety of methods - Use simple finishing techniques (linked to Art curriculum) - Select materials *(according to our characteristics)* (could be linked to Science - Materials)	- Evaluate our products using our whole class design criteria - Begin to evaluate and improve our own products during the design process	**Mechanisms** - Explore and use levers and sliders Project: Moving picture book **Freestanding structures** - Explore how they can build stronger, stiffer and more stable structures Project: Sustainable city project STEAM Hub Planning Links to Science (Materials & Geography) **Joining techniques:** Glue, masking tape, string & hole punch, treasury tags
Year 2	- Identify the purpose and target group for our product - Develop simple design criteria for our product *(in pairs/groups)* - Generate and develop design ideas *(using talking, drawing or ICT)* - Make simple templates and mock-ups for our design *(using card or paper)*	- Use our own and other people's experiences to suggest ideas - Explore and evaluate existing products *(by identifying materials or techniques used, suggesting the purpose and target group and saying what they like or dislike and why)* - Understand where our food comes from	- Name and select our own tools - Select materials, giving reasons for our choices *(link to Science curriculum - Materials)* - Assemble and join materials using a range of methods - Select and use simple finishing techniques (linked to Art curriculum) - Know how to make our structures stronger, stiffer and more stable	- Evaluate our products using our own design criteria - Evaluate and improve our own products during the design process	**Mechanisms** - Explore and use wheels and axles Project: Fairground rides (e.g. ferris wheel) or vehicle toys Links to Science (Materials) **Textiles** - Use simple sewing to create a product (large eyed needle, running stitch) Project: Making hand puppets Could link to English or to Science (habitats/life cycles) **Joining techniques:** Glue, masking tape, string & hole punch, treasury tags, sewing (running stitch, applique) Techniques for joining card - slot, L brace, tabs

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	Design	Research	Make	Evaluate	Technical Knowledge
Year 3	- Generate our own design criteria informed by research *(with adult support or in pairs/groups)* - Use annotated sketches to develop and communicate ideas - Start to model our ideas using prototypes and pattern pieces	- Gather information about our intended users *(with adult support/whole class e.g. surveys, interviews)* (could link to Maths curriculum - Statistics) - Investigate and analyse a range of existing products *(e.g. looking at function, materials, construction, purpose, audience)* - Learn about inventors, designers, engineers or manufacturers who have developed ground-breaking products	- Select and use appropriate tools - Select materials for our products *(according to our functional properties and aesthetic qualities)* (link to KS2 Science) - Measure, mark, cut out and shape materials and components with more accuracy - Assemble, join and combine materials - Select and use appropriate finishing techniques to improve the appearance of our product (linked to Art curriculum)	- Evaluate our ideas during the design process and adapt our plans *(with adult support)* - Evaluate our products against our design criteria - Consider the views of others, including the intended users, to improve our work	**Mechanisms** - Explore and use mechanical systems (e.g. levers and linkages) (link to Science curriculum - Forces) Project: Moving puppet (link to Science curriculum - Light) **Structures** - Apply our understanding of computing to program, monitor and control our products (link to Computing) - Apply our understanding of how to strengthen, stiffen and reinforce more complex structures (linked to KS1 DT curriculum) Project: Smart Greenhouse project Website & videos **Joining techniques:** Glue, masking tape Sewing (running stitch, applique, back stitch) Techniques for joining card - slot, L brace, tabs
Year 4	- Generate our own design criteria informed by research *(in pairs/groups or independently)* - Use annotated sketches from different views to generate and communicate ideas - Start to develop a plan for the design process *(as a whole class - including materials, tools and techniques to be used)* - Model our ideas using prototypes and pattern pieces	- Gather information about our intended users *(independently or in pairs/groups e.g. surveys, interviews)* (could link to Maths curriculum - Statistics) - Investigate and analyse a range of existing products *(e.g. by looking at function, materials, construction, purpose, audience, design process)* - Learn about the impact inventors, designers, engineers and manufacturers who have developed ground-breaking products and how they have shaped the world	- Select and use appropriate tools - Select materials and components *(according to our functional properties and aesthetic qualities and explain our choice)* - Measure, mark, cut out and shape materials and components with accuracy - Assemble, join and combine materials - Use finishing techniques to strengthen and improve the appearance of our products (linked to Art curriculum)	- Evaluate our ideas during the design process and adapt our plans - Evaluate products using appropriate tests and our own design criteria - Consider the views of others, including our intended users, to improve our work	**Electrical Systems** - Understand and use electrical systems in our products e.g. a series circuit incorporating switches, bulbs, buzzers and motors (link to Science curriculum) - Apply our understanding of how to strengthen, stiffen and reinforce more complex structures Project: Create a product that uses an electrical circuit e.g. buzzer game or a torch **Textiles** - Use a wider variety of sewing techniques to create a product - Describe how products can be recycled and reused Project: Sustainable fashion/re-fashion project (with Ted Baker if possible) **Joining techniques:** Glue, masking tape Sewing (running stitch, applique, back stitch, cross stitch, overstitch)

