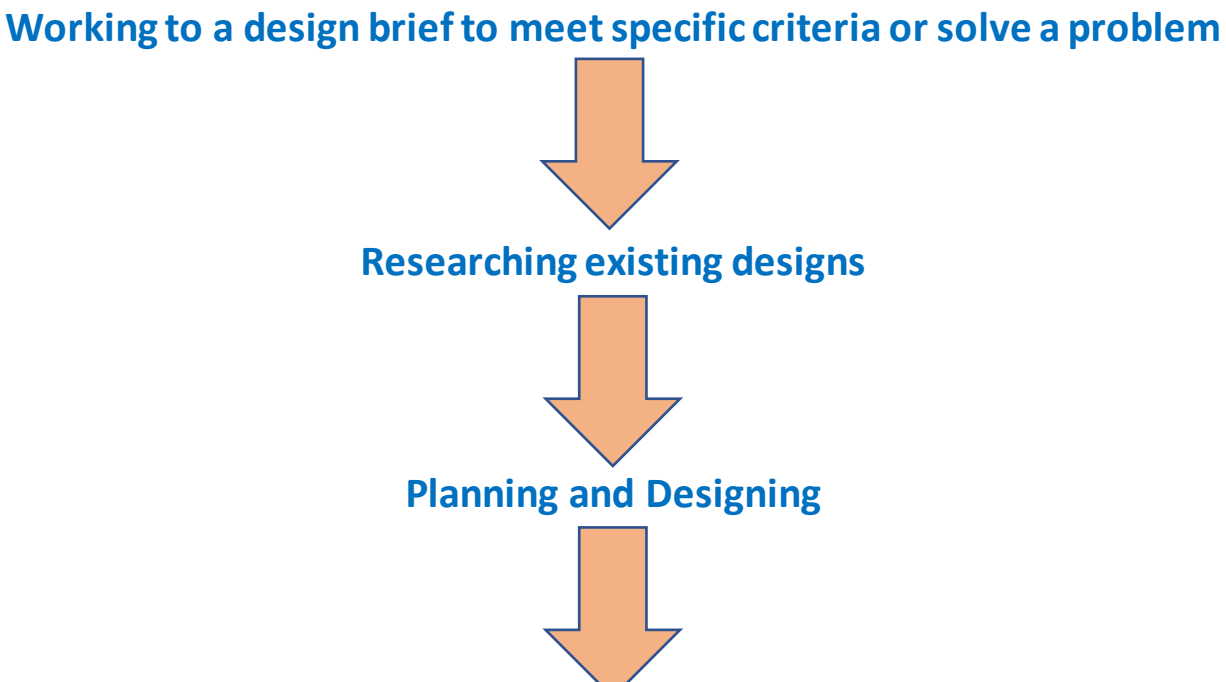
Curriculum Map DT

DT Statement of Intent: DT should provide children with a real-life context for learning. In the Carrdyke Federation, we want to allow children to develop their critical thinking and resilience, DT offers the chance for children to solve and overcome practical problems. Through the DT curriculum, children can be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose. DT provides children with the chance to learn new practical skills and improve their fine motor skills, these skills can form the building blocks for practical activities throughout life.			
Implementation: teaching of DT should follow the design, make and evaluate cycle. Each stage should be rooted in technical knowledge. The design process should be rooted in real life, relevant contexts to give meaning to learning. While making, children should be given choice and a range of tools to choose freely from. To evaluate, children should be able to evaluate their own products against a design criteria. Each of these steps should be rooted in technical knowledge and vocabulary. DT should be taught to a high standard, where each of the stages should be given equal weight. There should be evidence in each of these stages in the DT books, which should also develop to show clear progression across the key stages as they are passed up through each year group.			
Subject Knowledge **Process Knowledge or key skills**			
EYFS	**Know how to cut and shape found objects** **With support cut wooden section to make 'picture frames'.** **Know how to mould and shape malleable materials to create models and simple designs.** **Know how to make simple paper flaps in models and pictures** **Know how to sew simple running stitch to join fabric** **Know how to use a range of glues and tapes to join a variety of found objects.** **Know how to fit ready made wheels to fixed axles to create simple rolling models** **Know how to make simple drawn 2D designs (such as those for a hand puppet) and use them to create a finished product.**		
Class 2 Year A	Mechanisms-Moving Pictures	Mechanisms winch-castle drawbridge	Food
	Know that simple mechanisms can be used to create movement such as levers, sliders and pop up mechanisms. **Know how to make simple levers, sliders and pop up mechanisms using card and winged fasteners**	**Know some simple examples of a winding mechanism such as cranes and drawbridge.** **Know how to cut wooden section to length and join using card triangles.** **Know how to make a winding mechanism using an axle and string. Know how to make simple hole punched bearings for the axle**	**know that food has to be farmed, grown elsewhere (eg.home) or caught** **Understand that food comes from plants or animals** **Know that people should eat at least 5 portions of fruit and vegetables a day** **Can follow basic food safety rules when preparing and cooking food** **Begin to use techniques such as cutting (bridge knife technique) and grating (soft foods eg courgette, cheese).**
Class 2 Year B	Textiles-Puppet Making	Mechanisms-Rolling vehicle	**Food**
	Know examples of different types of puppet, evaluate their design. **Know how to make simple puppets by sewing material together.** **Know how to thread a needle and use running stitch in a material such as binca** **Know how to cut and shape fabric**	**Know that vehicles are designed to perform specific tasks** **Know how to cut and join wooden section to make a simple frame for a vehicle chassis.** **Know how to fit wheels on to fixed (non rotating) axles** **Know how to plan and make a vehicle to meet the requirements for its use.**	**know that food has to be farmed, grown elsewhere (eg.home) or caught** **Understand that food comes from plants or animals** **Know that people should eat at least 5 portions of fruit and vegetables a day** **Can follow basic food safety rules when preparing and cooking food** **Begin to use techniques such as cutting (bridge knife technique) and grating (soft foods eg courgette, cheese).**

