

Design and Technology Progression Plan

Legsby Primary School



	Reception	Year 1	Year 2
Everyday products	Everyday products are objects that we use every day. These objects have a specific use. Name and explore a range of everyday products and begin to talk about how they are used.	Everyday products are objects that are used routinely at home and school, such as a toothbrush, cup or pencil. All products are designed for a specific purpose. Name and explore a range of everyday products and describe how they are used.	Products can be improved in different ways, such as making them easier to use, more hardwearing or more attractive. Explain how an everyday product could be improved.
Staying safe	Rules keep us safe when using equipment. Safety rules include always listening carefully and following simple instructions, using equipment only for the tasks they are designed for and washing hands before touching food. Follow rules and instructions to keep safe.	Rules are made to keep people safe from danger. Safety rules include always listening carefully and following instructions, using equipment only as and when directed, wearing protective clothing if appropriate and washing hands before touching food. Follow the rules to keep safe during a practical task	Hygiene rules include washing hands before handling food, cleaning surfaces, tying long hair back, storing food appropriately and wiping up spills. Work safely and hygienically in construction and cooking activities.
Mechanisms and movement	Vehicles and machines have wheels and axles to help them move. Explore, build and play with a range of resources and construction kits with wheels and axles.	An axle is a rod or spindle that passes through the centre of a wheel to connect two wheels. Use wheels and axles to make a simple moving model.	A mechanism is a device that takes one type of motion or force and produces a different one. A mechanism makes a job easier to do. Mechanisms include sliders, levers, linkages, gears, pulleys and cams. Use a range of mechanisms (levers, sliders, wheels and axles) in models or products.

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Electricity	Many appliances at home and school need electricity to work. The appliances need to be attached to electricity through a plug and socket or use batteries. Identify products that use electricity to make them work.	Electricity is a form of energy. Many household appliances use electricity, such as kettles, televisions and washing machines. They can be switched on by completing the circuit to allow the flow of electricity or off by breaking the circuit to prevent electricity from flowing. This can be a switch on the appliance or a wall socket switch. Identify products that use electricity to make them work	A series circuit is made up of an energy source, such as a battery or cell, wires and a bulb. The circuit must be complete for the electricity to flow. Create an operational, simple series circuit.
Generation of ideas	Create collaboratively, share ideas and use a variety of resources to make products inspired by existing products, stories or their own ideas, interests or experiences.	Design criteria are the explicit goals that a project must achieve. Create a design to meet simple design criteria.	Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology. Generate and communicate their ideas through a range of different methods.
Structures	Different materials have different properties and can be used for different purposes. Construct simple structures and models using a range of materials	Different materials can be used for different purposes, depending on their properties. For example, cardboard is a stronger building material than paper. Plastic is light and can float. Clay is heavy and will sink. Construct simple structures, models or other products using a range of materials.	Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stable. Explore how a structure can be made stronger, stiffer and more stable.
Use of ICT	Digital devices can be used to share information about creations with others. Use digital devices to take digital images or recordings of their creations to share with others.	Computer-aided design is when computers are used to help design products. It has advantages over paper design in that it will show how finished products will look. Different colours and textures can also be trialled. Use design software to create a simple plan for a design.	Computer software can be used to help design or plan a product. Advantages include identifying and solving problems before the product is made and experimenting with different materials and colours. Labels can be added to designs for clarity. Use design software to create a simple labelled design or plan.

