

Brimscombe C of E Primary School

Progression of knowledge and skills

DT

EYFS	
Skills	EYFS development matters
• Making verbal plans and material choices. • Developing a junk model. • Designing a junk model boat. • Using knowledge from exploration to inform design. • Discussing what a good design needs. • Designing a simple pattern with paper. • Designing a bookmark. • Choosing from available materials.	• Understanding the world: understand the effect of changing seasons on the natural world around them. <i>Expressive arts and design</i> • 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.

KSI Y1/2		
Skills	Knowledge	National Curriculum
Identifying needs and problems - Thinking about what others might want from a design. - Beginning to recognise how products and designs in the world around us solve certain needs. Developing for a user - Considering who they are designing for - identifying the user. - Stating what they intend to make and why - identifying the purpose. - Using a simple design brief that outlines the intended use, target user and key features of the product, to create simple design criteria. Generating ideas - Talking about ideas, with purpose and user in mind. - Talking about existing products when generating ideas. - Creating ideas with design criteria in mind. - Referring to specific parts of existing products when generating ideas. Communicating ideas	Identifying needs and problems - To know that different users may want different things from a design. - To know that the 'user' is the person who will use the product. - To know that designers usually design and make something to solve a problem. Developing for a user - To know that who they are designing for makes a difference to what they design. - To know that the purpose is what something is for. - To know that a design brief helps to decide what to make. - To know that design criteria are the steps for making a product successful. Generating ideas - To know that existing products can help when deciding what to design. - To know that the design criteria help when thinking of ideas. - To know that different products work in different ways and have parts that make them work.	Design - 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.

• Using basic drawing skills to communicate ideas. • Using labels to explain parts of a design, label materials etc, including using ICT. • Integrating moving parts when creating mock-ups.	<i>Communicating ideas</i> • To know that drawings are a way to explain ideas. • To know that drawings can help explain how something works. • To know that a label explains part of a drawing.	
--	--	--

Y3/4 LKS2		
Skills	Knowledge	National Curriculum
Identifying needs and problems - Noticing simple problems or needs in their everyday life. - Using empathy and conducting simple surveys to recognise the needs of others. Developing for a user - Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. Generating ideas - Taking part in structured idea-generation sessions. - Coming up with more ideas and considering the feasibility of their ideas in the classroom. Communicating ideas - Beginning to use 2D CAD software to communicate their ideas. - Developing drawing and sketching skills with a focus on clarity and simplicity. - Developing designs by adding detail and justifications about materials, tools, methods. - Beginning to recognise the benefit of a range of diagram types or prototypes to	Identifying needs and problems - To know that a problem or need is something that a designer can help to solve. Developing for a user - To know that a target audience is a group of people that might like the idea. Generating ideas - To know that thinking together can help generate ideas. - To know that not everything can be made in the classroom. Communicating ideas - To know that CAD is computer-aided design. - To know that CAD can be used to better communicate ideas. - To know that extra information on drawings or diagrams can help the user understand a design or idea. - To know that thumbnail sketches are less detailed quick sketches. - To know that a cross-sectional diagram shows the inside of a product.	Design - 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. - Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

communicate ideas. (eg. sketches, cross-sectional diagram, thumbnail sketches and exploded diagrams). • Creating prototypes using materials with similar properties to their final design.	• To know that an exploded diagram shows how the parts of a product fit together. • To know that a prototype is a detailed model that helps a user understand how a product will work.	
---	--	--

UKS2 Y5/6		
Skills	Knowledge	National Curriculum
Identifying needs and problems - Noticing wider-reaching problems or needs in the community. - Identifying a wide range of needs and potential barriers through market research. - Identifying more complex problems that consider multiple factors and constraints with guidance. Developing for a user - Creating more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. Generating ideas - Developing more independence in generating ideas. - Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. Communicating ideas - Using 3D CAD software to communicate their ideas. - Beginning to use more complex annotated sketches, such as cross-sectional and	Identifying needs and problems - To know that problems can be large and small. - To know that market research is a way of collecting information about problems or needs. - To know that a constraint is a limit or condition when making a product. Developing for a user - To know that environmental impact is how the product and making the product might affect the environment. - To know that different materials have different costs. Generating ideas - To know that original and innovative ideas are different from what has been made before. Communicating ideas - To know that drawings and diagrams can be communicated in 3D. - To know that annotations are detailed labels and comments on diagrams.	Design - 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. - Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

exploded diagrams and pattern pieces in design. • Using a series of prototypes to refine and improve their designs.	• To know that improving on prototypes can help to improve the final design.	
--	--	--