



Year 2 DT Step Up 2022-23

Aspect	Year 1	Year 2	Year 3
Everyday products	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. covered x 2	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. (DT 1) covered x 2	Particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box. Explain how an existing product benefits the user. covered x 2
Staying 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. covered x 2 optional x 2	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. (DT 2) covered optional x 7	Electrical appliances must only be used under the supervision of an adult. Safety rules must also be followed when using electricity: fingers and other objects must not be put into electrical outlets, anything with a cord or plug should never be used around water and a plug should never be pulled out by its cord. Use appliances safely with adult supervision. covered optional x 3
Mechanisms and movement	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. covered x 2	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. (DT 3) covered x 4	Lever consists of a rigid bar that rotates around a fixed point, called a fulcrum. They reduce the amount of work needed to lift a heavy object. Sliders move from side to side or up and down, and are often used to make moving parts in books. Axles are shafts on which wheels can rotate to make a moving vehicle. Cams are devices that can convert circular motion into up-and-down motion. Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products. covered x 3 optional
Electricity			
Generation of ideas	Design criteria are the explicit goals that a project must achieve. Create a design to meet simple design criteria. covered x 4	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. (DT 4) covered x 4 optional x 3	Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. Develop design criteria to inform a design. covered x 3
Structures	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	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. (DT 5) covered x 3 optional x 4	Shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts can strengthen the structure. Create shell or frame structures using diagonal struts to strengthen



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	using a range of materials. covered x 7 optional		them. covered
Use of ICT			
Investigation	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. covered optional	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. (DT 6) covered x 4 optional	Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision. Use tools safely for cutting and joining materials and components. covered x 4 optional
Evaluation	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. covered x 3 optional	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. (DT 7) covered x 4	Asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model. Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. covered x 4 optional
Cutting and joining textiles	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. covered	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. (DT 8) covered	A loom is a piece of equipment that is used for making fabric by weaving wool or thread. Weaving involves interlacing pieces of thread or yarn. Cut and join wools, threads and other materials to a loom. covered
Materials for purpose	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. covered x 2 optional x 2	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. (DT 9) covered x 5	Materials for a specific task must be selected on the basis of their properties. These include physical properties as well as availability and cost. Plan which materials will be needed for a task and explain why. covered x 2 optional
Decorating and embellishing textiles	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	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. (DT 10) covered	A loom weaving is a piece of fabric that has been woven on a loom by interlacing threads. An embellishment is a decorative detail or feature, such as a silk flower, tassel or bow, added to something to make it more attractive. Decorate a loom weaving using embellishments, such as



	sequins. covered		natural or silk flowers, tassels and bows. covered
Food preparation and cooking	Using non-standard 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 handspans or pencils laid end to end. Measure and weigh food items using non-standard measures, such as spoons and cups. covered optional	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. (DT 11) covered	Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning. Prepare and cook a simple savoury dish. covered x 3
Nutrition	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. covered	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. (DT 12) covered	There are five main food groups that should be eaten regularly as part of a balanced diet: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese and yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet. Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars). covered
Origins of food	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. covered	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). (DT 13) covered	The types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England. Identify and name foods that are produced in different places. covered
Compare and contrast	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. covered x 2 optional	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. (DT 14) covered optional	Work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market. Explain the similarities and difference between the work of two designers. covered



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Significant people	The importance of a product may be that it fulfils its goals and performs a useful purpose. Describe why a product is important. <input checked="" type="checkbox"/> covered <input type="checkbox"/> optional	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. (DT 15) <input checked="" type="checkbox"/> covered x 2	Key inventions in design and technology have changed the way people live. Describe how key events in design and technology have shaped the world. <input checked="" type="checkbox"/> covered <input type="checkbox"/> optional
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