## The DT Curriculum

## Year 2

## Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

## Design

- 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 communication technology


## Make

- 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


## Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria


## Technical knowledge

- 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.


## Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

## Design

- 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, pattern pieces and computer-aided design


## Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
 aesthetic qualities


## Evaluate

- 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


## Technical knowledge

- 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 computing to program, monitor and control their products.


## 4 Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

## Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.


## Key stage 2

- 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


## National Curriculum

## National Curriculum objectives

- Explore and evaluate a range of existing products.
- Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.
- Design purposeful, functional, appealing products for themselves or other users based on design criteria.
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- 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


## Prior Learning

EYFS:

- Develop threading and weaving skills.
- Develop their fine motor skills so that they can use a range of tools competently, safely and confidently.
- Practice and apply weaving skills to specific materials.
- Created a product using a design.
- Reflected on what they have achieved.

Year 1

- Know joining technique means connecting two pieces of materials.
- Know that there are various methods of joining fabric e.g., glue, pins or staples.
- Know that a template is used to cut out the same shape multiple times.
- Know that a design is useful to see how an idea will look.


## Future Learning

## Year 4

- Know that a fastening is something that holds two pieces of material together.
- Know that different fastening types are useful for different purposes.

Year 5

- Know that a blanket stitch is useful to reinforce edges of fabric or join two fabrics together.
- Know small, neat stitches which are pulled taut see important to ensure the toy is strong and holding stuffing securely.

| Design | Make |
| :--- | :--- |
| • Design a pouch | - Selecting and cutting fabrics for <br> (sewing <br> Decorating a pouch using fabric <br> glue or running stitch |

## Substantive Knowledge Acquired in the Unit

- Know that sewing is a method of joining fabric.
- Know a running stitch is a style of sewing.
- Know the importance of tying a knot after sewing the final stitch.
- Know a thimble can used to protect fingers when sewing.


## Disciplinary Knowledge Acquired in the Unit

## Marking out and cutting

- Use templates and patterns on fabric, pinning, tracing around outline of component parts
- Cutting fabric with precision

Fixing and joining

- Develop a basic sewing technique- starting, ending, running stitch to join fabric
- Develop a range of techniques to join fabrics- stitching


## Key Skills Acquired in the Unit

- Designing a pouch.
- Selecting and cutting fabrics for sewing
- Decorating a pouch using fabric glue or running stitch.
- Threading a needle.
- Sewing running stitch, with evenly spaced, neat, even stitches to join fabric.
- Neatly pinning and cutting fabric using a template.
- Troubleshooting scenarios posed by teacher.
- Evaluating the quality of the stitching on others' work.
- Discussing as a class, the success of their stitching against the success criteria.
- Identifying aspects of their peers' work that they particularly like and why.


## Misconceptions

## Some children may think:

- You can only sew around the edge of products.
- Sewing is only to join products.
- Glue is the strongest product to use


## By the end of this unit pupils will:

- Sew a running stitch with regular-sized stitches and understand that both ends must be knotted.
- Prepare and cut fabric to make a pouch from a template.
- Use a running stitch to join the two pieces of fabric together.
- Decorate their pouch using the materials provided.


## Medium Term Planning

|  | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Retrieval | Flashback 4 <br> Question 1: What is the person in the picture doing? (Threading, weaving, cutting, gluing) Question 2: What can you use to draw around? (Design, label, template, fabric) <br> Question 3: What is the person in the picture using | Flashback 4 <br> Question 1: What is the person in the picture using to join the fabrics together? (Staples, glue, pins) <br> Question 2: What should you do before making a product to see what an idea will look like? (Design, label, template, fabric) | Flashback 4 <br> Question 1: What is the person in the picture doing? (gluing, cutting, stapling, sewing) <br> Question 2: What tool do you use to sew with? (Scissors, glue stick, stapler, needle) Question 3: What do you call the part of the needle you put | Flashback 4 <br> Question 1: What is the first step when sewing a running stich? (knot the needle, start the stitch from the bottom going up and down, thread the needle, knot the last stich) Question 2: What is the second step when sewing a running stich? (knot the needle, start the stitch from | Flashback 4 <br> Question 1: What word do we use to describe adding decorations to the product? (threading, knotting, shaping, embellish) <br> Question 2: When sewing a running stich, stitches should be $\qquad$ and close together so they are strong. (large, small, round, together) |