Class 3 Year A	Incorporating a circuit - Torches	Graphic design and Resistant Materials Food Packaging	**Food**
	Know that torches use batteries to power them. Know how to make a simple circuit to illuminate a bulb Know how to make a switch using paper fastener and drawing pins. Know how to combine found materials to make a working torch that meets a specific design brief.	Know that food packaging is designed to meet a range of criteria. Know that packaging needs to look aesthetically pleasing but also keep contents safe. Know how to join and shape card including the use of nets to make a box. Know how to use paper and card to create packaging to hold a product in place and keep it safe from damage Know how to design the font and imagery of the box to appeal to a particular audience. Know how to use IT programs to create different fonts and how to combine images and the shell of the box.	Understand that food is grown, reared and caught in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dish safely and hygienically Know that a healthy diet is made up of a variety and balance of different food and drink eg as depicted in The Eatwell Plate Understand how a variety of foods are stored differently to ensure they are safe to eg (eg fridge or freezer) Be able to use a range of techniques such as peeling (soft vegetables eg courgette), chopping (claw knife technique), grating (harder foods eg carrot), slicing and kneading.
Class 3 Year B	Mechanisms-Pneumatics-Moving monsters	Textiles-Cushions	**Food**
	Know examples of machinery that uses hydraulics or pneumatics to control and element of the design. Know how a simple pneumatic system works. Know how to cut, shape and join wood to make a 3D frame Know to make simple hinges using card, fabric or axle components Know how to use pipes and syringes to make an element of their monster move	Know how to use generate ideas and designs based on a given theme (Could be seasonal) Know how other designers have decorated cushions Know how to join fabric using running stitch or blanket stitch. Know how to add simple details as second layer of fabric Know how to sew on buttons Know how to sew the panels back to front and then turn inside out to give quality finish. Know how to insert stuffing.	Understand that food is grown, reared and caught in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dish safely and hygienically Know that a healthy diet is made up of a variety and balance of different food and drink eg as depicted in The Eatwell Plate Understand how a variety of foods are stored differently to ensure they are safe to eg (eg fridge or freezer) Be able to use a range of techniques such as peeling (soft vegetables eg courgette), chopping (claw knife technique), grating (harder foods eg carrot), slicing and kneading.
Class 4 Year A	Mechanisms - Cams	Resistant Materials-Bird Feeders	**Food**
	Know that cams are used to turn rotary motion into reciprocating motion. Know examples of mechanisms that include cams. Know how to cut doweling Know how to drill wooden wheels to make cams or square section wood to make winding handles Know how make the 'followers' that transfer the motion from the cam to the reciprocating rods. Know what an automaton is. Know how to use one or more cams to animate a scene using the idea of an automaton	Know the main properties of a bird feeder. Know that materials are chosen for their specific properties such as being water proof. Know how to turn a 2D design into a working 3D prototype Know how to cut, shape and join a range of found and recycled materials such as plastic bottles. Know how to cut doweling and drill resistant materials such as plastic. Know how to evaluate their design and prototypes in a real life setting	Understand that seasons may affect the food available. Understand how food is processed into ingredients that can be eaten or used in cooking (eg milk into butter) Know that food and drink provide certain nutritional and health benefits Can follow food safety rules and understand their purpose Demonstrate good food safety practices when getting ready to store, prepare and cook food Gain confidence in the skills of peeling (harder vegetables eg carrot), chopping (combination of bridge/claw eg onion), slicing, grating (finer foods) eg Parmesan cheese, nutmeg), mixing and kneading.
Class 4 Year B	Textiles Purses and Wallets	Powered vehicles	**Food**
	Know a variety of designs for purses and wallets, evaluate how they meet specific purposes.	Know that vehicles have specific design features relating to wheel size and ground clearance to perform certain tasks.	Understand that seasons may affect the food available.

	Know that shape, form, colour and texture are important to creating the required aesthetic look. Know that quality of finish is very important in such products Know how to create a 2D design as a template for working in fabric Know how to join several layers of fabric together. Know how to add embellishments, buttons , fasteners etc to make their design functional Know how to use running and blanket stitch	Know how to create wooden section chassis with cross beam to attach a motor, Know how a rubber band can transfer movement from one pulley to another. Know that the difference in size of pulley and wheels can effect the power and speed of the chassis Know how to attach wood or card or home made wheels to a rotating axle. Know how to use a circuit including a switch to control the motor. Know how to turn a 2D design into a working prototype that meets certain design criteria and functions reliably. Know how to cut and shape wood with increasing accuracy Know how to use card triangles to join wooden section Know how to join wires to switches and battery boxes. Know how to use cable ties to attach a motor firmly to a frame Know how to fit pulleys to axles and to fit rubber band drives before final assembly	Understand how food is processed into ingredients that can be eaten or used in cooking (eg milk into butter) Know that food and drink provide certain nutritional and health benefits Can follow food safety rules and understand their purpose Demonstrate good food safety practices when getting ready to store, prepare and cook food Gain confidence in the skills of peeling (harder vegetables eg carrot), chopping (combination of bridge/claw eg onion), slicing, grating (finer foods) eg Parmesan cheese, nutmeg), mixing and kneading.

The Design Process



Focused practical tasks to learn new skills leading to making the working prototype