SOUTHWICK CE PRIMARY SCHOOL **DT CURRICULUM - Thinking like a designer**

	Early Years	Y1	Y2	Y3	Y4	Y5	Y6
Learning Themes	Exploring how things work.	Mechanisms – Levers and Sliders Structures – stronger, stiffer and more stable Cooking and Nutrition – Healthy lunchbox/sandwich	Mechanisms – Wheels and Axles Structures – fabric stockings Cooking and Nutrition – Pasta Salad	Mechanisms – Pneumatics Structures – more complex stronger, stiffer, stable Cooking and Nutrition – Cooked vegetable dish	Electrical systems Structures – fabric purses Cooking and Nutrition – Cooked mince based dish	Mechanisms – cams, gear and pulleys Structures – 3D frameworks Cooking and Nutrition – Cooked poultry dish	Electrical systems Use of computers to programme, monitor and control products Cooking and Nutrition – 2 course meal!
Designing and Evaluating	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to expressthem. Share their creations, explaining the process they have used.	Draw on their own experiences to generate ideas. Use simple design criteria to help develop ideas. Say whether their products are for themselves or other users. Describe what their products are. Develop and communicate ideas through talking and drawing. Make simple judgements about their products and ideas against design criteria. Say what they like or don't like about existing products. Make simple prototypes	Use knowledge of existing products to help come up with ideas. Develop and communicate increasingly realistic ideas through talking and drawing. Say how they will make their products suitable for the intended users. Begin to generate their own simple design criteria. Explain how their products will work. Use simple labelled diagrams to communicate ideas. Evaluate existing products. Begin to suggest how their products could be improved.	With some support, gather information about the needs and wants of particular individuals and groups. Identify the design features of their products that will appeal to intended users. Develop their own design criteria and use these to inform their ideas. Describe the purpose of their products. Model ideas by exploring component kits and by making templates and mock-ups. Use annotated sketches to communicate ideas. Disassemble and evaluate familiar products. Refer to their design criteria as they design and make.	Independently, gather information about the needs and wants of particular individuals and groups. Explain why materials have been chosen. Develop their own criteria with some reference to needs and wants of intended user. Explain how particular parts of their product work. Begin to use simple cross-sectional drawings to develop and communicate their ideas. Model their ideas using simple prototypes and pattern pieces. Plan the order of their work before starting. Evaluate existing products and identify criteria that can be used for their own designs. Identify the strengths and areas for development in their ideas and products. Consider whether products can be reused or recycled.	With support, carry out simple research using surveys, interviews, questionnaires and web based resources. Develop their own criteria referencing the needs and wants of intended user. Use close up sketches from different angles to clarify. Use cross-sectional drawings and begin to use simple exploded diagrams. Develop more independence in their use of mock-ups, prototypes and patterns. Plan the order of their work, choosing appropriate materials, tools and techniques. Consider the views of others, including intended users, to improve their work. Disassemble and evaluate existing products and consider the views of others to improve them. Consider how sustainable the materials in a product are.	Independently, carry out simple research using surveys, interviews, questionnaires and web based resources. Develop a simple design specification. Use computer aided design to develop and communicate their ideas. Communicate their ideas through a range of detailed labelled drawings. Communicate their ideas through a range of detailed labelled drawings. Suggest alternative ways of making if their first attempt fails. Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make. Evaluate how the key designs of individuals in design and technology have helped shape the world. Consider what impact products have beyond their intended purposes.