|  | to join the fabrics together? (Staples, glue, pins,), Question 4: What is the person in the picture using to join the fabrics together? (Staples, glue, pins), | Question 3: What is the picture of? (fabric, needle, template, thread) <br> Question 4: What word is missing? 'A running stitch is a style of sewing in a $\qquad$ line with no overlapping. (curvy, wavy, straight, round) | the thread through? (nose, eye, ear, mouth) <br> Question 4: What can you use to join fabrics together? (Glue, staples, pins, thread) | the bottom going up and down, thread the needle, knot the last stich) <br> Question 3: What is the third step when sewing a running stich? (knot the needle, start the stitch from the bottom going up and down, thread the needle, knot the last stich) Question 4: What is the final step when sewing a running stich? (knot the needle, start the stitch from the bottom going up and down, thread the needle, knot the last stich) | Question 3: What is the person in the picture doing? <br> (Threading, weaving, cutting, gluing) <br> Question 4: What can you use to join fabrics together? (Glue, staples, pins, thread) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Learning Objective: | To sew a running stitch. | To design a pouch | To use a template | To join fabrics using a running stitch <br> To embellish the product. | To evaluate my product |
| Key vocabulary | Tier 2 <br> Threading <br> Knotting <br> Shaping <br> Template <br> Embellish <br> Design <br> Evaluate <br> Tier 3 <br> Stencil <br> Running-stitch <br> Cotton <br> Pouch <br> Eye | Tier 2 <br> Threading <br> Knotting <br> Shaping <br> Template <br> Embellish <br> Design <br> Evaluate <br> Tier 3 <br> Stencil <br> Running-stitch <br> Cotton <br> Pouch <br> Eye | Tier 2 <br> Threading <br> Knotting <br> Shaping <br> Template <br> Embellish <br> Design <br> Evaluate <br> Tier 3 <br> Stencil <br> Running-stitch <br> Cotton <br> Pouch <br> Eye | Tier 2 <br> Threading <br> Knotting <br> Shaping <br> Template <br> Embellish <br> Design <br> Evaluate <br> Tier 3 <br> Stencil <br> Running-stitch <br> Cotton <br> Pouch <br> Eye | Tier 2 <br> Threading <br> Knotting <br> Shaping <br> Template <br> Embellish <br> Design <br> Evaluate <br> Tier 3 <br> Stencil <br> Running-stitch <br> Cotton <br> Pouch <br> Eye |
| Possible outcome | Children will have practiced a running stitch on felt using a needle and thread. | Children will have designed a Christmas themed pouch. | Children will have cut their fabric to the correct size using templates. | Children will have made their pouch using a running stitch and added details using glue. | Children will complete an evaluation on their pouch. |

## Year 2

## National Curriculum

National Curriculum objectives

- build structures, exploring how they can be made stronger, stiffer and more stable
- design purposeful, functional, appealing products for themselves and other users based on design criteria
- select from and use a range of tools and equipment to perform practical tasks (e.g. cutting, shaping, joining and finishing)
- Explore and evaluate a range of existing products

Cross-Curricular Links:

## Maths- Identify common 2D shapes

| Prior Learning | Future Learning |
| :--- | :--- |


|  |  | Year 3 <br> - Know how to change the thickness of a stick. <br> - Know how to change the shape of a stick. <br> - Know how to use a knife safely to create a point on the end of a stick. <br> - Know what a fore hand grip is. <br> Year 5 <br> - Know a drill is a machine with a rotating cutting tip used for making holes. <br> - Know a crook knife is a woodworking knife with a curved end. <br> - Know that the fore hand grip can be used to remove any sharp bits from the wood. <br> - Know how to use a tape measure to measure in centimeters. <br> - Know where to place the legs to make the stool secure. <br> - Know how to safely use tools such as knife and drill. |  |
| :---: | :---: | :---: | :---: |
| Design | Make | Evaluate | Technical Knowledge |
| - Generate ideas based on a simple design criterion and their own experiences, exploring what they could make. <br> - Develop, model and communicate their ideas through talking, mockups and drawings. | - Plan by suggesting what to do next. <br> - Select and use tools, skills and techniques, explaining their choices. <br> - Select new and reclaimed materials to build their product. <br> - Use simple finishing techniques suitable for the product they are creating. | - Evaluate the product by discussing how well it works in relation to its purpose, the user and whether it meets the original design criteria. | - Know how to make the product stronger, stiffer and more stable. |

## Substantive Knowledge Acquired in the Unit

- know the purpose of a structure.
- know the importance of a clear design criteria.
- know wood can be changed in different ways.
- know how to spilt wood into small fractions.


