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Knowledge and Skill Map Year 6 DT



Food for Life Autumn 2B

Innovate Challenge
Designing and making a healthy meal

Skills:

- Analyse how an invention or product has significantly changed or improved people's lives.
- Create a detailed comparative report about two or more products or inventions.
- Demonstrate how their products consider the safety of the user.
- Demonstrate modifications made to a product because of ongoing evaluation by themselves and to others.
- Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.
- Explain how organic produce is grown.
- Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.
- Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet.

Core Knowledge:

- A processed food is changed during preparation and includes processes, such as cooking, freezing, pasteurising, or the addition of ingredients.
- Processed foods can be convenient and increase availability, but often lack of nutrients and contain unhealthy ingredients when compared to whole foods.
- Sliced bread is processed. It can contain many more ingredients than homemade bread, including preservatives and artificial ingredients.
- An iterative process starts with requirements and continues by creating a product, testing it, and revising it before creating a better version.
- The iterative process is a series of steps that are repeated, improving the product with each cycle.
- Whole foods have not been changed from their natural form.
- Organic whole foods are grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives.
- Ingredients can usually be bought at supermarkets, but specialist shops may stock different items such as specialist vegetables or coffees.
- Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens usually sell some unusual, prepared foods, as well as cold meats and cheeses.
- Eating a balanced diet is a positive lifestyle choice that should be sustained over time.
- Food packaging provides important nutritional information about the food inside.

Depth

Critique, evaluate and test their ideas and products and the work of others.

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

2



Engineer Spring 4B

Innovate Challenge
Designing and making a prototype bridge

Skills:

- Analyse how an invention or product has significantly changed or improved people's lives.
- Choose the best materials for a task, showing an understanding of their working characteristics.
- Create a detailed comparative report about two or more products or inventions.
- Demonstrate modifications made to a product because of ongoing evaluation by themselves and to others.
- Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.
- Present a detailed account of the significance of a favourite designer or inventor.
- Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.

Core Knowledge:

- Bridge structures have changed over time. This is due to factors such as technology, design innovation and new and better access to materials.
- It is important to understand the characteristics of different materials to select the most appropriate material for a purpose. This might include flexibility, waterproofing, texture, colour, cost and availability.
- An iterative process starts with requirements and continues by creating a product, testing it, and revising it before creating a better version.
- The iterative process is a series of steps that are repeated, improving the product with each cycle.
- Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
- Significant engineers have improved, safety, people's lives and trade through their constructions.
- Significant bridges include: the Menai Bridge, Clifton Suspension Bridge and Forth Bridge.
- Strength can be added to a framework by using multiple layers or changing its shape.
- Triangles do not collapse or distort easily and so are used in architecture to provide support and stability.

Depth

- Critique, evaluate and test their ideas and products and the work of others.
- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

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Make do and mend

Summer 6B

Innovate Challenge

Mrs Sew and Sew's challenge

Skills:

- Analyse how an invention or product has significantly changed or improved people's lives.
- Choose the best materials for a task, showing an understanding of their working characteristics.
- Create a detailed comparative report about two or more products or inventions.
- Pin and tack fabrics in preparation for sewing and more complex pattern work.
- Select appropriate tools for a task and use them safely and precisely.
- Use different methods of fastening for function and decoration, including press studs, Velcro and buttons.

Core Knowledge:

- Make Do and Mend was a campaign run by the Ministry of Information during the Second World War to encourage people to recycle and repurpose their old clothes rather than buy new.
- The Make Do and Mend campaigns aimed to limit the amount of labour and materials used in clothes production, so that it could be used to support the greater war effort.
- It is important to understand the characteristics of different materials to select the most appropriate material for a purpose. This might include flexibility, waterproofing, texture, colour, cost and availability.
- Products and inventions can be compared using a range of criteria, such as the impact on society, ease of use, appearance and value for money.
- Deconstructing garments identifies how they were made, the materials used and their properties.
- Hand stitches include running stitch, blanket stitch and whip stitch.

Depth

- Critique, evaluate and test their ideas and products and the work of others.
- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.