Edwalton Knowledge Progression Year Group Overview- Design and Technology

Edwalton Primary School- Knowledge Progression Year Group Document- Design and Technology

Edwalton Knowledge Progression Year Group Overview- Design and Technology

At key stage 1 and 2, the knowledge progression takes full account of the national curriculum's strands of:

- Designing
- Making
- Evaluating
- Using technical knowledge and Vocabulary
- Cooking and Nutrition

- Skills are dependent on specific knowledge. A skill is the capacity to perform and in order to perform a deep body of knowledge needs to be acquired and retained.
- These knowledge statements should be what pupils retain for ever. In other words, this knowledge is within their long-term memory and will be retained.
- When considering pupils' improvement in subject specific vocabulary, pupils could be provided with a knowledge organiser which contains all words used for design technology for their

National Curriculum Subject Content

Designing	Making	Evaluating	Vocabulary & Technical Knowledge	Cooking and Nutrition (within all strands)
• *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*	• *Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].* • *Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics*	• *Explore and evaluate a range of existing products.* • *Evaluate their ideas and products against design criteria.*	• *Build structures, exploring how they can be made stronger, stiffer and more stable* • *Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their* products.	• *Use the basic principles of a healthy and varied diet to prepare dishes.* • *Understand where food comes from.*
• *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,*	• 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.	• 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. • Understand how key events and individuals in design and technology have helped shape the world.	• *Apply their understanding of how to strengthen, stiffen and reinforce more complex structures* • *Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]* • *Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]* • *Apply their understanding of*	• *Understand and apply the principles of a healthy and varied diet.* • *Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.* • *Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed*

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Edwalton Primary School Design and Technology							
DESIGNING- Developing, Planning and Communicating Ideas.							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
• Begin to use the language of designing (i.e. design, plan, draw) • Learn how to plan and adapt initial ideas to make them better • Verbally explain some features of their design	• Draw on their own experience to help generate ideas • Suggest ideas and explain what they are going to do • Identify a target group (themselves or others) for what they intend to design and make • Develop their design ideas applying findings from their earlier research	• Generate ideas by drawing on their own and other people's experiences • Develop their design ideas through discussion, observation, drawing and modelling • Identify a purpose for what they intend to design and make • Identify simple design criteria • Make simple drawings and label parts	• Generate ideas for an item, considering its purpose and the user/s • Identify a purpose and establish criteria for a successful product. • Plan the order of their work before starting • Explore, develop and communicate design proposals by modelling ideas • Make drawings with labels when designing	• Generate ideas, considering the purposes for which they are designing • Make labelled drawings from different views showing specific features • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail • Evaluate products and identify criteria that can be used for their own designs	• Generate ideas through brainstorming and identify a purpose for their product • Draw up a specification for their design • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail • Use results of investigations, information sources, including ICT when	• Communicate their ideas through detailed labelled drawings • Develop a design specification • Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways • Plan the order of their work, choosing appropriate materials, tools and techniques	• Know how to create their designs against a specific design specification for a specific audience • Know how to show their product can be made in a sustainable way • Know how to understand and research a product within the context of the world around them • Know how to create a detailed step by step plan

Edwalton Knowledge Progression Year Group Overview- Design and Technology

					developing design ideas		of the making process utilising their knowledge of specific technical vocabulary and detailed sketches • Know how to design products using sketching skills and rendering and creating 3D designs where appropriate
MAKING- working with tools, equipment, materials and components to make quality products (inc cooking and nutrition)							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
• Construct their product with a simple purpose in mind • Use simple tools to shape, assemble and	• Make their design using appropriate techniques • With help measure, mark out, cut and	• Begin to select tools and materials; use vocab' to name and describe them • Measure, cut and score with some accuracy	• Select tools and techniques for making their product • Think about their ideas as they make progress and be willing	• Select appropriate tools and techniques for making their product • Measure, mark out, cut and shape a range of materials, using appropriate	• Select appropriate materials, tools and techniques • Measure and mark out accurately • Use skills in using different tools and	• Select appropriate tools, materials, components and techniques • Assemble components make working models	• Know how to create prototypes and patterns dependant on subject area

