Nields Academy DT Knowledge Progression year group overview

Features	
• At Early Years, the key knowledge progression document takes reference from the Early Years Framework and Development Matters. • At KS1, the key knowledge is aligned with the National Curriculum and at Nields Academy the following strands feature within our curriculum: • At KS2, the key knowledge is aligned with the National Curriculum's strands of: • Assessment • Knowledge Organisers • Retrieval Challenge Grids	 Skills are reliant upon specific knowledge. A skill is the capacity to perform from drawing upon retained knowledge.  Children are taught specific vocabulary in line with their topic and the Statutory Spellings of their year group.

Early Years Framework				
Strand	Early Years Statutory Framework:			
Early Years	Personal, social and emotional development	Physical development	Understanding the world	Expressive arts and design

National Curriculum					
Strand					
NC Strand	**Design**	**Make**	**Evaluate**	**Technical knowledge**	**Cooking and nutrition**
Our concepts	**Electrical systems**	**Structures**	**Mechanisms**	**Textiles**	**Food**

Sticky facts threading through our DT curriculum strands					
Concept	**Nursery (N)**	**Reception (R)**	**Year 1 Year 2**	**Year 3 Year 4**	**Year 5 Year 6**
Food	(N) I can make healthy food and drink choices.		**Food Risk assessment knives** **A To make a jam sandwich** I know that fruit grow on plants and trees I know that jam is made from fruit.	**Food – Risk assessment oven and knives.** **A To make a granola bar** I know that seeds come from a flower.	**Food A – Risk assessment oven** **Make bread (harvest seasonal)** I understand why and how we harvest food including wheat. I can roll, knead and stretch dough. I know the ingredients to make bread.

		I know that I need to use a utensil that is sharp to cut fruit. I know that eating fruit and veg keeps me healthy I can also use knives to spread and cut bread. **B Risk assessment knives and peelers** I know that vegetables grow in the ground I know that fruit can be frozen I know that fruit and vegetables are part of a varied diet. I know that I can use peelers or knives to peel vegetables and fruit.	I know that seeds are a source of fibre and healthy fats. I can chop dried apricots into small chunks. I understand the process of how to dry an apricot. I know that food can be baked in an oven. I know how to use an oven. **B make a healthy pizza Risk assessment oven, knives** I know that having carbohydrates, fats, fibre, diary, protein, fruit and vegetables is a balanced diet. I know that a wrap is a healthier pizza base option. I can choose and cut healthy ingredients for a pizza topping. I can weigh ingredients accurately. I know that there are different and healthier ingredients for a pizza.	**B – Make a cheese and onion pie risk assessment oven, knives, grater** I can peel and chop onions and potatoes I can roll pastry I can grate cheese I know how to use a timer on the oven.
Structures	(N) I can use one-handed tools and equipment e.g. making snips in paper with scissors. (R) I can use scissors and other tools competently, safely and confidently.	**A – make a paper straw house structure.** I know what material is best for making a house. I can draw and explain why shapes have been chosen to build a house. I can label the parts I need to make a house. I can use scissors and tape to join the paper straw structure.	**A – make a gift box** I know that boxes are made from 2D nets. I know what material is best for making packaging. I can accurately draw and explain why my 2D net is best for the gift box. I know that flaps are used to join the sides of the net together. I can use measurements, rulers and scissors to accurately cut the net. I can use tubing and/or folding can strengthen my box.	**A – build a bird box. Risk assessment for tools** I know what material is best for making a bird box. I can draw and annotate a cross sectional diagram of my bird box. I can use rulers to measure accurately. I can use a saw to cut wood. I can use nails to join the wood together. I can use a hammer. I know the size of the opening will only allow birds into the box. I know what I need to do to make my bird box fit for purpose.