Investigation	Different tools are needed for different tasks. For example, pencils and paper are needed for drawing pictures. Choose and explore appropriate tools for simple practical tasks.	Specific tools are used for particular purposes. For example, scissors are used for cutting and glue is used for sticking. Select the appropriate tool for a simple practical task.	Different tools have characteristics that make them suitable for specific purposes. For example, scissors are used for cutting paper because they have sharp, metal blades that can cut through thin materials. Select the appropriate tool for a task and explain their choice.
Evaluation	Recognise that it is possible to change and alter their designs and ideas as they are making them. Adapt and refine their work as they are constructing and making.	A strength is a good quality of a piece of work. A weakness is an area that could be improved. Talk about their own and each other's work, identifying strengths or weaknesses and offering support	Finished products can be compared with design criteria to see how closely they match. Improvements can then be planned. Explain how closely their finished products meet their design criteria and say what they could do better in the future.
Cutting and joining textiles	Use a range of small tools, including scissors, paint brushes and cutlery	Scissors are used to cut fabrics. Glue and simple stitches, such as running stitch, can be used to join fabrics. Running stitch is made by passing a needle in and out of fabric at an even distance. Cut and join textiles using glue and simple stitches.	A running stitch is a basic stitch that is used to join fabric. It is made by passing a needle in and out of fabric at an even distance. Use different methods of joining fabrics, including glue and running stitch.
Materials for purpose	Different materials are suitable for different purposes, such as construction kits for modelling and ingredients for baking. Select appropriate materials when constructing and making.	Different materials are suitable for different purposes, depending on their specific properties. For example, glass is transparent, so it is suitable to be used for windows. Select and use a range of materials, beginning to explain their choices.	Properties of components and materials determine how they can and cannot be used. For example, plastic is shiny and strong but it can be difficult to paint. Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect

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Decorating and embellishing textiles	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used;	Fabric can be decorated using materials and small objects, such as buttons and sequins. Decorations can be attached to the fabric by gluing, stapling or tying. Use gluing, stapling or tying to decorate fabric, including buttons and sequins.	Embellishment is a decorative detail or feature added to something to make it more attractive. Add simple decorative embellishments, such as buttons, prints, sequins and appliqué.
Food preparation and cooking	A recipe is set of instructions for preparing a dish and includes a list of the ingredients required. Follow instructions, including simple recipes, that include measures and ingredients.	Using nonstandard measures is a way of measuring that does not involve reading scales. For example, weight may be measured using a balance scale and lumps of plasticine. Length may be measured in the number of hand spans or pencils laid end to end. Measure and weigh food items using non-standard measures, such as spoons and cups	Some ingredients need to be prepared before they can be cooked or eaten. There are many ways to prepare ingredients: peeling skins using a vegetable peeler, such as potato skins; grating hard ingredients, such as cheese or chocolate; chopping vegetables, such as onions and peppers and slicing foods, such as bread and apples. Prepare ingredients by peeling, grating, chopping and slicing.
Nutrition	There are healthy and unhealthy foods. Fruit and vegetables are an important part of a healthy diet. Suggest healthy ingredients that can be used to make simple snacks.	Fruit and vegetables are an important part of a healthy diet. It is recommended that people eat at least five portions of fruit and vegetables every day. Select healthy ingredients for a fruit or vegetable salad.	A healthy diet should include meat or fish, starchy foods (such as potatoes or rice), some dairy foods, a small amount of fat and plenty of fruit and vegetables. Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.

Origins of food	Food comes from different sources, including from animals, such as meat, fish, eggs and dairy, or from plants, such as fruit and vegetables. Begin to identify the origins of some foods	Some foods come from animals, such as meat, fish and dairy products. Other foods come from plants, such as fruit, vegetables, grains, beans and nuts. Sort foods into groups by whether they are from an animal or plant source.	Food comes from two main sources: animals and plants. Cows provide beef, sheep provide lamb and mutton and pigs provide pork, ham and bacon. Examples of poultry include chickens, geese and turkeys. Examples of fish include cod, salmon and shellfish. Milk comes mainly from cows but also from goats and sheep. Most eggs come from chickens. Honey is made by bees. Fruit and vegetables come from plants. Oils are made from parts of plants. Sugar is made from plants called sugar cane and sugar beet. Plants also give us nuts, such as almonds, walnuts and hazelnuts. Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables).
Compare and contrast	Aspects of designing and making can be compared with others, including inspiration for making a product and the tools and techniques used. Describe what, why and how something was made and compare with others.	Two products can be compared by looking at a set of criteria and scoring both products against each one. Describe the similarities and differences between two products.	Products can be compared by looking at particular characteristics of each and deciding which is better suited to the purpose. Compare different or the same products from the same or different brands.
Significant people	Some products are significant because they have changed the way people live their lives. Explore significant products.	The importance of a product may be that it fulfils its goals and performs a useful purpose. Describe why a product is important.	Many key individuals have helped to shape the world. These include engineers, scientists, designers, inventors and many other people in important roles. Explain why a designer or inventor is important.