

Sandon Primary Academy – Design Technology

Year 1

Autumn Term	Spring Term	Summer Term																																								
Where we use a range of tools and equipment to design, make and evaluate our product.																																										
Theme: Food: Fruit Smoothies	Theme: Mechanisms: Wheels and Axles	Theme: Structures: Windmills																																								
<p>Key Objectives:</p> <p>Lesson 1: Identify if a food is a fruit or vegetable</p> <ul style="list-style-type: none"> I can name a number of fruits and vegetables I know how to determine if something is a fruit or a vegetable I understand that some foods we call vegetables are actually fruits I can show an understanding of where food comes from <p>Lesson 2: Identify where plants grow and which parts we eat</p> <ul style="list-style-type: none"> I can remember how to identify if a food is a fruit or vegetable I know that fruits and vegetables grow in one of three places: on trees or vines, above or below the ground <p>Lesson 3: Taste and compare fruits and vegetables</p> <ul style="list-style-type: none"> I can taste fruits and vegetables and describe their: appearance/feel, smell and taste I can explore and evaluate a range of existing products I can draw on my own experience to help generate ideas I can learn what a smoothie is I can taste 3 different smoothies and discuss which was their favourite and why I can make a choice as to what smoothie I will make and why <p>Lesson 4: Make a fruit and vegetable smoothie and design packaging</p> <ul style="list-style-type: none"> I know how to prepare fruit and vegetables I can use basic food handling, hygienic practices and personal hygiene I can use a knife to cut safely I know how to use a blender I can make a smoothie I can design a smoothie carton based on the ingredients included <p>Lesson 5: Evaluate</p> <ul style="list-style-type: none"> I can discuss/draw/write what I found hard and what I learned from this project I can comment on the colour, texture and taste of my smoothie I can identify strengths and what I would improve 	<p>Key Objectives:</p> <p>Lesson 1: To understand how wheels move</p> <ul style="list-style-type: none"> I can explore a range of items with wheels I can identify what mechanism makes a toy or vehicle roll forwards I know that in order for a wheel to move it must be attached to an axle I can draw and label a diagram of an axle, wheel and axle holder <p>Lesson 2: Fixing broken wheels</p> <ul style="list-style-type: none"> To identify what stops wheels from turning I know that a wheel needs an axle in order to move I can fix a design so that the wheel can move I can use appropriate vocabulary to describe which parts are moving or not <p>Lesson 3: Design a vehicle</p> <ul style="list-style-type: none"> I can design a moving vehicle I know what makes a wheel and an axle work I can design a moving vehicle I can label my design using appropriate vocabulary I can identify a purpose for what I intend to design/make: who is it for? I can discuss/write a design criteria as a class <p>Lesson 4: Build a moving vehicle</p> <ul style="list-style-type: none"> I can make a wheel and axle mechanism I can refer back to my design when constructing my vehicle I can ensure my vehicle meets the design criteria I can evaluate my design so far to make it even better <p>Lesson 5: Wacky Races testing</p> <ul style="list-style-type: none"> I can evaluate my product by carrying out appropriate tests I can evaluate against my design criteria and discuss how well it meets the intended purpose 	<p>Key Objectives:</p> <p>Lesson 1: The purpose and function of a windmill</p> <ul style="list-style-type: none"> I know what a windmill is I can describe the purpose of a structure I can draw on own experiences to help generate ideas (VR headsets to explore the inside of a windmill) <p>Lesson 2: Design criteria</p> <ul style="list-style-type: none"> I can identify the three main components and functions of a demo windmill I can use the correct vocabulary (structure, turbine/sails, axle) I can understand what a design criteria is and discuss how they will make sure their product meets this I can decorate the nets for my structure with a target group in mind <p>Lesson 3: Assembling a stable structure</p> <ul style="list-style-type: none"> I can follow instructions to cut and assemble the supporting structure of my windmill I know that the shape of materials can be changed to improve the strength and stiffness of structures I know that cylinders are a strong type of structure that are often used for windmills and lighthouses I understand what stable means and can ensure my structure has this property <p>Lesson 4: Assembling and attaching the components</p> <ul style="list-style-type: none"> I can cut and assemble my turbine correctly I understand that windmill turbines use wind to turn and make the machines inside work I know that axles are used in structures and mechanisms to make parts turn in a circle I can attach my turbine to the axle and attach them to the structure of my windmill I can test that my turbine turns in the structure and alter the parts if it doesn't <p>Lesson 5: Evaluate the project and adapt the design</p> <ul style="list-style-type: none"> I can evaluate my windmill according to the design criteria I can test whether my structure is strong and stable and reinforce it if necessary I can test whether my turbine turns in the structure and alter the parts if it doesn't I can test whether my turbine turns freely in the wind/when blown on 																																								
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Cross-Curricular Links:

Autumn: Science- Working scientifically: identifying and classifying, using their observations and ideas to suggest answers to questions

Spring: Maths: Measure and begin to record lengths and heights

Summer: Maths – Recognise and name common 2D and 3D shapes
Nets

Enrichment:

Autumn: Use of the cookery room and food/smoothie tasting

Spring: N/A

Summer: VR headsets to explore the inside of a windmill.

Key DT Skills which can be revisited throughout other Subject Areas:

- Use tools eg scissors and a hole punch safely

National Curriculum: By the end of KS1, pupils will be able to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

<p>Resources:</p> <ul style="list-style-type: none">• paper plates• plastic cups• blenders• butter knives• chopping boards• kitchen roll	<p>Resources:</p> <ul style="list-style-type: none">• cookery room	<p>Resources:</p> <ul style="list-style-type: none">• Items with wheels- staff to bring in, collect from around school• straws• paper• masking tape• scissors• Kapow videos• if possible, broken vehicles• cardboard tubes/boxes• dowel (pre-cut to 20cm)• wooden wheels• cotton reels• card discs• decorating materials such as paint, glitter, googly eyes, tissue paper (optional)	<p>Resources:</p> <ul style="list-style-type: none">• VR headsets• Demo windmill• White thin card and coloured card• Glitter• Crepe paper• Textured card
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