## - know some wood can be flexible and some wood can be rigid

## Disciplinary Knowledge Acquired in the Unit

## Marking out and cutting

- Apply basic measuring skills.
- Use simple models to plan out use of space or a structure might be marked out in order to be made

Finishing

- Know about and apply different finishing techniques.


## Key Skills Acquired in the Unit

- Follow instructions to cut and assemble supporting structures.
- Spilt wood into small fractions.
- Follow a template to create a design.
- Manipulate flexible materials.
- Evaluate own products and make suggestions on improvements


## Misconceptions

## Some children may think

- Thinner pieces of wood are always flexible.
- Secateurs and loopers are the only tools to use for cutting wood.
- It doesn't matter how big or small the hoops and sticks are in the game


## By the end of this unit pupils will:

- Use a tools such as secateurs and loppers to change and manipulate wood
- Generate and communicate ideas.
- Select and use tools, skills and techniques, explaining their choices.
- Design a game based on a target audience.
-Test and evaluate the effectiveness of the game.


## Medium Term Planning

|  | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Retrieval | Flashback 4 <br> Question 1: Which word best describes something that doesn't break easily. (Weak, strong, smooth, rough) <br> Question 2: Which word best describes something that does break easily? <br> (Weak, strong, smooth, rigid) <br> Question 3: Which tool can you see in the picture? (Scissors, peeler, stapler, ruler) | Flashback 4 <br> Question 1: Which tool can you see in the picture? <br> (Loppers, secateurs, children's scissors, adult scissors), <br> Question 2: Which tool can you see in the picture? <br> (Loppers, secateurs, children's scissors, adult scissors) <br> Question 3: Which tool would you use to cut this piece of wood in the picture? Loppers, secateurs, | Flashback 4 <br> Question 1: Which word is used to describe when we put something together? <br> (Structure, rigid, manipulate, assemble) <br> Question 2: Which word is used to describe when a material is changed? <br> Structure, rigid, manipulate, assemble) <br> Question 3: Which tool would you use to cut this piece of wood in the picture? Loppers, | Flashback 4 <br> Question 1: Look at the picture. Which words would you use to describe this piece of wood? (Rigid, weak, flexible, strong) <br> Question 2: Look at the picture. Which words would you use to describe this piece of wood? (Rigid, weak, flexible, strong) <br> Question 3: Which tool would you use to cut this piece of wood in the picture? Loppers, | Flashback 4 <br> Question 1: Look at the picture. Which words would you use to describe this piece of wood? (Rigid, weak, flexible, strong) Question 2: Look at the picture. Which words would you use to describe this piece of wood? (Rigid, weak, flexible, strong) Question 3: Which tool would you use to cut this piece of wood in the picture? Loppers, secateurs, children's scissors, adult scissors) |


