Orton Wistow Primary School – Curriculum Plan

Subject : Design Technology | **Year : 4** | **Term : Autumn**

Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Structure – something built or constructed (from latin 'structura', equivalent to struct and 'ura' = put together) Mechanism – an assembly of moving parts performing a complete functional motion (from Latin 'mechanismus' and Greek 'mechan' = machine) Engineer – a person trained and skills in the design, contructions and use of engines or machines (Latin 'ingenia' = to design) Design- to prepare the preliminary sketch or plans for a structure (Middle English 'designen' and Latin 'designare' = to mark out) Criteria- a standard for judgement or to test something (Greek 'kriterion' = to separate) Product- a thing produced by labour Material- the substances of which a thing is made (Latin 'materialis' meaning belonging to matter) Electricity – the science dealing with electric charges and currents (Latin – 'electricus' = 'electrum' amber-coloured alloy of gold and silver used in ancient times	Remember what an engineer does and explain where we may see their work. Name a great engineer and their work. Name great designers (such as Brunel, Mackintosh, Philip Treacy, Marcel Breuer) Know what the designers created. Dissemble and test products for their strength and to find out how they are made. Remember what a cam and lever is and tell someone how they work. Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product - introduce and investigate pulleys and gears for movement. Tell someone what equipment is needed to make a simple circuit to work, including adding a light source. Remember what is a cam is and how it works, being able to draw a diagram to highlight this. Explain what a pulley is and how it works.			How is an engineer and designer the same and different? If know what a design is, what is a designer? Can I design a product using a gear, pulley and light source that works? What is a pulley and how can I explain what it does? What is a gear and how can I explain what it does? What type of motion do pulleys and gears have? Who are famous engineers and designers local to me? What is a force and how do forces affect my design? How do I make a simple circuit with a light bulb and how can I fix it if it does not work? What is the perimeter of a shape? How can I improve my product using different strengthening techniques?			Name a famous designer and engineer. Generate ideas for their own designs using inspiration from known designers and engineers. Explain what a force is. Make a simple electrical circuit with a light bulb. Tinker with electrical equipment and put it back together again. Design a moving object with lever (on Purple Mash and labelling) with pulleys, gears and one electronic element (simple circuit) with a light source. Select appropriate joining techniques/ resources. Cut materials accurately and safely by selecting appropriate tools. Measure with a ruler and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).		

			
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Define the word and include etymology if useful.	**Learning** Remembering / **Teaching** Telling / **Assessment** Testing	**Learning** Practising / **Teaching** Coaching / **Assessment** Observing	**Learning** Reflecting / **Teaching** Facilitating / **Assessment** Evaluating
Cam – a disk or cylinder having an irregular form such that its motion, usually rotary or reciprocating (Dutch - 'kamm' = round comb) Pulley – a wheel, with a grooved rim, that turns in a frame to change the direction of or transmit force (Greek – 'polidian' = little pivot) Gear – a part that has cut teeth of similer spacing to another that they mesh with teeth in another part to transmit or receive force and motion (Middle English – 'gere' = equipment)	Explain what a gear is and how it works. How to choose suitable techniques to construct products, strengthen or to repair items. Test the product and modify if needed	Which techniques will I use to make my product? What do I like and dislike about my product and how might I modify it? Can I offer suggestions to my peers about their products?	Choose suitable techniques to repair products. Evaluate product, identifying what they did well and what they would change next time.

Orton Wistow Primary School – Curriculum Plan

Subject : Design Technology | **Year : 4** | **Term : Spring**

Vocabulary

Define the word and include etymology if useful.

