Design Technology Learning Journeys
Year 4

Autumn Anglo Saxons and Vikings	Spring Ancient Greece	Summer Rainforest
Project Overview	**Project Overview**	**Project Overview**
In this unit, the children will explore different examples of battery powered products. They will consider where they are used, what the key features and components are, and how they work. They will investigate examples of switches which work in different ways. They will investigate these in simple circuits. The children will carry out focused practical tasks to explore how to make different circuits which make things light up or make a sound using their science knowledge. The children will design a product that has an electrical component. They will then make and evaluate their product against agreed design criteria.	Linked to the Ancient Greece topic, the children will investigate a range of foods and food dishes. They will build on their understanding of the 'eatwell' plate to discuss the ingredients used. They will try different foods evaluating them for taste, texture, appearance, smell. They will invest the origins of different ingredients. The children will use focused practical tasks to further develop their food preparation techniques e.g. mixing, rubbing, kneading, stretching. The children will go onto innovate a bread-based product linked to their topic and study of Greece. The children could visit a Greek restaurant to learn how dough is made.	In this unit the children will investigate objects that use air to make them work e.g. bicycle pump, swimming aids. They will investigate a simple pneumatic system by joining a balloon to 5mm plastic tubing and using a washing up bottle asking and answering questions such as, what happens when you squeeze the bottle? What happens when you let go? Focused practical tasks will include assembling systems using syringes, tubing, balloons and plastics bottles to investigate the different effects they can create. They will go on to design a product that uses a pneumatic system to make part of it move e.g. a plate tectonics model to demonstrate an earthquake.
Aspect and Focus	**Aspect and Focus**	**Aspect and Focus**
Aspect: Electrical Systems **Focus:** Simple circuits and switches	**Aspect:** Food and nutrition **Focus:** Healthy and varied diet	**Aspect:** Mechanisms **Focus:** Pneumatics
Outcome of DT Project	**Outcome of DT Project**	**Outcome of DT Project**
Outcome: Design and make a product that lights up or makes a noise	**Outcome:** Create a bread-based food product linked to their topic	**Outcome:** Design and make an earthquake model
Main Focus for Skills Development	**Main Focus for Skills Development**	**Main Focus for Skills Development**
Prior learning • Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. • Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue.	**Prior learning** • Know some ways to prepare ingredients safely and hygienically. • Have some basic knowledge and understanding about healthy eating and The eatwell plate.	**Prior learning** • Explored simple mechanisms, such as sliders and levers, and simple structures. • Learnt how materials can be joined to allow movement. • Joined and combined materials using simple tools and techniques.

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Designing • Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. **Making** • Order the main stages of making. • Select from and use tools and equipment to cut, shape, join and finish with some accuracy. • Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities. **Evaluating** • Investigate and analyse a range of existing battery-powered products. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. **Technical knowledge and understanding** • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project.	• Have used some equipment and utensils and prepared and combined ingredients to make a product. **Designing** • 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. **Making** • 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. **Evaluating** • 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. **Technical knowledge and understanding** • 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.	**Designing** • Generate realistic and appropriate 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. **Making** • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. • Select from and use finishing techniques suitable for the product they are creating. **Evaluating** • Investigate and analyse books, videos and products with pneumatic mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. **Technical knowledge and understanding** • Understand and use pneumatic mechanisms. • Know and use technical vocabulary relevant to the project.