Manor Primary School
Science Year 3: Setting up a biscuit business

Overview of the Learning:
In this unit the children will develop their skills, knowledge and understanding of food, building on the previous units in which children prepared food products using simple processes. The children will learn how to adapt a basic recipe to develop a product with specified criteria. They will investigate a range of existing products from all cultures which will inform design ideas. . In this unit, there are also opportunities to develop skills in market research, advertising and marketing to develop a link with industry.

Core Aims

To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

To select from and use a wider range of tools and equipment to perform practical tasks [for example, mixing, combining materials shaping, and finishing], accurately

To select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities.

To investigate and analyse a range of existing products and understand the importance of this when creating a design specification.

To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

To understand how key events and individuals in design and technology have helped shape the world

To develop an understanding of the needs for a healthy and varied diet and apply this to their own product.

To prepare and bake biscuits using a range of cooking techniques.

To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Pupils should be taught to

- Observe and explore and generate ideas, define problems and pose questions in order to develop investigations and products.
- Take ownership of the process involved when setting up a business: carrying out market research, designing, making improvements, creating an end product, costing and evaluating making links with real life businesses.
- To identify the needs of the end user by exploring the existing market and asking questions about what biscuits are popular and why and where there are gaps in the market which could generate a profit.
- Apply practical skills to design, make and improve products safely, taking account of users and purposes.
- Children will become familiar with how to create a design specification with the needs of the end user in mind taking into consideration the results of their market research. Communicate and model in order to explain and develop ideas, share findings and conclusions.
- To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes**Error! Reference source not found.**
- To understand how products are cost, marketed and advertised.

Pupils should be taught about biscuits:

- To identify and adapt biscuit recipes.

	• To follow a recipe using appropriate equipment. • To understand how to mixing, combining and shape mixtures. • To understand how to use equipment including ovens safely and correctly. • To evaluate biscuits in terms of appearance, flavour, texture and cost understand that people have different preferences and that designers need to consider this when designing.

Expectations

Children can:

Examine a range of existing biscuit products and identify the purpose, suitability appearance and function and how the biscuits have been made.

Carry out market research to find out about the products that are available to buy, gaps in the market and the needs of the end user.

Identify the suitability of ingredients ensuring they are fit for purpose.

Create a design specification for a biscuit product of their own using the market research.

Select and use appropriate equipment to create a biscuit, understanding how to use an oven safely.

Evaluate the end product against the design specification and the needs of the end user.

Suggest improvements during and after the design and making process.

Market, cost and advertise their product understanding the processes involved within businesses.

Manor Primary School

Science Year 3: Designing and Making Wallets, Purses, Pencil Cases – textiles

Overview of the Learning:

In this unit children learn how textiles containers *eg purses, wallets and belt bags* are designed for different purposes and different users. They design patterns/templates, and join and reinforce fabrics. Children develop their designing skills when evaluating products and use this information to generate their own ideas and identify design criteria. They communicate their early ideas through modelling with paper or inexpensive fabric, and use decorative techniques *eg dyeing and embroidery*

Core Aims

Design

use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups

generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately

select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

investigate and analyse a range of existing products

evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Pupils should be taught to develop their design and making skills They will:

Observe and explore and generate ideas, define problems and pose questions in order to develop investigations and products.

Take ownership of the whole design process: carrying out market research, designing, creating a prototype, making improvements, creating an end product and evaluating.

To identify the needs of the end user by exploring the existing market and asking questions about what containers and purses are popular and why and where there are gaps in the market which could generate a profit.

Apply practical skills to design, make and improve products safely, taking account of users and purposes.

Children will become familiar with how to create a design specification with the needs of the end user in mind taking into consideration the results of their market research.

Communicate and model in order to explain and develop ideas, share findings and conclusions.

To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes**Error! Reference source not found.**

Pupils should be taught about making pencil cases, wallets and purses.

- To identify the qualities of a range of materials thinking about the, suitability and aesthetic qualities
- To create a prototype identifying how the pattern fits together and understand the importance of this in the design process.
- To use a range of techniques to line and join materials together in order to create a quality end product.
- To understand how fastenings such as buttons, zips and press studs are attached for functional purposes.

Expectations Examine a range of existing container products and identify the purpose, suitability appearance and function and how the containers have been assembled. Carry out market research including questionnaires to find out about the products that are available to buy, gaps in the market and the needs of the end user. To test and identify the suitability of materials ensuring they are fit for purpose. To investigate ways of joining materials and strengthening their product. Create a design specification for a pencil case/money container using the market research. To create a pattern and prototype using the design specification. To attach fastenings to the product. To create and evaluate a purse/wallet, money belt/ pencil case container against the specification and the needs of the target audience. Suggest improvements during and after the design and making process.	

Manor Primary School
Design Technology Year 3: Designing and making a board game and packaging using ICT

Overview of the Learning:
Children will investigate board games and design and make a game of their own for a specific target market. They will consider their design task audience, create and make a game making accurate measurements and using a range of materials and tools accurately and safely. They will use ICT graphic design to supporting their making.

Core Aims

Design

use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

investigate and analyse a range of existing products
evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

apply their understanding of how to strengthen, stiffen and reinforce more complex structures
apply their understanding of computing to program, monitor and control their products.

Pupils should be taught to develop their design and making skills They will:

- Observe and explore and generate ideas, define problems and pose questions in order to develop investigations and products.
- Take ownership of the whole design process: carrying out market research, designing, creating a prototype, making improvements, creating an end product and evaluating.
- To identify the needs of the end user by exploring the existing market and asking questions about what games are popular and why and where there are gaps in the market which could generate a profit.
- Apply practical skills to design, make and improve products safely, taking account of users and purposes.
- To use a hack saw to cut wood safely in order to make a wooden frame.
- To understand how to join pieces of wood securely.
- Children will become familiar with how to create a design specification with the needs of the end user in mind taking into consideration the results of their market research. Communicate and model in order to explain and develop ideas, share findings and conclusions.
- Children will understand how CAD is used in the design process.
- To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes**Error! Reference source not found.**

Pupils should be taught about making a board game:

- To understand how to use a hack saw safely to construct a wooden frame.
- To understand how different components are joined together in a board game,

Expectations

Examine a range of existing board games and identify the purpose, suitability appearance and function and how the games have been assembled.

Carry out market research to find out about the products that are available to buy, gaps in the market and the needs of the end user.

Identify the suitability of materials ensuring they are fit for purpose.

Create a design specification for their own game using the market research.

To use technical equipment such as hacksaws to create a wooden frame.

To use ICT and graphic design to support their designs.