

How is the curriculum organised?

The curriculum is split into a number of enquiries. These are to be completed over a half term. Some enquiries may require some lessons to be merged together however not all enquiries should be completed in one day.

Design Technology is a topic that allows children to be creative and imaginative. The smallest idea can spark a wealth of inspiration which children can then explore and develop over a number of different topics. Design Technology allows children to develop their own ideas and make their own choices, ultimately leading to an end product they are extremely proud of.

Key Concepts and approaches

Design Technology at Green Lane consist of six golden threads and four key strands. The golden threads underpin our four key strands.

Key Strands:

- Design
- Make
- Evaluate
- Technical Knowledge

Golden Threads:

- Cooking and Nutrition
- Mechanisms
- Electrical Systems
- Digital World
- Structures
- Textiles

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Year Group	Autumn Block 1	Spring Block 2	Summer Block 3
Little buds & Nursery	<p><u>End Points</u></p> <ul style="list-style-type: none"> • Uses various construction materials to build. • Explore simple towers and similar structure with support. • Use scissors effectively. • Use adapted scissors with support to make snips into paper. • Use glue to join materials randomly together. • Attach materials together using glue with support. • Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. • Has an idea of what to build before they begin. • To attach junk modelling items together. 	<p><u>End Points</u></p> <ul style="list-style-type: none"> • Respond to an adult's suggestion of what to make. • Explore building towers and other structures using other kinds of construction kits with support. • Use a variety of construction toys that have wheels in them to create a vehicle that can move with some guidance. • To attach junk modelling items together. 	<p><u>End Points</u></p> <ul style="list-style-type: none"> • Create towers and buildings by stacking and connecting bricks together independently. • Use tape to join things together with support. • Attach materials together using glue independently. • Constructs with bricks and blocks to make an enclosure. • Explores different materials freely, using them with a purposes. • Constructs, stacking blocks vertically and horizontally, making enclosures and creating spaces. • To attach junk modelling items together. • Use scissors with increasing independence to cut along a straight line.
REC	<p><u>End Points</u></p> <ul style="list-style-type: none"> • Safely constructs with a purpose and can talk about what they have made. • Attach junk modelling items together and describe model. • Use glue (Pritt Stick and PVA) and sellotape to join materials. 	<p><u>End Points</u></p> <ul style="list-style-type: none"> • Create collaboratively, sharing ideas, resources and skills with other children. • Attach junk modelling items together and explain choices of material when prompted. • Discuss some of the changes made during the making process with prompts. • Explore building bridges and towers using a variety of small scale construction materials, blocks, Lego and cardboard. 	<p><u>End Points</u></p> <ul style="list-style-type: none"> • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creation, explain the process they have used. • Make use of props and materials when role playing in narratives and stories. • Create junk models and explain choices of materials. • Explain what I am making and which materials I am using and why.

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	<ul style="list-style-type: none"> • Explore and investigate a range of simple large scale construction materials, such as cardboard boxes, big bricks and crates. • Select materials from a limited range that fit a particular criteria, such as shiny with independence. • Talk with confidence about some things that have been made naming the resources used. 	<ul style="list-style-type: none"> • Talk with confidence about some things that have been made naming the resources and showing some understanding of the techniques that I have used. 	<ul style="list-style-type: none"> • Explain work as it progresses. • Begin to discuss what has been made and with prompts I am beginning to identify good and bad points. • Changes, adapts and modifies model to serve a purpose. • Build a variety of small-scale construction adapting to make them more stable.
Year 1	<p>Smoothies</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Understand what a blender is and how this machine works. • Know that fruits have seeds and are grown on either trees or vines. • Know that vegetables can be grown above ground as well as below ground. • Understand that a vegetable is an edible part of a plant. • Design their own smoothie recipe • Learn how to chop fruit and vegetables carefully. • Learn how to juice fruits safely using a blender. • Evaluate and taste different fruits. 	<p>Making a Diorama</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Understand that a mechanism is the part of the object that makes something move. • Know that a slider mechanism moves things side to side. • Know that a slider mechanism will need a slider, slots, guides and an object. • Understand the purpose of guides and how these can restrict the movement of the slider. • Design a moving storybook. • Create moving sliders or levers as part of a story book. • Test their end produce and evaluate whether this has been successful or unsuccessful. • Present their storybook to an audience and evaluate the success. 	<p>Kites</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Know the four most common kites. • Know the different parts of a kite and understand their functions. • Test different materials to see which would be most suitable for their kite. • Understand how a kite flies. • Design a kite labelling the materials they will use. • Create a kite that will be able to fly outdoors. • Evaluate a variety of different kites including similarities and differences. • Test different material and evaluate which were the most successful. • Evaluate their kite against their design criteria.