Edwalton Knowledge Progression Year Group Overview- Design and Technology

join materials together • Mix ingredients using simple utensils • Follow basic food safety and hygiene procedures	shape a range of materials • Use tools *eg scissors and a hole punch* safely • Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape • Select and use appropriate fruit and vegetables, processes and tools • Use basic food handling, hygienic practices and personal hygiene • Use simple finishing techniques to improve the appearance of their product	• Use hand tools safely and appropriately • Assemble, join and combine materials in order to make a product • Cut, shape and join fabric to make a simple garment. Use basic sewing techniques • Follow safe procedures for food safety and hygiene • Choose and use appropriate finishing techniques	change things if this helps them improve their work • Measure, mark out, cut, score and assemble components with more accuracy • Work safely and accurately with a range of simple tools • Demonstrate hygienic food preparation and storage • Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT	tools, equipment and techniques • Use simple graphical communication techniques • Join and combine materials and components accurately in temporary and permanent ways • Measure, tape or pin, cut and join fabric with some accuracy • Sew using a range of different stitches, weave and knit	equipment safely and accurately • Weigh and measure accurately (time, dry ingredients, liquids) • Apply the rules for basic food hygiene and other safe practices *e.g. hazards relating to the use of ovens* • Cut and join with accuracy to ensure a good-quality finish to the product	• Make modifications as they go along • Use tools safely and accurately • Construct products using permanent joining techniques • Pin, sew and stitch materials together create a product • Achieve a quality product	• Know the basic rules in the classroom and the workshop • Know the constraints of working in a school environment in comparison to industrial production • Know how to mark and cut materials with increasing accuracy • Know how to use a range of temporary and permanent stiches by hand and machine • Know how to apply finishing techniques to enhance a product

Edwalton Knowledge Progression Year Group Overview- Design and Technology

EVALUATING- Processes and Products							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
• Verbally explain what they like/dislike about their product • Suggest one thing that they might change when creating a similar product	• Evaluate their product by asking questions about what they have made and how they have gone about it • Evaluate their product by discussing how well it works in relation to the purpose • Evaluate their products as they are developed, identifying strengths and possible changes they might make	• Evaluate against their design criteria • Evaluate their products as they are developed, identifying strengths and possible changes they might make • Talk about their ideas, saying what they like and dislike about them	• Evaluate their product against original design criteria *e.g. how well it meets its intended purpose* • Disassemble and evaluate familiar products	• Evaluate their work both during and at the end of the assignment • Evaluate their products carrying out appropriate tests	• Evaluate a product against the original design specification • Evaluate it personally and seek evaluation from others	• Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests • Record their evaluations using drawings with labels • Evaluate against their original criteria and suggest ways that their product could be improved	• Know how to analyse the work of past and present professionals to develop and broaden their understanding • Know how to outline and justify how they have met the design specifications • Know the drawbacks of the product design and making process and suggest improvements for all aspects •

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Vocabulary: Textiles							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Join, sew, stick	Pattern, mark out, decorate, running stitch, needle, fabric	Template, quality, suitable, features, dye, overstitch, design, fray, mock-up, seam	Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felted, woven, knitted, bonded	Aesthetics, seam allowance, pinning, embroidery, back stitch, blanket stitch, cross stitch	Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye	Applique, annotate, evaluate, innovation, functionality, renewable, authentic, chain stitch	
Vocabulary: Electrical Systems							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
				Series circuit, connection, push-to-make switch, push-to-break switch, innovative, appealing, control box, input device, output device, system	Parallel circuit, light emitting diode, monitor, flowchart, design specification, reed switch, tilt switch	Light dependent resistor, interface control, micro switch, latching switch	

