

Yearly Overview

Subject: DT

Year Group: 5

DT Primary - Project on a page	Spring 1	Spring 2	Summer 1
Unit of work	<p>Mechanical systems - Pulleys or gears https://drive.google.com/file/d/17oUKDnl11hrYQMLxzVs_UXtb3oqeR7k7/view?usp=sharing</p>	<p>Food - Celebrating culture and seasonality https://drive.google.com/file/d/1fNbO0usqC-En8Fhuo_QmlqghmnGnM8SM/view?usp=sharing</p>	<p>Textiles - Combining different fabric shapes https://drive.google.com/file/d/1gSZ3l3fSQzPuRBzSsV02EQX2tKia3hpZ/view?usp=sharing</p>
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	<p>Movable Toy Design, make and evaluate a movable toy (product) for a child (user) to sell at the school fair (purpose)</p>	<p>Bread Design, make and evaluate making bread (product) for the family (user) for lunch (purpose)</p>	<p>Mobile phone carrier with stitching Design, make and evaluate a mobile phone carrier (product) for the family member (user) as a present (purpose)</p>
Prior Knowledge	<ul style="list-style-type: none"> • Experience of axles, axle holders and wheels that are fixed or free moving. • Basic understanding of electrical circuits, simple switches and components. • Experience of cutting and joining techniques with a range of materials including card, plastic and wood. • An understanding of how to strengthen and stiffen structures. 	<ul style="list-style-type: none"> • Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. • Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients. 	<ul style="list-style-type: none"> • Experience of basic stitching, joining textiles and finishing techniques. • Experience of making and using simple pattern pieces.
Composite knowledge (Inc. Key Questions)	<p>Technical knowledge and understanding</p> <ul style="list-style-type: none"> • Understand that mechanical and electrical systems have an input, process and output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the 	<p>Technical knowledge and understanding</p> <ul style="list-style-type: none"> • Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary. 	<p>Technical knowledge and understanding</p> <ul style="list-style-type: none"> • A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate.

	<p>project.</p> <ul style="list-style-type: none"> - What types of mechanical components are used and where are they positioned? - What are the input, process and output of the system? - Do the pulleys move in the same direction? - How can you reverse the direction of rotation? 	<ul style="list-style-type: none"> - What ingredients are sourced locally/in the UK/from overseas? - What are the key ingredients needed to make a particular product? - How have ingredients been processed? - What is the nutritional value of a product? 	<ul style="list-style-type: none"> - Is the product functional or decorative? - Do the textiles used match the intended purpose? - What components have been used to enhance the appearance? - To what extent is the design innovative?
<p>Key Concepts (Component / intentional knowledge - what they need to understand)</p>	<p>Designing</p> <ul style="list-style-type: none"> • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. <p>Making</p> <ul style="list-style-type: none"> • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p>Evaluating</p> <ul style="list-style-type: none"> • Compare the final product to the original design specification. • Test products with the intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project. 	<p>Designing</p> <ul style="list-style-type: none"> • Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. <p>Making</p> <ul style="list-style-type: none"> • Write a step-by-step recipe, including a list of ingredients, equipment and utensils • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose. <p>Evaluating</p> <ul style="list-style-type: none"> • Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. • Understand how key chefs have influenced eating habits to promote varied and healthy diets. 	<p>Designing</p> <ul style="list-style-type: none"> • Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. <p>Making</p> <ul style="list-style-type: none"> • Produce detailed lists of equipment and fabrics relevant to their tasks. • Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p>Evaluating</p> <ul style="list-style-type: none"> • Investigate and analyse textile products linked to their final product. • Compare the final product to the original design specification. • Test products with the intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work.

<p>Vocabulary</p>	<p>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor</p>	<p>ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p>	<p>seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper</p>
<p>Cross-curricular links</p>	<p>Science</p>	<p>PSHE - Health</p>	<p>Art - Fashion designer</p>