	<ul style="list-style-type: none"> • Be able to describe different taste, textures and smells. • Evaluate their peers' smoothies. 		
<p>Year 2</p>	<p>Superhero Car</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Understand how axles, axle holders and wheels work to move a vehicle. • Research existing superhero cars and toy cars. • Understand what makes a design criteria and why we use them. • Explore diagnosing problems and solve solutions. • Choose suitable materials to build a superhero car. • Design a superhero car labelling different aspects. • Use gluing and cutting techniques to make the body and base of the car. • Put all car pieces together to make a moving car. • Evaluate existing products including likes and dislikes. 	<p>Puppets</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Understand a variety of joining techniques including sewing, stapling, gluing and pinning. • Know that different joining techniques can be used best for different purposes. • Understand that we can use a template to repeatedly cut the same thing out several times. • Understand why we design a product first and know this is useful to envision an end product. • Design a finger puppet. • Design a template. • Neatly cut fabric with scissors. • Use joining methods to make their puppet and to add any extra decoration. • Evaluate and analyse their finished product explaining their likes and dislikes. • Present their puppets to another year group and reflect on their puppets. 	<p>Healthy Eating</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Understand the different food groups and how they help our body. • Know what foods belong in each food group. • Understand why we need a balanced diet. • Know and use health and safety rules when preparing food. • Use kitchen equipment safely. • I know what information is included on food packaging and the purpose of this. • Design a wrap using a variety of food from the different food groups. • Design packaging for their product alongside their design criteria. • Carefully prepare food using kitchen equipment. • Make a wrap using their chosen ingredients. • Test different foods to evaluate which foods complement each other. • Explain why they have chosen the ingredients for their wrap. • Evaluate their design process. • Evaluate their packaging and why this is appealing to their target market. • Evaluate their final product against their design criteria.

	<ul style="list-style-type: none"> Test their cars to see if they have fulfilled the enquiry. 		
Year 3	<p>Stone Age Pouch</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> Know about the Stone Age period and understand what a pouch was used for. Understand what materials existed in the Stone Age period and why they had limited materials. Know and understand the function of different stitches and which would be appropriate for their pouch. Create their own design criteria to a specific target audience. Design several pouches with detailed labels and annotations. Design a final product that relates to their design criteria and aimed at their target audience. 	<p>Bug House</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> Understand why bug hotels are important. Know what types of bugs live in bug houses and how a variety of different houses can help increase biodiversity. Know what makes a good bug house. Create a design criteria specific to an insect we are able to provide a home for in our outdoor area. Sketch several examples of bug houses with detailed annotations. Design different bug houses for different insects. Design a final product that relates to their design criteria. Choose from a range of materials which will be the most suitable for their bug house. With peers, make a bug house that will be suitable for our outdoor area and will be built to last. Use appropriate tools to make their bug house and understand the safety rules for these tools. Evaluate existing products and analyse what makes them a good home. Test different materials to see which will be the strongest to withhold outdoor weather. Evaluate their own work as well as their peers including strength and weaknesses. 	<p>Pneumatic Monsters</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> Know there are two different ways a pneumatic toy can function. Understand how both functions work. Test the two method and decide which method they will use for their final product. Know what components are needed to create a pneumatic toy. Test their toys with peers and evaluate their findings. Design to a design criteria and make their product appeal to a chosen target audience. Design a pneumatic toys against a design criteria and aimed at a target audience. Make a pneumatic toy using one of the tested methods. Assemble a pneumatic toy that appeals to their target audience. Evaluate several different pneumatic toys including their opinion on each product. Test pneumatic methods to see which is best suited for their product. Evaluate their own work as well as their peers including strengths and weakness. Share their feedback with peers.

