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Fresh Food, Good Food

Autumn 2B

Innovate Challenge

Designing and making a healthy packed snack

Skills:

- Choose from a range of materials, showing an understanding of their different characteristics.
- Design a healthy snack or packed lunch and explain why it is healthy.
- Explain how and why a significant designer or inventor shaped the world.
- Identify and name foods that are produced in different places in the UK and beyond.
- Identify and use a range of cooking techniques to prepare a simple meal or snack.
- Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements.
- Investigate and identify the design features of a familiar product.
- Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.
- Use annotated sketches and exploded diagrams to test and communicate their ideas.
- Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray.
- Design a healthy snack or packed lunch and explain why it is healthy.

Core Knowledge:

- Foods need packaging to keep them fresh, safe to eat and free from damage.
- Food packaging also provides nutritional information about the food inside.
- Food deteriorates due to the growth of microorganisms.
- Significant scientists such as Louis Pasteur and inventors such as Nicolas Appert have ensured decay can be prevented or delayed by preservation methods, such as drying, salting, pickling, canning, pasteurising, refrigerating, or freezing the food.
- The 'use by' date shows when the food is no longer safe to eat.
- The 'best before' date shows the date after which the food will lose some flavour or texture.
- Areas of the world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in California in the United States of America.
- Cooking techniques include baking, boiling, frying, grilling and roasting.
- Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made.
- The evaluation process can include suggesting improvements and explaining why they should be made.
- Design features are the aspects of a product's design that the designer would like to emphasise. For example, the use of a particular material or a feature that makes the product durable.
- A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials.
- Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way.
- Foods need packaging to keep them fresh, safe to eat and free from damage.
- Food packaging also provides nutritional information about the food inside

Depth:

Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.

Knowledge and Skill Map Year 3 DT



Functional and Fancy Fabrics

2



Innovate Challenge

Designing and making William Morris inspired bags

Skills:

- Choose from a range of materials, showing an understanding of their different characteristics.
- Create and complete a comparison table to compare two or more products.
- Create detailed decorative patterns on fabric using printing techniques.
- Explain how and why a significant designer or inventor shaped the world.
- Hand sew a hem or seam using a running stitch.
- Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements.
- Investigate and identify the design features of a familiar product.
- Select, name and use tools with adult supervision.
- Use annotated sketches and exploded diagrams to test and communicate their ideas.
- Combine a variety of printmaking techniques and materials to create a print on a theme.

Core Knowledge:

- Fabrics can be natural or synthetic.
- Natural fabrics include cotton, silk and wool.
- Synthetic fabrics include Lycra, polyester and nylon.
- A comparison table is an organised way to compare products.
- Block printing and fabric paint are used to create decorative, repeated patterns on fabrics.
- William Morris was a British textile designer, artist and socialist activist associated with the British Arts and Crafts Movement.
- William Morris was a significant contributor to the revival of traditional British textile arts and methods of production.
- William Morris' motifs consisted mainly of leaves, flowers, fruits and birds.
- A hem runs along the edge of a piece of cloth or clothing. It is made by turning under a raw edge and sewing to give a neat and quality finish.
- Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made.
- The evaluation process can include suggesting improvements and explaining why they should be made.
- Design features are the aspects of a product's design that the designer would like to emphasise. For example, the use of a particular material or a feature that makes the product durable.

Depth:

- Develop the creative, technical, and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

3

Tomb Builders

Summer 6B

Innovate Challenge

Planning and designing simple machines

Skills:

- Choose from a range of materials, showing an understanding of their different characteristics.
- Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products.
- Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements..

Core Knowledge:

- Choose from a range of materials, showing an understanding of their different characteristics.
- Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products.
- Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements..
- Simple machines make physical jobs easier by changing the strength or direction of a force.
- There are six simple machines: pulley, lever, wheel and axle, wedge, inclined plane and screw.
- Simple machines can be combined to make complex, compound machines. For example, a wheelbarrow combines a lever with a wheel and axle.
- Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made.
- The evaluation process can include suggesting improvements and explaining why they should be made.

Depth:

Develop the creative, technical, and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.