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					Techniques for joining card - slot, L brace, tabs
	Design	**Research**	**Make**	**Evaluate**	**Technical Knowledge**
Year 5	- Develop a design specification *(using our own research and subject knowledge)* - Use annotated sketches, cross-sectional drawings and CAD to generate and communicate our ideas (building on LKS2 DT curriculum) - Model our ideas using prototypes and pattern pieces - Develop a plan for the design process *(with adult or peer support - including materials, tools and techniques to be used)*	- Use research to identify the needs, wants, preferences and values of our intended users *(e.g. surveys, interviews and internet resources)* (could link to Maths curriculum - Statistics) - Investigate and analyse a range of existing products *(e.g. by looking at function, materials, construction, purpose, audience, cost, design process, innovation and sustainability)* - Explain the impact of inventors, designers, engineers or manufacturers who have developed ground-breaking products - Consider how sustainable our products are and the impact they may have beyond our intended purpose	- Select and use appropriate tools - Select materials for our products *(according to our functional properties and aesthetic qualities and justify our choice)* (link to Science - Materials) - Measure, mark, cut out and shape materials and components accurately, selecting an appropriate method - Assemble, join and combine materials, selecting an appropriate method - Select and use appropriate finishing techniques, drawing on our knowledge of Art and Design	- Evaluate our own work throughout the design and making process, making adaptations as necessary - Carry out tests or surveys to check our products carry out our intended purpose *(with adult support) (e.g. to check our products carry out our intended purpose or appeal to the intended user)* - Critically evaluate our products *(using the design specification and the results of appropriate tests/surveys)*	**Mechanisms** - Understand and use mechanical systems e.g. gears, pulleys, cams, levers and linkages (link to Science Curriculum - Forces) Project: Pop up toys project **Structures** - Know what a shell structure is - Design and build a shell structure - Apply our understanding of how to strengthen, stiffen and reinforce more complex structures Project: Shell structures, could be a survival shelter (linked to Geography volcanoes/earthquakes) or for living on another planet (linked to Science space) Planning **Joining techniques:** Glue, masking tape Sewing (running stitch, applique, back stitch, cross stitch, overstitch)
Year 6	- Develop a detailed design specification *(using our own research and subject knowledge)* - Use annotated sketches, cross-sectional drawings, exploded diagrams and CAD to generate and communicate ideas (building on KS2 DT Curriculum) - Model our ideas using prototypes and pattern pieces - Develop a plan for the design process *(independently - including materials, tools and techniques to be used)*	- Use research to identify the needs, wants, preferences and values of our intended users *(e.g. surveys, interviews and internet resources)* (could link to Maths curriculum - Statistics) - Investigate and analyse a range of existing products *(e.g. by looking at function, materials, construction, purpose, audience, design process, cost, innovation and sustainability)* - Explain the impact of inventors, designers, engineers or manufacturers who have developed ground-breaking products - Consider the cost of making products in our designs - Explain how our products are sustainable and describe the impact they may have beyond our intended purpose *(including food)*	- Select and use appropriate tools - Select materials and components *(according to our functional and aesthetic qualities and justify our choice)* - Measure, mark, cut out and shape materials and components accurately, selecting an appropriate method - Assemble, join and combine materials, selecting an appropriate method - Select and use appropriate finishing techniques, drawing on our knowledge of Art and Design - Apply our understanding of how to strengthen, stiffen and	- Evaluate our own work throughout the design and making process, making adaptations as necessary - Plan and carry out tests or surveys to obtain feedback *(e.g. to check our products carry out our intended purpose or appeal to the intended user)* - Critically evaluate our products *(using the design specification and the results of appropriate tests/surveys)*	**Electrical systems** - Understand and use electrical systems in our products e.g. a series circuit incorporating switches, bulbs, buzzers and motors (link to Science curriculum) - Apply our understanding of computing to program, monitor and control our products (link to Computing) Project: Future homes project Planning **Textiles** - Use our knowledge of sewing techniques to develop a product, including embellishing, sewing and applique Project: Cushions **Joining techniques:** Glue, masking tape Sewing (running stitch, applique, back stitch, cross stitch, overstitch)

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			reinforce more complex structures		