|  | Question 4: Which tool is being used in the picture to measure? Scissors, peeler, stapler, ruler) | children's scissors, adult scissors) <br> Question 4: Which tool would you use to cut this piece of wood in the picture? Loppers, secateurs, children's scissors, adult scissors) | secateurs, children's scissors, adult scissors) <br> Question 4: What should you do before making a product to see what an idea will look like? (Design, label, manipulate, assemble) | secateurs, children's scissors, adult scissors) <br> Question 4: Which tool would you use to cut this piece of wood in the picture? Loppers, secateurs, children's scissors, adult scissors) | Question 4: Which tool would you use to cut this piece of wood in the picture? Loppers, secateurs, children's scissors, adult scissors) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Learning Objective: | To know which tool to use for which thickness of wood To measure and cut accurately using a ruler | To manipulate flexible material. | To design a child's hoop game. | To make a hoop game. | To evaluate the game. |
| Key vocabulary | Tier 2 <br> Flexible <br> Rigid <br> Thickness <br> Structure <br> Assemble <br> stable <br> Tier 3 <br> Secateurs <br> Loppers <br> Length | Tier 2 <br> Flexible <br> Rigid <br> Thickness <br> Structure <br> Assemble <br> Manipulate <br> stable <br> Tier 3 <br> Secateurs <br> Loppers <br> Length | Tier 2 <br> Flexible <br> Rigid <br> Thickness <br> Structure <br> Assemble <br> stable <br> Tier 3 <br> Secateurs <br> Loppers <br> Length | Tier 2 <br> Flexible <br> Rigid <br> Thickness <br> Structure <br> Assemble <br> stable <br> Tier 3 <br> Secateurs <br> Loppers <br> Length | Tier 2 <br> Flexible <br> Rigid <br> Thickness <br> Structure <br> Assemble <br> Evaluate <br> stable <br> Tier 3 <br> Secateurs <br> Loppers <br> Length |
| Possible outcome | Children will use the appropriate tools to cut different thicknesses of wood. Ch will measure out given lengths of wood and cut to that length. | Children will find a range of flexible and rigid pieces of wood and sort them. They will manipulate flexible materials into different shapes. | Children will design a hoop game with measurements following a design brief. | Children will use rulers to measure out the correct lengths of wood. They will then use tools to cut and assemble their hoop games following their design briefs. | Children will test their games in partners. <br> Children will then evaluate their games. |

## National Curriculum

## National Curriculum objectives:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.
- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Evaluate their ideas and products against design criteria


## Cross-Curricular Links:

- Maths: Compare and order mass, volume/capacity and record results using greater than, less than and equal too.


## Prior Learning

EYFS

- Know the names of different types of fruit and vegetables.
- Know how to safely use a knife to cut up foods into smaller pieces.
- Know that different ingredients can be put together to make meal.
- Know it is important to wash hands before preparing food.
- Know different equipment can be used to cook equipment.

Year 1

- Understand the difference between fruit and vegetables.
- Know a blender mixes ingredients together into a liquid.
- Know vegetables grow either above or below the ground.
- Know some foods typically known as vegetables are actually fruits (e.g., cucumber)
- Know fruits grow on trees or vines.
- Know fruits have seeds and vegetables do not.
- Know vegetables can come from different parts of a plant.


## Future Learning

Year 3

- Know that not all fruits and vegetables can be grown in the UK.
- Know that climate affects food growth.
- Know that vegetables and fruit grow in certain seasons.
- Know that cooking instructions are known as a 'recipe'.
- Know that imported food is food that has been brought into the country. Year 5
- Know where meat comes from.
- Know that I can adapt a recipe to make it healthier by substituting ingredients.
- Know that I can use a nutritional calculator.
- Know that cross-contamination means that bacteria and germs have been passed onto ready to eat foods.
Year 6
- Know that many countries have national dishes which are recipes associated with that country.
- Know that processed food means food that has been put through multiple changes in a factory.
- Know it's important to wash fruit and vegetables before eating to remove any dirt or insecticides.


## Evaluate

- Describing the taste, texture and smell of fruit and vegetables
- Taste testing food combinations and final products
- Describing the information that should be included on a label


## Technical Knowledge

- Understanding what makes a balanced diet
- Knowing where to find the nutritional information on packaging
- Knowing the five food groups

- Know what 'hidden sugars' are.
- Know where to find the nutritional information on a drinks container
- Know that there are five food groups, made up of:
- fruit and vegetables
- starchy carbohydrates
- proteins
- dairy
- oils and spreads
- Know roughly how much of each food group I should eat each day.
- Know that the most ideal ingredient combinations for my wrap will contain foods from more than one food group.
- Know how to prepare food safely using the correct tools


## Disciplinary Knowledge Acquired in the Unit

## Finishing, including food hygiene.

- Know the nutritional value of food stuffs in a balanced diet.
- Safely use a variety of tools and equipment to peel, cut, grate, mix and mould food.


## Key skills Acquired in the Unit

- Designing a healthy wrap based on a food combination which works well.
- Slicing food safely using the bridge and claw grip.
- Constructing a wrap that meets a design brief.
- Describing the taste, texture and smell of fruit and vegetables.
- Taste testing food combinations and final products.
- Describing the information that should be included on a label.
- Evaluate which grip was most effective.


## Misconceptions

Some children may think:

- Some foods, including those with sugar should not be eaten at all.


