Ivington C.E Primary Design Technology Learning Journey –

Key Steps to Mastery Key Skills

DESIGN		
YEAR 1	**Year 2**	**Year 3**
	Review Year 1	Review Year 2
Pupils should be taught to:	**Pupils should be taught to:**	**Pupils should be taught to:**
• use their knowledge of existing products and their own experience to help generate their ideas; • design products that have a purpose and are aimed at an intended user; • explain how their products will look and work through talking and simple annotated drawings; • design models using simple computing software; • plan and test ideas using templates and mock-ups; • understand and follow simple design criteria; • work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.	• use their knowledge of existing products and their own experience to help generate their ideas; • design products that have a purpose and are aimed at an intended user; • explain how their products will look and work through talking and simple annotated drawings; • design models using simple computing software; • plan and test ideas using templates and mock-ups; • understand and follow simple design criteria; • work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.	• identify the design features of their products that will appeal to intended customers; • use their knowledge of a broad range of existing products to help generate their ideas; • design innovative and appealing products that have a clear purpose and are aimed at a specific user; • explain how particular parts of their products work; • use annotated sketches and cross-sectional drawings to develop and communicate their ideas; • when designing, explore different initial ideas before coming up with a final design; • when planning, start to explain their choice of materials and components including function and aesthetics; • test ideas out through using prototypes; • use computer-aided design to develop and communicate their ideas • develop and follow simple design criteria; • work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.

MAKE			
YEAR 1	Year 2	Year 3
	Review Year 1	Review Year 2
Pupils should be taught to:	**Pupils should be taught to:**	**Pupils should be taught to:**
Planning	**Planning**	**Planning**
• with support, follow a simple plan or recipe; • begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; • select from a range of materials, textiles and components according to their characteristics;	• with support, follow a simple plan or recipe; • begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; • select from a range of materials, textiles and components according to their characteristics;	• with growing confidence, carefully select from a range of tools and equipment, explaining their choices; • select from a range of materials and components according to their functional properties and aesthetic qualities; • place the main stages of making in a systematic order;
Practical skills and techniques	**Practical skills and techniques**	**Practical skills and techniques**
• I can learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; • I can use a range of materials and components, including textiles and food ingredients; • with help, I can measure and mark out; • I can cut, shape and score materials with some accuracy; • I can assemble, join and combine materials, components or ingredients; • I can demonstrate how to cut, shape and join fabric to make a simple product; • I can manipulate fabrics in simple ways to create the desired effect; • I can use a basic running stich; • I can cut, peel and grate ingredients, including measuring and weighing	• I can learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; • I can use a range of materials and components, including textiles and food ingredients; • with help, I can measure and mark out; • I can cut, shape and score materials with some accuracy; • I can assemble, join and combine materials, components or ingredients; • I can demonstrate how to cut, shape and join fabric to make a simple product; • I can manipulate fabrics in simple ways to create the desired effect; • I can use a basic running stich; • I can cut, peel and grate ingredients, including measuring and weighing	• I can learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; • I can use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; • With growing independence, I can measure and mark out to the nearest cm and millimetre; • I can cut, shape and score materials with some degree of accuracy; • I can assemble, join and combine material and components with some degree of accuracy; • I can demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; • I can join textiles with an appropriate sewing technique;

	ingredients using measuring cups; • I can begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.		ingredients using measuring cups; • I can begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.		• I can begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics

EVALUATE					
	YEAR 1		Year 2		Year 3
			Review Year 1		Review Year 2
	Pupils should be taught to:		**Pupils should be taught to:**		**Pupils should be taught to:**
	Explore and evaluate a range of existing product. They evaluate their ideas and products against design criteria.		Explore and evaluate a range of existing product. They evaluate their ideas and products against design criteria.		Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world.
	• I can explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; • I can explain positives and things to improve for existing products; • I can explore what materials products are made from; • I can talk about their design ideas and what I am making; • As I work, I can start to identify strengths and possible changes I might make to refine their existing design; • I can evaluate my products and ideas against my simple design criteria; • I can start to understand that the iterative process sometimes involves repeating different stages of the process.		• I can explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; • I can explain positives and things to improve for existing products; • I can explore what materials products are made from; • I can talk about my design ideas and what I am making; • as I work, I can start to identify strengths and possible changes that I might make to refine my existing design; • I can evaluate my products and ideas against my simple design criteria; • I can start to understand that the iterative process sometimes involves repeating different stages of the process		• I can explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; • I can explore what materials/ingredients products are made from and suggest reasons for this; • I can consider my design criteria as I make progress and am willing to alter my plans, sometimes considering the views of others if this helps me to improve my product; • I can evaluate my product against my original design criteria; • I can evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.

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TECHINICAL KNOWLEDGE					
	YEAR 1		Year 2		Year 3
			Review Year 1		Review Year 2
	Pupils should be taught to:		**Pupils should be taught to:**		**Pupils should be taught to:**
	Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.		Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.		Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products.#
	• I can build simple structures, exploring how they can be made stronger, stiffer and more stable; • I can talk about and start to understand the simple working characteristics of materials and components; • I can explore and create products using mechanisms, such as levers, sliders and wheels.		• I can build simple structures, exploring how they can be made stronger, stiffer and more stable; • I can talk about and start to understand the simple working characteristics of materials and components; • I can explore and create products using mechanisms, such as levers, sliders and wheels.		• I can understand that materials have both functional properties and aesthetic qualities; • I can apply my understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products. • I can understand and demonstrate how mechanical and electrical systems have an input and output process; • I can make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; • I can explain how mechanical systems such as levers and linkages create movement; • I can use mechanical systems in their products