		I know I can make my structure stronger by using other materials such as wood.	I know that tubing and folding can strengthen my box.	
Textiles	(N) I can choose from different materials and use them to make and express ideas.	**B. make pirate puppets** **Risk assessment needles** I know what features are needed to make a hand puppet. I can draw a puppet design. I know what material is best for making a hand puppet. I know that a basting stitch will join my material together. I can use a needle and thread to make a hand puppet. I know I can use glue to add additional features to my hand puppet. I know how to improve my hand puppet.	**A - make a purse** **Risk assessment needles** I know what features are needed to make a purse. I can draw and annotate a purse design. I know what material is best for making a hand puppet. I know that a running stitch will join my material together. I can use a needle and thread to construct a purse. I know I can use basting stitch to add an applique to my purse. I know how to improve my purse.	**B – make a draw string bag** **Risk assessment needles** I know what features are needed to make a drawstring bag. I can draw and annotate a drawstring bag. I know what material is best for making a bag. I know that a back stitch will join my material together securely I know I will need to thread string through my material. I can use a needle and thread to make a bag. I know how to improve my drawstring bag.
Mechanisms	(N) I can explore how things work. N) I can choose from different materials and use them to make and express ideas. R) I can talk about how I made products and what I want to add or change.	**A – make a moving vehicle** I know that a chassis, wheels and axel will make a moving vehicle. I can draw and label a mechanism. I know what material is best for my mechanism. I can join and thread the axel to the wheels. I know that using thicker material the chassis would hold more.	**A – make a portcullis using levers and simple linkages** I know a lever is a stiff bar, which moves around a pivot. I know a pivot is a point, which allows a mechanism to move. I know a linkage is made by connecting rigid levers. I can draw a mechanism and label lever, linkage and pivot.	

		I know that wheels move easily when they fit freely in the axle holder. **B – moving pictures** I know what a slider mechanism is. I can identify objects that use a slider mechanism to move. I can design a card that uses a slider to move a picture. I can make a moving mechanism. I can evaluate my design and final product.	I can use scissors, card, split pins to make levers and linkages.	
Electrical systems			**B – simple circuit to light scientist's laboratory** I know to light up an electrical circuit I need a power source, wires with clips and a bulb. I can draw and label an electrical circuit. I know that if another bulb is added to the circuit it will be dimmer.	**A - electrical systems – motors to create rotating parts windmill design (ferris wheel)** I know an electrical circuit requires a power source, wires with clips and a bulb/motor. I can add a motor to a simple electrical circuit. I can attach material to the motor to create a rotating part. I can draw and annotate a design that will rotate. I can use wires, motor, batteries to make a rotating part. I know what material is best to use on the motor. I know that more motors and batteries will create a faster rotation. **B – Electrical systems - make a light up sign** I know the electrical circuit will need more bulbs and power source to light up a sign.

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				I can draw, annotate and explain my light circuit. I know that if the switch is closed the light will work. I know that if the switch is open the bulb will not light up. I know I can make a switch with material that conducts electricity.

Vocabulary threading through our DT curriculum strands

Strand	**Nursery**	**Reception**	**Year 1 Year 2**	**Strand**	**Year 3 Year 4**	**Year 5 Year 6**
Food	Range of healthy foods/snacks and drinks	Range of healthy foods/snacks and drinks	Strawberries, bananas, jam, grow, knives, peelers, healthy diet, frozen		Tomatoes, wrap, carbohydrates, fats, fibre, diary, protein, fruit, vegetables, knives, oven, hygiene	Seasonal food, onion, cheese, potato, yeast, dough, knead, roll out, flour, pastry, oven, hygiene
Structures	Make Build Join	Make Build Join			Cut, Fold, join, fix, strengthen, net, shell structure, three dimensional (3D) cube, cuboid, prism, vertex, edge, face, length, width, tabs, assemble, accuracy, material, stiffen, corrugating, tubing	Frame structure, stiffen, strengthen, reinforce, stability, shape, join,
Mechanisms	Wheels	Wheels	Mechanism, wheel, axel, axel holder, chassis, design, make, evaluate		Mechanism, lever, linkage, design brief, generate, loose/fixed pivot, guide/bridge, system, input, output.	
Electrical systems					Simple Circuit, Switch, Current, Battery/ Cell, switch, Input/ Output Device, Conductor, insulator	Simple Circuit, Switch, Current, Battery/ Cell, switch, Input/ Output Device, Conductor, insulator, motor, rotate
Textiles			Basting stitch, needle, thread, felt, sew, textiles		Running stitch, needle, thread, felt, sew, applique , seam, textiles	Back stitch, needle, thread, felt, sew, applique , seam, textiles, embroidery