## By the end of this unit pupils will:

- Name the main food groups and identify foods that belong to each group.
- Describe the taste, texture and smell of a given food.
- Think of four different wrap ideas, considering flavour combinations.
- Construct a wrap that meets the design brief and their plan


## Medium Term Planning

|  | Lesson 1 | Lesson 2 | LeSSOn 3 | LeSSOn 4 | LeSSOn 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Retrieval | Flashback 4 <br> Question 1: Which one of <br> these foods is a fruit? | Flashback 4 <br> Question 1: What do we <br> mean by diet? How animals | Flashback 4 <br> Question 1: How do we <br> identify fruit? Its colour, its | Flashback 4 <br> Question 1: Sugar cane plants <br> are grown on a | Flashback 4 <br> Question 1: What are <br> ingredients? Equipment used to |


|  | (broccoli, onion, spinach, grapes) <br> Question 2: Which one of these foods is a fruit? <br> (celery, pepper, parsnip, lettuce) <br> Question 4: What do we use to mix ingredients together into a smooth liquid? (oven, blender, knife, microwave) <br> Question 4: What tool is used to remove the tough skin off fruit and vegetables? (knife, spoon, peeler, fork) | and humans prepare food, the food and drink animals and humans usually eat in a day, eating the same food everyday <br> Question 2: Which one of these is a vegetable? (strawberry, potato, pineapple, blueberry) Question 3: To keep healthy, what is the maximum of teaspoons of sugar you should have? $(2,3,4,5)$ Question 4: How many portions of fruit should we aim to eat per day? $(3,5,4$, 2) | taste, its shape, check for seeds) <br> Question 2: Which food group does milk belong to? (carbohydrates, dairy, protein, fruits) <br> Question 3: Which food group does chicken belong to? (carbohydrates, dairy, protein, fruits) <br> Question 4: When fully grown, sugar cane plants get $\qquad$ by a tractor. (crushed, packaged, harvested, washed) | (factory, shop, farm, playground) <br> Question 2: The plants are crushed for their juice. This is called $\qquad$ (evaporation, crystal, harvested, extraction) Question 3: The liquid is $\qquad$ from the juice to leave a paste. (crushed, spined, packaged, evaporated) Question 4: The paste is put in a large $\qquad$ which will spin until sugar crystal form. (factory, farm, shop, drum) | cook food, items that make up a mixture, kitchen appliances that story food. <br> Question 2: What are nutrients? The bacteria in rotten food that makes us poorly, the colour of different food, the smell of food, substances in food that all living things need to grow, develop and make energy Question 3: What is the job of a fridge? Freezes food, keeps food and drink cold to last longer, storage for food. <br> Question 4: Which food group does fish belong to? (protein, fruit, diary, carbohydrates) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Learning Objective | To know what hidden sugars are. | To know what makes a balanced diet. | To design a healthy wrap. | To make a healthy wrap. | To evaluate my final product. |
| Key vocabulary | Tier 2 <br> Balanced <br> Healthy <br> Alternative <br> Tier 3 <br> Diet <br> Sugars <br> Nutrients <br> Packaging <br> Ingredients <br> Hidden | Tier 2 <br> Balanced <br> Healthy <br> Alternative <br> Tier 3 <br> Carbohydrate <br> Dairy <br> Ingredients <br> Oils <br> Protein <br> Sugars <br> Hidden | Tier 2 <br> Balanced <br> Healthy <br> Alternative <br> Tier 3 <br> Carbohydrate <br> Dairy <br> Ingredients <br> Oils <br> Protein <br> Sugars <br> Hidden | Tier 2 <br> Balanced <br> Healthy <br> Alternative <br> Tier 3 <br> Carbohydrate <br> Dairy <br> Ingredients <br> Oils <br> Protein <br> Sugars <br> Hidden | Tier 2 <br> Balanced <br> Healthy <br> Alternative <br> Evaluate <br> Tier 3 <br> Carbohydrate <br> Dairy <br> Ingredients <br> Oils <br> Protein <br> Sugars <br> Hidden |
| Possible outcome | Children use drink container labels to read and record sugar levels on a chart. | Children sort food into five food groups. | Children taste foods from each food group using a knife safely. Then use their preferences from each group to design their own healthy wrap. | Children will make their own wrap using their design, using a knife safely. | Children will complete an evaluation for their wrap. |

