

## Orton Wistow Primary School - Curriculum Plan



Subject: Design Technology

Year: 5

Term: Autumn



Vocabulary



**Knowledge** What children will know



**Understanding** 

What children will understand

Teaching Assessment



Skills

What children will be able to do

Teaching Assessment

Evaluating

## Define the word and include etymology if useful.

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

Learning Teaching Assessment Remember what an engineer does and

Name an inspirational engineer and their work.

explain where we may see their work.

Know what 'innovate' means and they can improve an existing design.

Dissemble and test products for their strength and to find out how they are made.

Remember what a cam and tell someone how they work.

Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product introduce and investigate different cams and motion.

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 linear motion is and how it works.

Coaching How is an engineer and designer the same and different?

If know what a design is, what is a designer?

Learning

Can I design a product using a cam with different motions that works?

What is a cam and how can I explain what it does?

What is linear motion and how can I explain what it does?

What is rotary motion and how can I explain what it does?

Who are famous enaineers local to me?

Can I find an existing product to innovate?

What is the user experience? How do I know?

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?

Facilitating Name a famous engineer and their work.

Generate ideas for their own designs using inspiration from known engineers.

Explain what a force is.

Learning

Make a simple electrical circuit with a light bulb.

Tinker with electrical equipment and put it back together again.

Explain which cam makes which type of motion.

Design a moving object (on Sketch Up and labelling) with cams, lever with pulleys, gears and one electronic element (simple circuit) with a light source.

Select appropriate joining techniques/ resources.

Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).

Measure with a ruler and mark out to the nearest millimetre.









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Vocabulary	<b>Knowledge</b> What children will know			<b>Understanding</b> What children will understand			<b>Skills</b> What children will be able to do		
Define the word and include etymology if useful.  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)  Linear – consisting of, or using lines (Latin 'linearis' = belonging to lines  Rotary – turning or capable of turning on an axis like a wheel (Latin 'rotarius' = wheel)  Innovative – to introduce something new or make changes to something established (Latin - 'innovatus' = renew, alter)	Learning Remembering Explain what r works. How to choos construct prod items. Know that diff qualities, for e have different	Teaching  Telling  rotary motion is  e suitable tech ducts, strength	Assessment Testing and how it aniques to en or to repair s have different and paper ngth, etc.	Practising How can I im different stren Which techni product? Will I need a a different mate What do I like and how mig Can I offer su their product: What is the us	Teaching Coaching prove my produ gathening techn ques will I use to different cutting erials? Why? and dislike about I modify it? ggestions to my	Assessment Observing Oct using inques? O make my method for Out my product Of my product?	Learning Reflecting Apply appropt techniques the perimeter of to cut outs). Choose suitale products. Evaluate products well and what	Teaching Facilitating oriate cutting areat include cuts the material (such the material) for the material (such the material) for the would characteristic user experiences.	Assessment Evaluating and shaping within the ch as slots or to repair what they did lange next



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Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	<b>Learning</b> Practising	Teaching  Coaching	Assessment Observing	<b>Learning</b> Reflecting	Teaching  Facilitating	Assessment  Evaluating	
Aesthetic – Latin (aestheticus – perception) sense of beauty Appendage – a subordinate part attached to something Assemble – bring or gather in one place Blanket-stitch – a technique to join fabric together Design – prepare plans or a sketch Criteria/criterion – Greek (kriterion – a standard) rule for evaluating or testing something 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 Stitching – 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 Template – a pattern serving as a guide	Different des world and he people.  How different cor suitable mat Know why the important are the final piece.  Remember he materials and Remember he out to the new Select approximation of the new Select approximation of the country of the resources (bounding stitch understand allowance.  Evaluate proximation of the proximation of the new Select approximation of the new Select ap	signers from a ow their crear at materials re aditions, choo erial for their part are design production and why we do	round the tions inspired act under sing the most products.  cess is pon't just make with different a product.  ure and mark tre.  g techniques/seam and ages) a seam  g along with	How to com different des world.  Observe diff features, inceffects.  How to followith needles safely, being Observe the aesthetics of able to exploit Practise different why certain and why certain the suitable and suitable suitab	pare and cor signers from a erent materia luding visual of w instructions s, scissors and g able to explo- importance	on working materials ain why.  for the oducts, being important.  echniques most  duct was t, including	Research and designers from explaining with the part of the following states o	nd investigate om around the which ones insoluct, thinking of and profit.  Indepriate cutting thinking the strain of the strain	e different e world – pire them. about the g and nclude cuts e material aniques and propriate and safely by ols. ate extiles, being pices. achieves the	





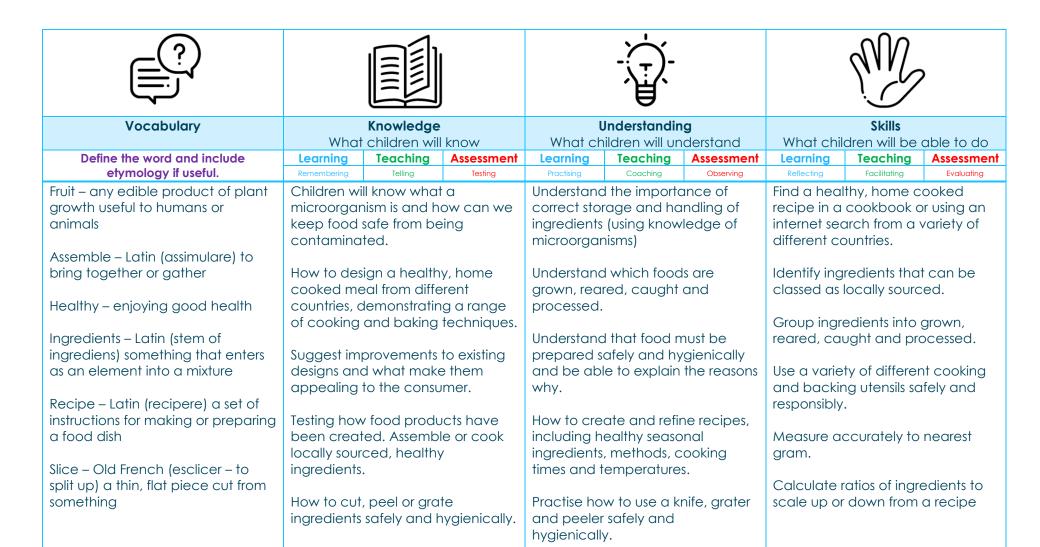
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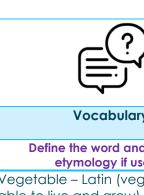
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Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching  Coaching	Assessment Observing	Learning Reflecting	Teaching  Facilitating	Assessment  Evaluating	
Vegetable – Latin (vegetabillis – able to live and grow) any plant whose parts are used as food  Caught – to catch, for example, fish  Reared – to rear, for example, cattle and sheep Grown – food grown from the ground such as vegetables, etc  Processed – foods made by humans in a factory  Seasonal – dependent on the seasons of the year or a particular season	measure or nearest gro Measure as ratios of ing down from Begin to ev products as	ccurately ar gredients to s	d calculate scale up or ideas and n criteria	between h ingredients that way.  Understand packaging appealing being able why.  Testing how the sales of	the difference althy and used what me the difference and what me the can be visus and unappeted to tell another packaging for a product, their own product, their own product.	ent ally ealing, her person	being able or dislike it.  Critically re of packagi the environ  Design pac	food dish or to explain w flect on diffe ng and their ment and c ckaging so it to the consu	erent types impact on onsumer.	