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	<ul style="list-style-type: none"> Practice a variety of stitches to decide which will be most appropriate for their product. Create a template to use for cutting their material. Make a Stone Age pouch including a fastener. Evaluate their product against their design criteria. Analyse their strengths and weaknesses. Use their peer's view to make improvement to their own work. 	<ul style="list-style-type: none"> As a group, discuss and feedback to each other what improvement they may make if they were to make this product again. 	<ul style="list-style-type: none"> Use others view to improve their own work if they were to make this product again.
<p>Year 4</p>	<p>Pavilions</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> Understand that a pavilion is a decorative building or structure. Understand the use of cladding and the different effects this can have. Understand the meaning of aesthetics and target audience. Know that a products function is its purpose. Know what architects consider when they are 	<p>Adapting a Recipe</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> Understand the meaning of 'quantity' when referring to ingredients in a recipe format. Understand the importance of safety and hygiene when cooking. Know a range of cooking techniques; sieving, measuring, stirring, shaping and cutting out. Begin to understand about budgeting whilst planning ingredients. Understand that most products are suited to a target audience. 	<p>Light Boxes</p> <p><u>End points: Children will:</u></p> <ul style="list-style-type: none"> Understand the purposes of different types of lightboxes. Know the difference between LED and incandescent lightbulbs. Explain how a circuit works including a lightbulb and a switch. Explore different materials to test which will be the most suitable for their product. Write detailed annotations when labelling their designs. Design a lightbox including a silhouette. Use 3D drawings when designing their lightboxes.

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	<p>designing a structure; light, shadow, patterns.</p> <ul style="list-style-type: none"> • Design a stable pavilion that is aesthetically pleasing. • Know which materials they will need to fit with their designs. • Design the frame considering the weight of their structure. • Experiment making several different shaped structures. • Choose materials that will support the weight of their structure. • Choose appropriate materials to reinforce the corners/joints to strengthen their structure. • Create different textural effects with different materials. • Evaluate their own structure describing the characteristics and analysing what construction made it the most effective. • Evaluate other structures around the class including their likes and dislikes. • Discuss effective and ineffective structure and what improvements could be made to make all structures effective. 	<ul style="list-style-type: none"> • Design a biscuit recipe whilst considering their budget and previous taste testing judgements. • Prepare their ingredients. • Follow their own biscuit recipe. • Follow safety and hygiene rules they have learnt. • Adapt their recipe to their chosen target audience. • Evaluate their recipe thinking about different senses; smell, taste, appearance and texture. • Evaluate and analyse a range of different ingredients. • Be able to make suggestions and modifications to their recipe to improve their biscuit. • Understand the impact of having a budget and be able to describe this. 	<ul style="list-style-type: none"> • Make a working circuit including a bulb and a switch. • Make a strong and stable frame 3D from using wood. • Make a lightbox against their design criteria. • Make a lightbox that appeals to their target audience. • Research and evaluate a range of existing lightboxes including their purpose. • Evaluate different materials and decide of which material will be best for their product. • Evaluate their designs analysing which best matches their design criteria and target audience. • Critically analyse and reflect on their own product. • Give peer reflection including strength and weaknesses to others. • Discuss any problems that occurred and how they have overcome these.
Year 5	Winter Decorations	Bridges	Cafe Priestley

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End Points: Children will:

- Know the purpose of a blanket stitch.
- Understand that most felt stuffed products are created by appendages separately and then attached together.
- Understand that if their stitches are neat and tight this will make the product stronger than if the stitches were loose.
- Learn a variety of different stitches and decide which ones are most appropriate for their decorations.
- Design several decorations and choose one of these designs to make.
- Consider the different shapes they will need and create multiply templates.
- Consider the size of each template and design these proportionally.
- Create a 3D product from a 2D design.
- Carefully mark, measure and cut out fabric accurately and neatly.

End Points: Children will:

- Be able to identify different types of beams and bridges.
- Understand the strengths and weaknesses of different types of bridges.
- Understand why the triangle design helps to reinforce a bridge.
- Using previous knowledge to understand and follow the safety rooms when using tools to cut wood.
- Create a design criteria for an innovative, functional and appealing product aimed at a specific target audience.
- Design a truss bridge using 3 dimensional diagrams including measurements.
- As part of a group, build a truss bridge using the appropriate materials.
- Carefully cut wood to specific measurements using the appropriate tools.
- Make different types of bridges using a variety of materials to test which is the strongest for that specific design.
- Evaluate existing bridges and analyse the strengths and weaknesses.
- Evaluate their final product against the design criteria and check for any weaknesses.
- Use knowledge they have learnt to see when reinforcements could be made to make their product stronger.
- Evaluate their peers work and give feedback for improvements.
- Understand how bridges have helped shaped the world.