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Vocabulary: Mechanisms							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Wheels & Axles: Car, wheel, pull, push	**Wheels & Axles:** Axle, fixed, free, design, make, cutting, joining, hacksaw, vice, dowel, body, cab, shaping	**Slider & Leavers:** Mechanism, lever, slider, slot, pivot, guide/bridge, masking tape, fastener, pull, push, down, straight, work, design, evaluate, purpose,	**Leavers & linkages:** Loose pivot, fixed pivot, system, input, process	**Leavers & Linkages:** Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating	**Pulleys or Gears:** Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality	**Pulleys or Gears:** Transmit, annotated drawings, exploded diagrams, functionality	
Vocabulary: Structures							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Freestanding Structures: Cut, fold, join	**Freestanding Structures:** Cut, fold, join, fix, weak, strong	**Freestanding Structures:** Structure, base, underneath, thicker, thinner, corner, point, straight, curved, rectangle, cube, cuboid, cylinder	**Shell Structures:** Shell, structure, net, marking out, material, joining, three dimensional, stiff	**Shell Structures:** Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating	**Frame Structures:** Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief	**Frame Structures:** Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief	

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Vocabulary: Food							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Preparing Fruit & Vegetables: Cut, taste, fruit, vegetable	**Preparing Fruit & Vegetables:** Fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour hard, flesh, skin, seed pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting, arranging	**Preparing Fruit & Vegetables:** Fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour hard, flesh, skin, seed pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting, arranging	**Healthy & Varied Diet:** Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested	**Healthy & Varied Diet:** Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested	**Celebrating Culture & Seasonality:** Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in	**Celebrating Culture & Seasonality:** Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in	

Technical Knowledge: Textiles							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Technical knowledge • To know how to join two pieces of material using one joining technique (i.e. gluing)	**Technical knowledge** • To know what a template is • To know how a simple 3D textile product is made • To know how to join two pieces of fabrics using different joining techniques (gluing, stapling, stitching) • To know a range of finishing techniques available • To know how to follow relevant health and safety protocols • To know relevant vocabulary for the project (see vocabulary above) **Wider knowledge** • To know the names of simple fabric products (i.e. cushion, jumper, blanket) • To know why simple fabrics are chosen based on their properties (i.e. wool is used for a blanket because it is soft and warm)	**Technical knowledge** • To know why designers use templates • To know when to use certain fabrics based on their suitability to the product • To know how to use simple stitch techniques • To know which finishing technique to use depending upon the required effect • To know how to follow relevant health and safety protocols • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know the names of at least one designer of fabric products (i.e. Levi Strauss and denim jeans, William Morris - floral interior design patterns, Lucienne Day – links to WW2 and dress making) • To know where simple fabrics come from/are made of (i.e. wool from sheep, cotton from cotton plants, hessian made from fibres of jute plant) • To know what a design evaluation is	**Technical knowledge** • To know how to strengthen, stiffen and reinforce existing fabrics • To know how to securely join two pieces of fabric together using a range of stitches • To know why designers use patterns • To know what seam allowances are • To know how to follow relevant health and safety protocols • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know how different fabrics are constructed (i.e. woven materials, spun materials, knitted materials) • To know what a design brief is • To know what a prototype is • To know why designers evaluate their designs	**Technical knowledge** • To know why designers might need to strengthen, stiffen and reinforce existing fabrics • To know how/when to use decorative stitches to finish a product • To know what constitutes a renewable/sustainable material/fabric • To know how to follow relevant health and safety protocols • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To what accuracy means and how it can be improved • To know what an annotated sketch is • To know why designers use prototypes • To know a range of designers who use fabrics in their work	**Technical knowledge** • To know that a 3D textile product can be made from a combination of accurately made pieces • To know when to combine multiple different fabrics to create a 3D product • To know how embroidery can embellish a product • To know when to use particular stitch types (including finishing stitches) • To know how to follow relevant health and safety protocols • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know what a questionnaire is and how it can help with product design (children could create a simple questionnaire which could then be used to form a design brief) • To know how to test fabrics in order to select them for use • To know how to analyse existing products and report what joining/fastening methods and multiple pieces have been used	**Technical knowledge** • To know that a 3D textile product can be made from a combination of accurately made pieces • To know when to combine multiple different fabrics to create a 3D product • To know how embroidery can embellish a product • To know when to use particular stitch types (including finishing stitches) • To know how to follow relevant health and safety protocols • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know what a questionnaire is and how it can help with product design (children could create a simple questionnaire which could then be used to form a design brief) • To know how to test fabrics in order to select them for use • To know how to analyse existing products and report what joining/fastening methods	Know n up of n fibres Know h aesthe produc materia and mo