Making	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Develop their small motor skills so that they can use a range of small tools competently, safely and confidently.	With support, select from a range of equipment and materials. With support, select from a range of equipment and materials. With support, assemble and join materials and components. Use finishing techniques with support.	With support, select from a range of equipment and materials according to their characteristics. Mark out, cut and shape materials. Assemble and join materials and components with some independence. Use finishing techniques with some independence.	Select from a range of equipment and materials beginning to explain their choices. Mark out, cut and shape materials with some accuracy. Assemble and join materials and components with developing independence. Use finishing techniques with developing independence.	Plan the main stages of making with some support. Select tools and equipment suitable for the task. Mark out, cut and shape materials with developing accuracy. Assemble and join materials and components with developing independence. Use finishing techniques with independence.	Plan the main stages of making with more independence. Begin to make appropriate lists of equipment, tools and materials needed. Mark out, cut and shape materials with accuracy. Assemble and join materials and components with some accuracy. Use finishing techniques with some accuracy.	Plan the main stages of making with independence. Make appropriate lists of equipment, tools and materials needed. Assemble and join materials and components with accuracy. Use finishing techniques with accuracy.
Technical Knowledge		Begin to build structures, exploring how they can be made stronger and more stable. Explore and use simple mechanisms e.g. levers, sliders etc in their products.	Begin to measure, cut and score with help. Cut, shape and join fabric to make a simple product. Use basic sewing techniques.	Begin to understand that mechanical systems have an input, process and output. Recognise that mechanical systems such as levers or pneumatic systems create movement. Measure, mark out, cut, score and assemble components with increasing accuracy.	Understand how electrical circuits and components can be used to create functional products. Understand how to reinforce a 3D framework. Measure, pin, cut and join fabric with increasing accuracy. Sew using a range of different stitches	Understand how mechanical systems such as cams, pulleys or gears create movement. Understand that mechanical systems have an input, process and output. Know how to strengthen a 3D framework	Assemble components to make working models. Pin and stitch materials together to create a product. Know how to make modifications to their product. Understand how mechanical systems such as cams, pulleys or gears create movement. Know how more complex electrical circuits and components can be used to create functional products
Evaluating processes and products		Discuss how well their product works in relation to the design criteria. Explain what they like/dislike about existing products and why. Begin to identify strengths and possible changes they might make to their product.	Evaluate their product against their design criteria. Explain what they like/dislike about existing products and why Identify some strengths and possible changes they might make to their product and why.	Evaluate their product against their design criteria and explain how well it meets purpose. Begin to dissemble and evaluate familiar products and suggest improvements.	Evaluate their products by testing their fitness for purpose. Begin to evaluate their work during the making process.	Begin to evaluate a product against the original design spec identifying strengths and areas for development. Evaluate way their work during the making process, suggesting amendments. Begin to record evaluations. Evaluate the designs of key individuals that have shaped the world.	Begin to evaluate a product against the original design spec identifying strengths and areas for development. Carry out appropriate tests. Evaluate their work throughout the design and make process and modify. Record evaluations.

Food and Nutrition		Begin to recognise that food comes from plants and animals. Recognise that food is farmed, grown or caught. With help, can sort food into the five main food groups. With help, can prepare simple dishes safely and hygienically, without using a heat source. Begins to use a range of techniques such as cutting, peeling and grating.	Know that food comes from plants and animals, making suggestions as to where certain foods come from. Can name and sort foods to create 'The Eat Well Plate'. Know why it is important to eat fruit and vegetables daily. Can prepare a simple dish safely and hygienically, that food comes from plants and animals. Demonstrate how to peel cut and grate foods.	Begin to recognise that food is grown (cereals, vegetables etc), reared (poultry, cattle etc) or caught (fish) in the UK, Europe and the wider world. Cook a vegetable-based savoury dish using a heat source, safely and hygienically. Recognise that ingredients can be changed. Begin to use a range of preparation techniques e.g. peeling, cutting, grating, mixing, spreading, baking etc. Recognise that a healthy diet is made up of a variety of different foods.	Understand that food is grown (cereals, vegetables etc), reared (poultry, cattle etc) or caught (fish) in the UK, Europe and the wider world. Cook a mince-based savoury dish using a heat source, safely and hygienically. Suggest changes to ingredients to create similar recipes. Confidently use a range of preparation techniques e.g. peeling, cutting, grating, mixing, spreading, baking etc. Explain what makes up a healthy diet, recognising the importance of water.	Explain that food is grown (cereals, vegetables etc), reared (poultry, cattle etc) or caught (fish) in the UK, Europe and the wider world citing examples. Begin to understand that food is seasonal and why. Recognise that food is processed into ingredients that can be eaten or used in cooking. Cook a poultry-based savoury dish using a heat source, safely and hygienically. Confidently use a range of preparation techniques e.g. peeling, cutting, grating, mixing, spreading, baking etc. Begin to understand that different foods and drinks contain different nutrients, sugars, etc and that some are healthier than others.	Explain that food is grown (cereals, vegetables etc), reared (poultry, cattle etc) or caught (fish) in the UK, Europe and the wider world citing examples. Recognise that the import of foods is linked to seasonal growth. Recognise that food is processed into ingredients that can be eaten or used in cooking. Using knowledge of food sources, preparation techniques and balanced diets can create a two course meal, using a heat source, safely and hygienically. Can explain that different foods and drinks contain different nutrients, sugars, etc and that some are healthier than others.
Designers				Recognise how the designs of key individuals have shaped the world.	Begin to evaluate the designs of key individuals that have shaped the world.	Evaluate the designs of key individuals that have shaped the world.	Name a number of influential designers. Evaluate the designs of key individuals that have shaped the world.