

Sandon Primary Academy – Design Technology

Year 4

Autumn Term	Spring Term	Summer Term																																																															
Theme: Mechanical Systems: Slingshot car	Theme: Food: Adapting a recipe	Theme: Textiles: Book cover (fastenings)																																																															
<p>Key Objectives:</p> <p>Lesson 1: Evaluate products and identify criteria for their own design</p> <ul style="list-style-type: none"> I know that car designs have developed over many years I can understand how a slingshot car works I know that all moving things have kinetic energy and what this means I can examine a model of a slingshot car and identify different parts using specific vocabulary <p>Lesson 2: Build a chassis and add axles/wheels</p> <ul style="list-style-type: none"> I know that a chassis is the frame of a car on which everything else is built I can select appropriate materials for my axles I can add wheels to my car and check that they can rotate I can verbally evaluate my car so far. <p>Lesson 3: To design a shape for my car body that reduces air resistance</p> <ul style="list-style-type: none"> I can design a suitable car body using labelled drawings from different views I can draw a net to create a structure from I can choose a shape that increases/decreases the speed of the car as a result of air resistance <p>Lesson 4: Decorate and assemble the body of my car</p> <ul style="list-style-type: none"> I can add graphics to personalise my design I can measure, mark and cut the panels (nets) against the dimensions of my chassis Use tabs to secure my net to the panels of my chassis <p>Lesson 5: Testing and evaluating</p> <ul style="list-style-type: none"> I can evaluate my product carrying out appropriate tests I can evaluate the speed of my design I can make changes/improvements to my design such as making it stronger, stiffer or reinforcing the structure I can evaluate my final product against the design specification 	<p>Key Objectives:</p> <p>Lesson 1: Evaluate existing products</p> <ul style="list-style-type: none"> I can investigate and analyse a range of existing biscuits I can taste different biscuits and evaluate them considering their: taste, smell, texture, appearance, packaging, target audience I can understand the design criteria <p>Lesson 2: Make adaptations to a recipe</p> <ul style="list-style-type: none"> I can understand the concept of a budget I can work in a group to make decisions I can choose additional ingredients and ensure it meets the design criteria I can make changes/improvements <p>Lesson 3: Final biscuit/packaging design</p> <ul style="list-style-type: none"> I can create branding for my group's final product I can consider the target audience for my product I can create labelled drawings <p>Lesson 4: Create packaging using a net</p> <ul style="list-style-type: none"> I can make suitable packaging for my product I can construct a net I can decorate my packaging using my design <p>Lesson 5: Make a biscuit that meets a given design brief</p> <ul style="list-style-type: none"> I can consider safety and hygiene when baking I can use the ingredient quantities specified in our budget I can follow a recipe for a basic biscuit dough and add our additional ingredients I can taste my biscuit and evaluate verbally <p>Lesson 6: Judging and written evaluation</p> <ul style="list-style-type: none"> I can take feedback on board from the panel of experts I can use given feedback within my evaluation I can evaluate my biscuit and packaging against the original design brief 	<p>Key Objectives:</p> <p>Lesson 1: Evaluate existing fastenings</p> <ul style="list-style-type: none"> I can identify and evaluate different types of fastenings I know what the main types of fastenings are I can explain the advantages and disadvantages of each fastening type <p>Lesson 2: To design a book sleeve</p> <ul style="list-style-type: none"> I can write a design criteria I can design a product to meet a design criteria I can ensure my design includes a fastening I can make a labelled drawing from different views showing specific features I can design a product for a specific target audience <p>Lesson 3: Make a paper mock-up and prepare fabric</p> <ul style="list-style-type: none"> I can make a paper template I can test my paper template and edit if necessary I can pin my fabric ready to be cut out <p>Lesson 4: Assemble a book sleeve</p> <ul style="list-style-type: none"> I can cut my fabric accurately I can join fabric by sewing using running stitch I can stick to my design criteria I can make sure my product is fit for purpose <p>Lesson 5: Evaluation</p> <ul style="list-style-type: none"> I can evaluate my product, carrying out appropriate tests to check it is fit for purpose I can evaluate my product against the design criteria I can take part in peer evaluation 																																																															
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<p>Resources:</p> <ul style="list-style-type: none"> wheels with 3mm-4mm holes wooden dowel drinking straws (paper) paper clips (2 per car) lollipop sticks (9 per car) elastic bands masking tape glue guns/PVA glue A4 white card (2 per car) A4 coloured card 	<p>Resources:</p> <ul style="list-style-type: none"> butter knives bowls wooden spoons scales baking trays baking parchment/paper A3 card/paper basic biscuit dough ingredients additional ingredients tbc depending on children's designs 	<p>Resources:</p> <ul style="list-style-type: none"> items with fastenings: zips, buttons, press studs, Velcro, buckles etc A3 paper reading for pleasure books fastenings (buttons) pins fabric scissors thread needles thimbles (optional) fabric glue decorative items 																																																															

Cross-Curricular Links:

Autumn: Science: Compare how things move on different surfaces. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces

Maths: Interpret and present discrete and continuous data using appropriate graphical methods, including tables, bar charts and time graphs

Spring: Maths: add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate

Summer: N/A

Enrichment:

Autumn: Trip to the transport museum

Spring: Food tasting to evaluate existing products.

Use of the cookery room and 'Great Sandon Bake Off' afternoon where biscuits are judged by a panel of experts.

Summer: N/A

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

Join and combine materials and components accurately in temporary and permanent ways

Use simple graphical communication techniques

Key DT Days:

Design Technology trip to the transport museum- date tbc

National Curriculum: By the end of KS2, pupils will be able to:

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