Edwalton Knowledge Progression Year Group Overview- Design and Technology

					and multiple pieces have been used • To know some key dates in the development of fabric and textiles (i.e. 6000BC woven textiles used to wrap the dead, 500-1000AD spinning wheel invented in India, 1562 first use of purl stitch in Spanish tomb, 1890 first pair of jeans by Levi Strauss)	• To know some key dates in the development of fabric and textiles (i.e. 6000BC woven textiles used to wrap the dead, 500-1000AD spinning wheel invented in India, 1562 first use of purl stitch in Spanish tomb, 1890 first pair of jeans by Levi Strauss)

Technical Knowledge: Electrical systems							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
				Technical knowledge • To know what an electrical circuit is • To know a range of simple electrical components and their functions, such as a bulb, buzzer and switch • To know how to control and program a product using computing (i.e. beebots) • To know how to construct a simple series circuit	**Technical knowledge** • To know how to incorporate simple self-made switches in a circuit • To know how to test components in more complex circuits (series and parallel) • To know technical vocabulary relevant to the project (see vocabulary above)	**Technical knowledge** • To know how to incorporate simple self-made switches in a circuit • To know how to test components in more complex circuits (series and parallel) • To know technical vocabulary relevant to the project (see vocabulary above)	Kno ele can pro wit mo Kno and inte res sen

Edwalton Knowledge Progression Year Group Overview- Design and Technology

				• To know how to make a range of simple secure connections (twisting wires together, wrapping ends, taping over, connecting block) • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know some simple conductors and insulators • To know how electricity is measured (volts and amps) • To know a range of places electrical systems are used (i.e. lighting in a house, display signs, traffic lights)	• To know how simple switches can be made • To know how to assess faults in their own electrical systems • To know how to test components in a simple series circuit **Wider knowledge** • To know why materials make good conductors and insulators • To know how electrical systems are controlled (i.e. flow charts)	• To know how simple switches can be made • To know how to assess faults in their own electrical systems • To know how to test components in a simple series circuit **Wider knowledge** • To know why materials make good conductors and insulators • To know how electrical systems are controlled (i.e. flow charts)	exa pro exa

Technical Knowledge: Mechanisms							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Wheels and axles	**Wheels and axles**	**Sliders and levers**	**Levers and linkages**	**Levers and linkages**	**Pulleys or gears**	**Pulleys and gears**	Kno adv sys pro cha and
Technical knowledge • To know objects on wheels can be moved by pulling or pushing • To know how a wheel fits on to an axle **Wider knowledge** • To know a product that has wheels	**Technical knowledge** • To know what wheels, axles and axle holders are • To know the difference between fixed and free moving axles • To know simple methods to fix wheels and axles to a product • To know the names of some simple tools and their purpose • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know simple commercial products that use wheels and axles to move • To know the difference between pulling and pushing forces • To know which materials are best used for particular components (i.e. rubber covered wheels might provide more grip than plastic wheels)	**Technical knowledge** • To know how to operate sliders and levers • To know that different mechanisms create different types of movement • To know the name of simple tools and their purpose • To know some simple fixing techniques and when to use them (i.e. masking tape to secure a lollipop stick slider) • To know what a pivot is • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know where sliders and levers are used in real life context	**Technical knowledge** • To know the difference between a fixed and loose pivot • To know how to use lever and linkage mechanisms • To know the difference between inputs and outputs • To know how to increase accuracy when measuring, marking out and cutting (i.e. measure in mm rather than cm or inches) • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know what a design brief is • To know where levers and linkages are used in commercial products or industry • To know why levers are used to lift loads	**Technical knowledge** • To know where loose and fixed pivots are used in products • To know how to use lever and linkage mechanisms • To know the difference between inputs and outputs • To know how to increase accuracy when measuring, marking out and cutting (i.e. measure in mm rather than cm or inches) • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know how a lever and pivot can be positioned to lift a greater weight	**Technical knowledge** • To know that mechanical and electrical systems have an input, process and output • To know what a gear is • To know what a pulley is • To know that gears and pulleys can be used to speed up, slow down or change the direction of movement • To know how to accurately draw an exploded diagram • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know where pulleys and gears are used in commercial products and industry • To know what forces are acting on pulleys and gears (i.e. friction, gravity) • To know whether a gear will turn clockwise or anticlockwise	**Technical knowledge** • To know that mechanical and electrical systems have an input, process and output • To know what a gear is • To know what a pulley is • To know that gears and pulleys can be used to speed up, slow down or change the direction of movement • To know how to accurately draw an exploded diagram • To know technical vocabulary relevant to the project (see vocabulary above) **Wider knowledge** • To know how ratio affects speed of rotation	

