

MTP – DT – Year 4

Topic	Digital world: Mindful moments timer
N.C Learning Objectives	Pupils should be taught: When designing and making, pupils should be taught to: 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 Make - select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately - 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 Evaluate - investigate and analyse a range of existing products - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work - understand how key events and individuals in design and technology have helped shape the world Technical knowledge - apply their understanding of how to strengthen, stiffen and reinforce more complex structures - understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] - understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] - apply their understanding of computing to program, monitor and control their products.
Ways of being Co-Op	Do what matters most Succeed together Be yourself, always Show you care
British Values	Democracy Rule of Law Individual Liberty Mutual Respect

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	Tolerance				
CRL	Electronics Engineer Embedded Systems Engineer Product Designer (Electronics) Industrial Designer Control Systems Engineer				
Vocabulary	<u>Evaluate</u> Make a judgement about a product by identifying its strengths and weaknesses to inform improvements	<u>Design Criteria</u> The requirements that a product needs to be successful	<u>Programme</u> A sequence of instructions that tells a computer or device what to do and when	<u>Prototype</u> A first version of a product, made using cheaper materials, which can then be developed based on feedback.	<u>Brand identity</u> A combination of techniques, such as logo, colour, packaging and advertising, that helps a product appeal to its target audience.
Recap and Recall	-				
	LEARNING OBJECTIVE	STICKY KNOWLEDGE FACT	CORE LEARNING		
Lesson 1	We are learning to evaluate the advantages and disadvantages of different timers	Designers evaluate existing products to help inform their own design by considering the advantages and disadvantages of different products.	- Children can compare existing mindfulness products. - Children can state the advantages and disadvantages of a product. - Children can make links between a product's form and its function.		
Lesson 2	We are learning to develop design criteria to meet a design brief	Design Criteria are a list of requirements the product needs to succeed.	- Children can write design criteria to fulfil a design brief. - Children can use research to make a decision about design criteria. - Children can use prior knowledge to make a decision about design criteria.		

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Lesson 3	We are learning to programme and control a timer	A programming code controls a timer. Programmers will create coding blocks to create loops and will go through an ongoing process of testing and debugging to make sure it works.	• Children can create code that controls a timer. • Children can debug my code to ensure that it works. • Children can identify coding blocks used for loops.
Lesson 4	We are learning to develop a prototype	Prototypes are important because they allow designers to test an idea's form and function using inexpensive materials. Further prototypes can be developed until the design is successful.	• Children can annotate a product concept drawing. • Children can create a 3D model using modelling materials. • Children can discuss my design with a partner.
Lesson 5	We are learning to develop ideas of brand identity through computer-aided design	Companies develop their brand identity through a combination of techniques, such as logo, colour, packaging and advertising, that helps a product appeal to its target audience.	• Children can select a theme suitable for mindfulness. • Children can design a brand that would appeal to a teacher. • Children can use the layer tool on CAD software to improve my design.
Lesson 6	We are learning to create an exhibition to showcase our products and share feedback	Evaluating against the Design Criteria helps us to identify improvements we would make to our design to make a more effective product.	• Children can explain my product and brand identity during an exhibition. • Children can collect feedback from a user. • Children can suggest changes to my design based on feedback.
Outcome	The children will choose a composition by using a viewfinder to draw as a final piece on a larger scale. They should apply knowledge of shapes, shading and texture.		