End Point: Children will:

- Know which foods are grown seasonally during British Summer Time.
- Plan a three coursed menu using seasonal fruit and veg.
- Understand what a recipe is and be able to create their own thinking about the order their recipe will need to be in.
- Research existing cafes to inspire the layout of Cafe Priestley.
- Use previous knowledge and techniques to use kitchen equipment carefully and safely.
- Know and follow healthy and safety rules.
- Understand why hygiene is important when working in a cafe.
- Design a three course meal menu appealing to their target audience.
- Design an appealing advert aimed their target audience.
- Design a recipe for a chosen course.
- Prepare and cook one meal for Cafe Priestley.
- Make an appealing menu and advert for customers.
- Evaluate existing cafe adverts and menus.
- Use other people's view to think about what future improvements could be made.
- Critically evaluate their own work and their peer's work.
- Evaluate menus and adverts against their design criteria.

	<ul style="list-style-type: none"> • Use a precise blanket stitch to hold the pieces of fabric together. • Thread needles independently. • Use applique and other stitches to apply decoration to their product. • Make sure their blanket stitches are evenly spaced and regular. • Test their final products and check these are fit for purpose. • Evaluate their end product with suggestion of what they might change or what they could do to improve their decoration. • Analyse whether their product is fit for their target audience. 		
Year 6	<p>Steady Hand Game</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Understand the function of a battery and what it is made from. Know that if battery acid leaks, this can be dangerous. • Know the names of the components on a circuit board including a buzzer. 	<p>Motorised Car</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Use their scientific knowledge to help them build a circuit. • Understand how a basic circuit works before adding a motor. • Understand how a motor works for the car to move. • Retrieve previous knowledge about wheels and axles to understand how these make a car move. • Research existing motorised cars to analyse how they work and the appeal they have to their target audience. 	<p>Performance Costumes</p> <p><u>End Points: Children will:</u></p> <ul style="list-style-type: none"> • Research an existing production and use this to inspire them about what costumes they will make. • Look at a range of fabrics and choose which fabric will be most suitable for their costume. • Understand the properties of fabric and why they will be suitable for their costume. • Understand the different functions of different outfits.

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- Understand the difference between form and function.
- Understand the importance of form follow function when designing their product.
- Know different perspectives of diagrams, for example, top view, side view and back.
- Design a steady hand game and label all the components required.
- Draw their design from different perspectives.
- Design multiple games and discuss with peers' which one would be best to make into a final product.
- Model ideas by using different prototypes.
- Create a stable base for their game.
- Decorate the base of the game to a high quality. Be neat and accurate when cutting and adding decoration.
- Make and test a circuit.
- Connect the base and game together.
- Test their product and evaluate what went well

- Design a motorised car including a circuit, frame, wheel and axles and outer body.
- Create a design criteria including who their target audience will be.
- Design separate layers of their models using 2D/3D sketches and exploding diagrams.
- Use accurate measurement for labelling parts of their car.
- Include labels of areas that may need reinforcing and suggest different materials that could help them when building.
- Make a motorised car that appeals to their target audience.
- Make a frame, wheels and axles, circuit and body of car from the appropriate materials.
- Reinforce areas of the car that show potential weakness.
- Evaluate existing products to inspire ideas for their own design.
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- Practice previous stitches they have been taught and make sure they are neat and have consistent spaces between each stitch.
- Develop their cutting and sewing skills from previous knowledge.
- Experiment with different embellishments and choosing the most appropriate for their costume.
- Design costumes and accessories whilst considering the materials that they will use.
- Use detailed annotations whilst designing different items.
- Make costumes ensuring all items have a neat finish.
- Make accessories that are to a high standard of quality and will withstand throughout a production.
- Evaluate existing products through market research.
- Evaluate the different functions of an outfit.
- Evaluate the strengths and weaknesses of their final costumes.
- Evaluate their final outfit including how effective their finishing techniques have been.
- Use other's view to improve their work and discuss what changes they may make if they were to make their outfits again.

and areas for improvement.

- Repeat the same as above for their peers' steady hand games.
- Evaluate existing toys and consider different areas they may want to use in their designs.
- Analyse several existing children's toys.