Edwalton Knowledge Progression Year Group Overview- Design and Technology

Technical Knowledge: Structures							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
Technical knowledge • To know how to make a freestanding structure from simple blocks/boxes • To know how to make a structure taller • To know how to make a structure more stable **Wider knowledge** • To know one example of a strong structure • To know one example of a strong/weak material	**Technical knowledge** • To know how to make freestanding structures stronger, stiffer and more stable • To know how to join some simple materials • To know a simple order of making a structure • To know some simple finishing techniques to complete their structure • To know the name of simple 2D shapes • To know technical vocabulary relevant to the project (see vocab) **Wider knowledge** • To know some strong/stiff structures (i.e. climbing frame, tower) • To know what materials are useful for	**Technical knowledge** • To know how to make freestanding structures stronger, stiffer and more stable • To know how to join some simple materials • To know a simple order of making a structure • To know some simple finishing techniques to complete their structure • To know the name of simple 3D shapes • To know technical vocabulary relevant to the project (see vocab) **Wider knowledge** • To know some strong/stiff structures (i.e. climbing frame, tower) • To know what materials are useful for strengthening or stiffening structures and why this is • To know some simple facts about more than one structural engineer (i.e Gustavo Eiffel, IKB)	**Technical knowledge** • To know more sophisticated methods for stiffening/strengthening structures • To know what a net is • To know the names of more complex 3D shapes • To know which tools are appropriate for cutting and scoring materials • To know how to test a material's strength • To know how to use CAD to develop a product • To know technical vocabulary relevant to the project (see vocab) **Wider knowledge** • To know why engineers use certain structures for certain purposes • To know how engineers solve design problems i.e. building Burji Khalifa in Dubai • To know some simple facts about more than one structural engineer (i.e. IKB, Gustavo Eiffel, Peter Rice, Fazlur Khan)	**Technical knowledge** • To know more sophisticated methods for stiffening/strengthening structures • To know what a net is • To know which tools are appropriate for cutting and scoring materials • To know how to test a material's strength • To know how to use CAD to develop a product • To know technical vocabulary relevant to the project (see vocab) **Wider knowledge** • To know why engineers use certain structures for certain purposes • To know how engineers solve design problems i.e. building Burji Khalifa in Dubai • To know some simple facts about more than one structural engineer (i.e. IKB, Gustavo Eiffel, Peter Rice, Fazlur Khan)	**Technical knowledge** • To know how to stiffen, strengthen and reinforce a range of 3-D frameworks • To know which materials are best suited to stiffen and reinforce by selecting them due to their properties • To know which shapes are the strongest and will support the most weight in a structure • To know how to use a range of tools i.e. junior hacksaws, G-clamps, bench hooks, hand drills safely • To know technical vocabulary relevant to the project) see vocab) **Wider knowledge** • To know why engineers use complex structures for certain purposes • To know how engineers solve complex design problems i.e. building Burji Khalifa in Dubai • To know some simple facts about more than	**Technical knowledge** • To know how to stiffen, strengthen and reinforce a range of 3-D frameworks • To know which materials are best suited to stiffen and reinforce by selecting them due to their properties • To know which shapes are the strongest and will support the most weight in a structure • To know how to use a range of tools i.e. junior hacksaws, G-clamps, bench hooks, hand drills safely • To know technical vocabulary relevant to the project) see vocab. **Wider knowledge** • To know why engineers use complex structures for certain purposes • To know how engineers solve complex design problems i.e. building Burji Khalifa in Dubai	Kno pro and stru ach solu

