

Croft Church of England Primary School				
Design and Technology Vital Knowledge Milestones (Statements)				
Design and Technology Vital Knowledge Milestone 1 (by age 5 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
I know that felt and fabric are textile materials. I know that fabric can be joined using glue or staples.	I can name and identify a pulley and a wheel on a diagram. I can name and identify a battery and a bulb on a diagram. I know that using a computer to make a mechanical object move is called coding.	I know that blocks, boxes and Lego can be used to make freestanding structures. I can name and identify the following tools: hammer, hacksaw, workbench, safety goggles.	I can name and identify the following fruits and vegetables: apple, orange, pear, banana, grapes, melon, carrot, broccoli, peas. I know that you should wash your hands before you start handling food. I can name and identify the following: knife, peeler, chopping board. I know that chips and sweets are unhealthy and fruit and vegetables are healthy foods.	I know that design and technology is designing and making things to solve problems.
Felt, fabric, textiles, materials, joining, glue, staples.	Pulley, wheel, battery, bulb, computer, coding, mechanical object.	Blocks, boxes, Lego, structures, tools, hammer, hacksaw, workbench, safety goggles.	fruit and vegetables, apple, orange, pear, banana, grapes, melon, carrot, broccoli, peas, food, knife, peeler, chopping board, chips, sweets, unhealthy, healthy.	Design, technology.
Design and Technology Vital Knowledge Milestone 2 (by age 7 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
I know that running stitch is another way to join fabrics. I know that dyeing, adding sequins, printing are different finishing techniques. I know that tearing, cutting, folding and curling are cutting and shaping techniques.	I know that levers and sliders are components and I can name and identify them on a diagram. I can name and identify the chassis, axle and wheels on a moving vehicle. I can name and identify about fixed and freely moving axles on a diagram.	I know that freestanding structures can be made stronger, stiffer and more stable. I know that wood and card can be used to make freestanding structures more stable.	I know that food can taste sweet, sour and savoury. I know food comes from plants or animals. I know that food has to be farmed, grown elsewhere (e.g. home) or caught I know that foods can be sorted into the five groups (carbohydrates, protein, fruit and vegetables, dairy, oils). I know that everyone should eat at least five portions of fruit and vegetables every day I know that cutting, peeling and grating are preparation techniques.	I know that architecture, product design and fashion are types of Design and Technology. I know that the tallest structure in the World is the Burj Khalifa. It is in Dubai and it is 828 metres high. I know that the tallest structure in the UK is The Shard in London and it is 309 metres high.
Running stitch, dyeing, sequins, printing, finishing techniques, tearing, cutting, folding, curling, cutting and shaping techniques.	Levers, sliders, components, axels, chassis, movement, vehicle, fixed axels, freely moving axles.	Strong, stiff, stable, wood, card, freestanding structures.	Taste, sweet, sour, savoury, plants, animals, farmed, grown elsewhere, caught, food groups, carbohydrates, protein, fruit, vegetables, dairy, oils, portions, cutting, peeling, grating, preparation techniques.	Architecture, product design, fashion, Design and Technology.
Design and Technology Vital Knowledge Milestone 3 (by age 9 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
I know that materials have both functional properties and aesthetic qualities I know that materials can be combined and mixed to stiffen and reinforce I know what a seam allowance is. I know that over stitch is another way to join fabrics.	I can identify pulleys, levers, linkages and fixed and loose pivots on a diagram. I know that mechanical systems have an input, process and output I know simple electrical circuits and components can be used to create functional products. I know that electrical systems have an input, process and output. I can name and identify the names of the components in a simple series circuit (switch, battery, wire, bulb) I know that a computer can be used to control products.	I know that a car body, a tennis ball and bean pod are examples of shell structures. I can identify and name 3D shape nets of cubes, cuboids, triangular prism, square-based pyramid.	I know food ingredients can be fresh, pre-cooked and processed I know that food is grown, reared and caught in the UK, Europe and the wider world I know examples of: grown food (tomatoes, wheat, potatoes) reared food (pigs, chickens, cattle) and caught (fish). I know a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate I know that to be active and healthy, food and drink are needed to provide energy for the body I know that I need to be safe and hygienic when preparing food. I know that peeling, chopping, slicing, grating, mixing, spreading, kneading are food preparation techniques.	I know that in Egypt the Great Pyramid is the largest and most famous of the pyramids. It was built for the is over 140 metres high. I know that Isambard Kingdom Brunel was an English engineer who was famous for designing and making bridges and tunnels in the 19 <sup>th</sup> Century.
