

Yearly Overview

Subject: DT

Year Group: 3

DT Primary - Project on a page	Autumn 1	Spring 1	Summer 1
Unit of work	Structures - Shell Structures https://drive.google.com/file/d/1pLz2u8qjN1SKwYB52rd4bzUzNFHlgKxe/view?usp=sharing	Mechanical systems - Levers and Linkages https://drive.google.com/file/d/1VlwVFZMFToluTUqJuJRID_oaitf5XM3l/view?usp=sharing	Food - Healthy and varied diet https://drive.google.com/file/d/1IYOksfllY-Ak0_S8bMAzfwmRkXrCPOYS/view?usp=sharing
NC Objectives (Linked to Programme of Study)	<p>The national curriculum for design and technology aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world • build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users • critique, evaluate and test their ideas and products and the work of others • understand and apply the principles of nutrition and learn how to cook. 		
Project title	Pencil holder Design, make and evaluate a pencil holder (product) for a friend (user) as a present (purpose)	Interactive class display Design, make and evaluate an interactive display (product) for the class (user) to assess understanding of the topic (purpose)	Healthy sandwich Design, make and evaluate a healthy sandwich (product) for the family (user) for lunch (purpose)
Prior Knowledge	<ul style="list-style-type: none"> • Experience of using different joining, cutting and finishing techniques with paper and card. • A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science. 	<ul style="list-style-type: none"> • Explored and used mechanisms such as flaps, sliders and levers. • Gained experience of basic cutting, joining and finishing techniques with paper and card. 	<ul style="list-style-type: none"> • Know some ways to prepare ingredients safely and hygienically. • Have some basic knowledge and understanding about healthy eating and The Eatwell Plate. • Have used some equipment and utensils and prepared and combined ingredients to make a product.
Composite knowledge (Inc. Key Questions)	Technical knowledge and understanding <ul style="list-style-type: none"> • Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Know and use technical vocabulary relevant to the project. <ul style="list-style-type: none"> - How do you think the mechanism works? - How effective do you think it is and why? 	Technical knowledge and understanding <ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately.

	<ul style="list-style-type: none"> - What is the purpose of the shell structure? - How has it been constructed? - How has it been stiffened? - How attractive is the design? 	<ul style="list-style-type: none"> - Which part of the system is the input and which part the output? - Which are the fixed pivots and which are the loose pivots? 	<ul style="list-style-type: none"> - What ingredients have been used? - Which food groups do they belong to? - What substances are used in the products e.g. nutrients, water and fibre?
Key Concepts (Component / intentional knowledge - what they need to understand)	<p>Designing</p> <ul style="list-style-type: none"> • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the purpose of the product. • Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. <p>Making</p> <ul style="list-style-type: none"> • Order the main stages of making. • Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. • Explain their choice of materials according to functional properties and aesthetic qualities. • Use finishing techniques suitable for the product they are creating. <p>Evaluating</p> <ul style="list-style-type: none"> • Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. • Test and evaluate their own products against design criteria and the intended user and purpose. 	<p>Designing</p> <ul style="list-style-type: none"> • Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. <p>Making</p> <ul style="list-style-type: none"> • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. • Select from and use finishing techniques suitable for the product they are creating. <p>Evaluating</p> <ul style="list-style-type: none"> • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. 	<p>Designing</p> <ul style="list-style-type: none"> • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. <p>Making</p> <ul style="list-style-type: none"> • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. <p>Evaluating</p> <ul style="list-style-type: none"> • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.
Vocabulary	shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating user, purpose, function	texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury
Cross-curricular	RE - Celebrations / PSHE - Relationships		PSHE - Health

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