Edwalton Knowledge Progression Year Group Overview- Design and Technology

	strengthening or stiffening structures and why this is • To know some simple facts about an important structural engineer (i.e. Isambard Kingdom Brunel)				one structural engineer (i.e. IKB, Gustavo Eiffel, Peter Rice, Fazlur Khan)	• To know some simple facts about more than one structural engineer (i.e. IKB, Gustavo Eiffel, Peter Rice, Fazlur Khan)	

Technical Knowledge: Food							
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	
<u>Technical knowledge</u> • To know how to mix ingredients • To know how to follow simple health and safety procedures	**<u>Technical knowledge</u>** • To know how to use simple cutting tools to prepare soft fruit and vegetables • To know how to follow simple health and safety procedures • To know how to peel, chop, slice and grate foods. • To know technical	**<u>Technical knowledge</u>** • To know how to prepare simple dishes safely and hygienically, without using a heat source • To know how to use techniques such as cutting, peeling and grating with greater confidence and independency • To know technical vocabulary relevant to the project (see vocab) **<u>Wider knowledge</u>**	**<u>Technical knowledge</u>** • To know how to chop a wider range of foods using different techniques i.e. claw grip, bridge grip. • To know how to use sensory information to evaluate a variety of ingredients • To know how to combine foods using different utensils i.e. whisk, spatula • To know relevant health and safety procedures when handling and preparing foods • To know technical vocabulary relevant to the project (see vocab)	**<u>Technical knowledge</u>** • To know how to chop a wider range of foods using different techniques i.e. claw grip, bridge grip. • To know how to measure ingredients using simple measures i.e. cup, tblsp • To know how to use sensory information to evaluate a variety of ingredients • To know how to combine foods using different utensils i.e. whisk, spatula • To know relevant health and safety procedures when handling and preparing foods	**<u>Technical knowledge</u>** • To know some more advance methods for mixing ingredients i.e. rubbing in • To know how to measure ingredients accurately using different units • To know how to follow a recipe • To know how to select appropriate utensils for specific jobs. • To know how to cut, shape and knead dough **<u>Wider knowledge</u>**	**<u>Technical knowledge</u>** • To know some more advance methods for mixing ingredients i.e. rubbing in • To know how to measure ingredients accurately using different units • To know how to follow a recipe • To know how to select appropriate utensils for specific jobs. • To know how to cut, shape and knead dough **<u>Wider knowledge</u>**	

Edwalton Knowledge Progression Year Group Overview- Design and Technology

	vocabulary relevant to the project (see vocab) **Wider knowledge** • To know where a range of fruit and vegetables come from. • To know the principles of a varied diet.	• To know how to name and sort foods into the five groups in The Eatwell Plate • To know that everyone should eat at least five portions of fruit and vegetables every day	**Wider knowledge** • To know about a range of fresh and processed foods for their product • To know whether foods are grown, reared or caught	• To know technical vocabulary relevant to the project (see vocab) **Wider knowledge** • To know about a range of fresh and processed foods for their product • To know whether foods are grown, reared or caught • To know about fair trade foods • To know about one key chef and their contribution to healthy eating i.e. Jamie Oliver – healthy schools	• To know about a range of chefs and their individual styles of cooking • To know about organic foods and the impact of these	• To know about a range of chefs and their individual styles of cooking • To know about organic foods and the impact of these	