Functional properties, aesthetic, reinforce, seam allowance, over stitch.	Pulleys, levers, linkages, fixed pivot, loose pivot, mechanical systems, input, process, output, simple electrical circuits, components, functional products, electrical systems, input, process, output, components, simple series circuit, switch, battery, wire, bulb, computer, control, products.	Car body, tennis ball, bean pod, shell structures, 3D shapes, net, cube, cuboid, triangular prism, square-based pyramid.	Ingredients, fresh, pre-cooked, processed, grown, reared, caught, UK, Europe, tomatoes, wheat, potatoes, pigs, chickens, cattle, fish, healthy diet, variety, balance, The Eatwell Plate, energy, safe, hygienic, peeling, chopping, slicing, grating, mixing, spreading, kneading, food preparation techniques	Egypt, Great Pyramid, Isambard Kingdom Brunel, engineer, bridges, tunnels
Design and Technology Knowledge Vital Milestone 4 (by age 11 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
I know that back stitch is another technique used to join fabrics	I know that cams, pulleys and gears are mechanisms and they can be used to speed up, slow down or change the direction or create movement I know more complex electrical circuits and components can be used to create functional products I know can name and identify components in a series and parallel circuit - switches, bulbs, buzzers and motors I know that a computer can be used to monitor changes in the environment and control their products		I know that a recipe can be adapted by adding or substituting one or more ingredients I know that seasons may affect the food available I know that recipes can be adapted to change the appearance, taste, texture and aroma I know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health	I know that Elon Musk is a famous entrepreneur and designer.
Back stitch.	Cams, pulleys, gears, mechanisms, speed up, slow down, change direction, create movement, complex electrical circuits, components, functional products, parallel circuit, switches, bulbs, buzzers, motors, computer, monitor, changes, environment, control		Recipe, ingredients, seasons, processed, cooking, appearance, taste, texture, aroma, substances, nutrients, water, fibre, health	Elon Musk, entrepreneur.

Croft Church of England Primary School				
Design and Technology Vital Knowledge Milestones (Questions)				
Design and Technology Vital Knowledge Milestone 1 (by age 5 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
<ul style="list-style-type: none"> <li>Name two types of textile materials (felt, fabric)</li> <li>Name two ways to join fabric (glue, staples)</li> </ul>	<ul style="list-style-type: none"> <li>Find pulley and a wheel on the diagram.</li> <li>Find the battery and a bulb on a diagram.</li> <li>Using a computer to make a mechanical object move is called? (coding)</li> </ul>	<ul style="list-style-type: none"> <li>Name three things that can be used to make a structure (blocks, boxes, Lego)</li> <li>Find the following tools on the diagram: hammer, hacksaw, workbench, safety goggles</li> </ul>	<ul style="list-style-type: none"> <li>Find the following fruits and vegetables on the diagram: apple, orange, pear, banana, grapes, melon, carrot, broccoli, peas</li> <li>What do you need to do before you start handling food (wash your hands)</li> <li>Find the following on the diagram: knife, peeler, chopping board.</li> <li>Name two unhealthy foods (chips, sweets)</li> <li>What foods are healthy (fruit, vegetables)</li> </ul>	<ul style="list-style-type: none"> <li>What is design and technology? (designing and making things to solve problems)</li> </ul>
Felt, fabric, textiles, materials, joining, glue, staples.	Pulley, wheel, battery, bulb, computer, coding, mechanical object.	Blocks, boxes, Lego, structures, tools, hammer, hacksaw, workbench, safety goggles.	fruit and vegetables, apple, orange, pear, banana, grapes, melon, carrot, broccoli, peas, food, knife, peeler, chopping board, chips, sweets, unhealthy, healthy.	Design, technology.
Design and Technology Vital Knowledge Milestone 2 (by age 7 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
<ul style="list-style-type: none"> <li>Name a new way to join fabrics (running stitch)</li> <li>Name three finishing techniques (dyeing, adding sequins, printing)</li> <li>Name four cutting and shaping techniques (tearing, cutting, folding, curling)</li> </ul>	<ul style="list-style-type: none"> <li>Find and label the levers and sliders on the diagram</li> <li>Find and label the chassis, axel and wheels moving vehicle diagram</li> <li>Find and label the fixed and freely moving axles on the diagram.</li> </ul>	<ul style="list-style-type: none"> <li>Name three ways to improve a freestanding structure (make it stronger, stiffer, more stable)</li> <li>Name two materials that can be used to make freestanding structures more stable (wood, card).</li> </ul>	<ul style="list-style-type: none"> <li>Name three ways describe the taste of food (sweet, sour, savoury)</li> <li>Where does food come from? (plants, animals)</li> <li>Name the three places that foods come from (farmed, grown elsewhere (e.g. home), caught)</li> <li>Name the five food groups (carbohydrates, protein, fruit and vegetables, dairy, oils)</li> <li>How many portions of fruit and vegetables should people eat every day? (5)</li> <li>Name 3 food preparation techniques (cutting, peeling, grating)</li> </ul>	<ul style="list-style-type: none"> <li>Name three types of design and technology disciplines (architecture, product design, fashion)</li> <li>What, where and how high is the tallest structure in the World? (Burj Khalifa, Dubai, 828 metres)</li> <li>What, where and how high is the tallest structure in the UK? (The Shard, London, 309 metres)</li> </ul>
Running stitch, dyeing, sequins, printing, finishing techniques, tearing, cutting, folding, curling, cutting and shaping techniques.	Lever, sliders, components, axels, chassis, movement, vehicle, fixed axels, freely moving axles.	Strong, stiff, stable, wood, card, freestanding structures.	Taste, sweet, sour, savoury, plants, animals, farmed, grown elsewhere, caught, food groups, carbohydrates, protein, fruit, vegetables, dairy, oils, portions, cutting, peeling, grating, preparation techniques.	Architecture, product design, fashion, Design and Technology.
