DT Autumn Term		
NC Objectives	**Key Knowledge**	**Vocabulary**
EYFS • To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • To share their creations, explaining the process they have used.	To know that materials can be joined together. To know that models can be created which enclose spaces both vertically and horizontally. To know that a plan can be created of what to build and then this plan can be used to make a construction/model using different tools.	model, construction, material, tool, plan, glue, scissors
Year 1 Not covered this term.		
Year 2 Aut 2 • Use the basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from. Design • Design purposeful, functional, appealing products for themselves and other users based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Make	To know that there are a range of ingredients to have in a sandwich (ham, cheese, tuna, egg). To know where these ingredients come from. To know what bread is made from. To know what types of sandwiches can be made and bought. To know how to draw and label a design of a healthy sandwich. To know which knife is best for cutting bread. To know which knife is best for spreading butter.	Sandwich, healthy, ingredients, bread, butter, margarine, spread, ham, cheese, tuna, egg, lettuce, cucumber, tomato

• Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Evaluate • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria	To know how to cut salad vegetables (cucumber, tomatoes). To know how to use knives safely. To know what types of sandwiches can be made and bought. To know what has worked well with their sandwich and to be able to talk about ways to improve it.	Knife, slice, cut, spread, chop, safely Improvements, changes
Year 3 Aut 2 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	To know how to select the **appropriate materials** to create a Carnival **structure**. To know how to use appropriate **tools** to perform the **practical** task, E.g. scissors, craft knife, glue guns, sticky tape, pva glue. To know how to **evaluate** their Carnival cart, compare it to their original design and suggest what could be improved and describe the challenges they encountered. To know how to **strengthen, stiffen** or **reinforce** their structure by using double the material or a stronger material. • LEGO Mindstorms (Computing Link)	Materials, structure, tools, cutting, shaping, joining, finishing accurately, practical, strengthen, stiffen, reinforce, design, evaluate, scissors, craft knife, glue gun, sticky tape, pva glue. Pulleys, gears, motors, ports, wires, command, program algorithm, debug

• 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 Technical knowledge • apply their understanding of how to strengthen, stiffen and reinforce more complex structures COMPUTING LINK • Understand and use electrical systems in their products, (for example incorporating switches, buzzers, bulbs and motors) • Apply their understanding of Computing to program, monitor and control their products. (Outcome: DT – Design and make a Carnival Cart. Follow instructions to make a LEGO Mindstorms robot and create a simple programme to move the robot)	To know how to assemble pulleys, levers and gears to allow a robot to move freely. To understand how to link ports with electrical wires to turn on a motor. To know how to input a command To understand that I need to put the commands in order and talk about this as an algorithm. To know how to test my program and debug.	
Year 4 Aut 2 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	To understand how Stonehenge is designed and what it could have been used for, as a temple or focus for worship for Druids. To know what Stonehenge looks like from different angles and identify the angles of each standing stone. Know how to create an a**ccurate** and **detailed** model of **Stonehenge using clay**.	Accurate, detailed, manipulate, functional, strengthen, stiffen, reinforcement, evaluate, worship, Druids

• 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 Technical knowledge • apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Understand how to use cutting mats, rollers and clay knives to **manipulate** clay. Know how to use clay and clay tools to complete the necessary **functional** properties of the sculpture. Understand how to use the features of clay, water and glue to enable **strengthening**, **stiffening** and **reinforcement** of creations. **Evaluate** own designs, consider the views of peers to improve creation.	
Year 5 Aut 2 (and Year 6 2021) Design • 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. Evaluate • Understand how key events and individuals in design and technology have helped shape the world.	Know how different bridges are **constructed**. Know how forces affect bridge design. Know how to draw an **annotated sketch** and **cross-sectional diagram**. Know how to use a saw to cut wood. Know how to **evaluate** a final product. Know significant **inventions** and **inventors** such as **I.K.Brunel**. Know how a **pulley** can **reduce workload**	**constructed, annotated sketch**, **cross-sectional diagram**, **evaluate, inventions,** **inventors**, **I.K.Brunel, pulley, reduce workload, gears**

Technical Knowledge • Understand and use mechanical systems in their products (for example: gears, levers, pulleys, cams and linkages)	Know how **gears** can help to **reduce workload**	
Year 6 Aut 2 • Anderson Shelters: Designing and making an Anderson Shelter. Plan their shelter by generating, developing, modelling and communicating their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. • Understand and use electrical systems in their product. • Make do and mend: Making a bag from reused material. 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. Select from and use a wider range of tools and equipment to perform practical tasks. WW2 Cooking: Understand seasonality and know where and how ingredients are grown, reared, caught and processed.	<u>Autumn 1</u> Know how to draw an **annotated sketch** and draw **cross-sectional and exploded diagrams** to show key points of their Anderson shelter in detail. Know how to design an electrical circuit within their Anderson shelter. <u>Autumn 2</u> Know how to **design** a lavender bag that is **functional** and appealing. Know that lavender bags were used to fragrance clothes and materials in WW2. Know how to **evaluate** their ideas and products against their own **design criteria** and consider the views of others to improve their work. Know how to cut material and **thread a needle**. Know how to **stitch** 2 pieces of fabric together using **running stitch or backstitch**. <u>Autumn 2</u> Know how **rationing** affected the **ingredients** available for use in WW2.	**design a product**, **functional, evaluate, design criteria, thread a needle, stitch, running stitch, backstitch, rationing**, **ingredients, recipe**

	Know that sprouting broccoli is ready in spring, spinach grows all year round, potatoes are harvested in Summer to Winter and runner beans are picked in the Summer. Know how to cook products following a **recipe**.	