Aesthetic – Latin (aestheticus – perception) sense of beauty
Assemble – bring or gather in one place
Design – prepare plans or a sketch
Criteria/criterion – Greek (kriterion – a standard) rule for evaluating or testing something
Cross stitch – a two-stich sewing method which results in a cross
Evaluation – appraisal/appraising
Fastening/fastener – something that fastens such as a lock or clasp
Prototype – a model, often full-size, for testing after design and draft stage
Net – stage before mock-up, product before fastening or stitching
Running Stitch – one complete movement of a threaded needle through a fabric or material. To sew, join or embellish with stitches.
Stencil – a device for applying a pattern or design to a fabric or material
Target audience – thinking of who the product is being designed for

Knowledge
What children will know

Learning	Teaching	Assessment
Remembering	Telling	Testing

Different designers from around the world and how their creations inspired people.

How different materials react under different conditions, choosing the most suitable material for their products.

Know why the design process is important and why we don't just make the final piece.

Remember how to tinker with different materials and design own product.

Remember how to measure and mark out to the nearest millimetre.

Select appropriate joining techniques/ resources.

Understand the need for a seam allowance.

Understanding
What children will understand

Learning	Teaching	Assessment
Practising	Coaching	Observing

How to compare and contrast different designers from around the world.

Observe different materials and their features.

How to follow instructions on working with needles, scissors and materials safely, being able to explain why.

Observe the importance for the aesthetics of their own products, being able to explain why this is important.

Practise different sewing techniques and why certain ones are most suitable for their product.

Understand why their product was suited and why it wasn't.

Skills
What children will be able to do

Learning	Teaching	Assessment
Reflecting	Facilitating	Evaluating

Research and investigate different designers from around the world – explaining which ones inspire them.

Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).

Try different stitching techniques and join textiles with most appropriate stitching.

Cut materials accurately and safely by selecting appropriate tools.

Select the most appropriate techniques to decorate textiles, being able to explain those choices.

Explain why their product achieves the design brief and reflect how it can be improved next time.

			
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Template – a pattern serving as a guide	Evaluate product as going along with a final evaluation against the design brief.		

Orton Wistow Primary School – Curriculum Plan

Subject : Design Technology | **Year : 4** | **Term : Summer**

			
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Fruit – any edible product of plant growth useful to humans or animals Healthy – enjoying good health Ingredients – Latin (stem of ingrediens) something that enters as an element into a mixture	How to look at cookery books of different chefs and countries, finding ones they would like to eat. How to explain objects and designs to identify likes and dislikes of the designs.	Understand where food comes from and be able to discuss the cycle of food production. Understand which foods are grown and which are produced.	Find a recipe in a cookbook or using an internet search. Identify ingredients that can be classed as healthy and unhealthy. Create a template example of a healthy/unhealthy dish.

								
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Recipe – Latin (recipere) a set of instructions for making or preparing a food dish Peel/peeler – to strip of its skin/rind Slice – Old French (esclicer – to split up) a thin, flat piece cut from something Vegetable – Latin (vegetabillis – able to live and grow) any plant whose parts are used as food Knife – an instrument for cutting Grate – product of grating Grater - an instrument for grating Chop – product of chopping Hygiene – practice to preserve health Safety – the state of being safe to prevent injury	Suggest improvements to existing designs and what make them appealing to the consumer. Testing how food products have been created. Assemble or cook healthy ingredients. How to cut, peel or grate ingredients safely and hygienically. To use scales or measuring cups, measure or weigh food items to nearest gram. Begin to evaluate their ideas and products against design criteria and how to change next time.			Observe how food items are made and be able to copy the techniques modelled. Understand that food must be prepared safely and hygienically and be able to explain the reasons why. Practise how to use a knife, grater and peeler safely, knowing the reasons why, observing how to listen to instructions. Understand the difference between healthy and unhealthy ingredients and what makes them that way.			Group ingredients to show which ones are grown and which ones are produced. Use a knife, grater and peeler safely and reflect on why it is important. Measure ingredients using a scale and measuring cups/teaspoons/tablespoons. Evaluate a food dish or item, being able to explain why they like or dislike it. Design packaging on 2Design.		

https://campaignresources.phe.gov.uk/schools/resources/be-food-smart-ks1-toolkit