Design and Technology Vital Knowledge Milestone 3 (by age 9 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
<ul style="list-style-type: none"> <li>Name the two types of properties materials have (functional, aesthetic)</li> <li>Name two reasons why materials would be combined and mixed (stiffen, reinforce)</li> <li>Leaving a space between the edge and stitching is called (seam allowance)</li> <li>Name another way to join fabrics (over stitch)</li> </ul>	<ul style="list-style-type: none"> <li>Find the pulleys, levers, linkages and fixed and loose pivots on the diagram.</li> <li>Name the three things that all mechanical systems have (input, process, output)</li> <li>Name two things that can be used to create functional products (simple electrical circuits, components)</li> <li>Name the three things that all electrical systems have (input, process and output)</li> <li>Find and label the switch, battery, wire and bulb on the diagram.</li> <li>What can be used to control products? (computer)</li> </ul>	<ul style="list-style-type: none"> <li>Name three examples of shell structures (car body, tennis ball, bean pod)</li> <li>Find and label the following 3D shape nets: cube, cuboid, triangular prism, square-based pyramid</li> </ul>	<ul style="list-style-type: none"> <li>Food ingredients can be? (fresh, pre-cooked, processed)</li> <li>Food can be (grown, reared, caught in the UK, Europe and the wider world)</li> <li>Name three grown foods (tomatoes, wheat, potatoes), three reared food (pigs, chickens, cattle) and one caught food (fish)</li> <li>Having food with a variety and balance of different food and drink is? (healthy diet)</li> <li>Why are food and drink needed for the body? (energy)</li> <li>What two things need to be thought about when preparing food? (safe, hygienic)</li> <li>Name seven preparation techniques (peeling, chopping, slicing, grating, mixing, spreading, kneading)</li> </ul>	<ul style="list-style-type: none"> <li>Which is the largest pyramid and how high is it? (Great Pyramid, 140 metres)</li> <li>What was Isambard Kingdom Brunel famous for? English engineer, designing and making bridges and tunnels, 19<sup>th</sup> Century)</li> </ul>
Functional properties, aesthetic, reinforce, seam allowance, over stitch.	Pulleys, levers, linkages, fixed pivot, loose pivot, mechanical systems, input, process, output, simple electrical circuits, components, functional products, electrical systems, input, process, output, components, simple series circuit, switch, battery, wire, bulb, computer, control, products.	Car body, tennis ball, bean pod, shell structures, 3D shapes, net, cube, cuboid, triangular prism, square-based pyramid.	Ingredients, fresh, pre-cooked, processed, grown, reared, caught, UK, Europe, tomatoes, wheat, potatoes, pigs, chickens, cattle, fish, healthy diet, variety, balance, The Eatwell Plate, energy, safe, hygienic, peeling, chopping, slicing, grating, mixing, spreading, kneading, food preparation techniques	Egypt, Great Pyramid, Isambard Kingdom Brunel, engineer, bridges, tunnels
Design and Technology Knowledge Vital Milestone 4 (by age 11 years)				
Textiles	Mechanisms	Structures	Cooking and Nutrition	Cultural
<ul style="list-style-type: none"> <li>Name another technique to join fabrics (back stitch)</li> </ul>	<ul style="list-style-type: none"> <li>Cams, pulleys and gears are mechanisms and an they can be can be used to...? (speed up, slow down, change the direction, create movement)</li> <li>Name two things that can be used to create functional products (complex electrical circuits, components)</li> <li>Name and label the switches, bulbs, buzzers and motors on the parallel circuit diagram.</li> <li>Name two uses of a computer (monitor changes in the environment, control products)</li> </ul>		<ul style="list-style-type: none"> <li>Name two ways to adapt a recipe (add, substitute one or more ingredients)</li> <li>What affects whether food is available? (seasons)</li> <li>Adapting recipes can change what to the food? (appearance, taste, texture, aroma)</li> <li>Different food and drink contains what three different substances needed for health (nutrients, water, fibre)</li> </ul>	<ul style="list-style-type: none"> <li>What is Elon Musk famous for (entrepreneur and designer)</li> </ul>
Back stitch.	Cams, pulleys, gears, mechanisms, speed up, slow down, change direction, create movement, complex electrical circuits, components, functional products, parallel circuit, switches, bulbs, buzzers, motors, computer, monitor, changes, environment, control		Recipe, ingredients, seasons, processed, cooking, appearance, taste, texture, aroma, substances, nutrients, water, fibre, health	Elon Musk, entrepreneur.