



At Rush Green school, we have developed our curriculum to give children opportunities to develop meaningful experiences of different strands of DT including textiles, cooking and nutrition, strengthening structures, electrical products and mechanical systems. Children will develop their understanding of the designing process. These skills of evaluating, making and designing are key skills. While technology may change over time, these stages of production will remain relevant. As children progress their skills and knowledge, they will be encouraged to be resilient, independent and to take risks with innovation and design decisions. By year 6, the curriculum will have provided the chance for all children to have a broad understanding of DT and the impact technology has on society. They will have started to develop life skills that they will continue to build on in the next stage of their life.

## Textiles

Progression in the Curriculum:

Design and Technology

| Year Group | Wider Opportunities and Experiences                          |
|------------|--------------------------------------------------------------|
| 6          | Enterprise Maths week                                        |
|            | Science day: marshmallow tallest structures with parents     |
|            | World Earth day                                              |
|            | Show and tell                                                |
|            | Crafts club                                                  |
| 5          | Harry potter world design workshop                           |
|            | Enterprise Maths week                                        |
|            | Science day: marshmallow tallest structures with parents     |
|            | Taster day at Royal Liberty                                  |
|            | World Earth day                                              |
| 4          | Show and tell                                                |
|            | Crafts club                                                  |
|            | Enterprise Maths week                                        |
|            | Science day: marshmallow tallest structures with parents     |
|            | World Earth day                                              |
| 3          | Show and tell                                                |
|            | Cooking workshop– Royal academy of Culinary Arts with a chef |
|            | Science– creating a sound studio                             |
|            | Enterprise Maths week                                        |
|            | Science day: marshmallow tallest structures with parents     |
| 2          | World Earth day                                              |
|            | Show and tell                                                |
|            | Pancake day                                                  |
|            | Enterprise Maths week                                        |
|            | Science day: marshmallow tallest structures with parents     |
| 1          | World Earth day                                              |
|            | Show and tell                                                |
|            | Trip to farm                                                 |
|            | Enterprise Maths week                                        |
|            | Science day: marshmallow tallest structures with parents     |
|            | World Earth day                                              |
|            | Show and tell                                                |
|            | Topic cooking                                                |
|            | Large scale Construction projects (e.g. bottle igloo)        |

| Grade            | Period | Key Vocabulary                                |                           |                    |
|------------------|--------|-----------------------------------------------|---------------------------|--------------------|
|                  |        | General terms:                                |                           |                    |
| 6                |        | Function                                      | Purpose                   | Innovation         |
|                  |        | Design specification                          | Design decisions          | Annotated sketch   |
|                  |        | Authenticity                                  | Evaluate                  | Properties         |
|                  |        | Prototype                                     | User                      | Research           |
|                  |        | Design brief                                  | Investigate               | Investigate        |
|                  |        | Materials                                     | Tools                     | Diagram            |
|                  |        | Celebrating food choices and adapting recipes |                           |                    |
|                  |        | Flavour                                       | Balanced diet             | Healthy            |
|                  |        | Hygienic                                      | Appearance                | Substitute         |
|                  |        | Recipe                                        | Spice, herbs              | Ingredients        |
| 5                |        | Quantity                                      | Slice, Grate, Peel, chop  | Reared, Cattle     |
|                  |        | Simmer                                        |                           |                    |
|                  |        | Weighting scales                              | Mix, pour, stir, combine  | Nutritional values |
|                  |        | Mechanical Systems                            |                           |                    |
|                  |        | Drive belt                                    | Pulley                    | Spindle            |
|                  |        | Carousel                                      | Gear, Axle                | Annotated sketches |
|                  |        | Rotation                                      | Driver                    | Follower           |
|                  |        | Electrical systems                            |                           |                    |
|                  |        | Fault, Crocodile clips                        | Microcontroller           | Switch name        |
|                  |        | Debug                                         | Printer holder            | Program System     |
| 4                |        | Motor                                         | Connection                | Input/output       |
|                  |        |                                               | USB cable                 | Wire stripper      |
|                  |        | General terms:                                |                           |                    |
|                  |        | Function                                      | Purpose                   | Innovation         |
|                  |        | Design specification                          | Design decisions          | Annotated sketch   |
|                  |        | Authenticity                                  | Evaluate                  | Properties         |
|                  |        | Prototype                                     | User                      | Research           |
|                  |        | Design brief                                  | Investigate               | Investigate        |
|                  |        | Materials                                     | Tools                     | Diagram            |
|                  |        | Celebrating culture and adapting recipes      |                           |                    |
| 3                |        | Traffic lights                                | Balanced diet             | Nutritional values |
|                  |        | Hygienic                                      | Appearance                | Substitute         |
|                  |        | Recipe                                        | Flavour                   | Ingredients        |
|                  |        | Fibre                                         | Slice, Grate, chop, Stir  | Healthy            |
|                  |        | Soil                                          |                           | Adapt              |
|                  |        | Weighting scales                              | Mix, knead, stir, combine | Spice herbs        |
|                  |        | Frame structures                              |                           |                    |
|                  |        | Join                                          | Frame structure           | Temporary          |
|                  |        | Shape                                         | Triangulation             | Permanent          |
|                  |        | Stiffness                                     | Stability                 | Reinforce          |
| 2                |        | Wood glue                                     | Square-sectioned wood     | Hacksaws G-clamp   |
|                  |        | Bench hooks                                   | Masking tape              | Joints             |
|                  |        | Textiles:                                     |                           |                    |
|                  |        | Seam                                          | Seam allowance            | stitches           |
|                  |        | Zip                                           | Right/wrong side          | Fastenings         |
|                  |        | Pins                                          | Pattern pieces            | Needles            |
|                  |        | Thread                                        | Appliqué                  |                    |
|                  |        | General terms:                                |                           |                    |
|                  |        | Function                                      | Purpose                   | Innovation         |
|                  |        | Design criteria                               | Annotated sketch          | Appeal User        |
| 1                |        | Investigates                                  | Evaluate                  | Properties         |
|                  |        | Materials                                     | Tools                     | Diagram            |
|                  |        | Seasonality and a healthy diet: Tarts         |                           |                    |
|                  |        | Healthy                                       | Food groups               | Seasonality        |
|                  |        | Hygienic                                      | Appearance                | Preference         |
|                  |        | Recipe                                        | Flavour                   | Ingredients        |
|                  |        | Taste, Texture                                | Slice, Cut, Grate, Peel   | Balanced diet      |
|                  |        | Seasonally                                    | Importing                 | Climate            |
|                  |        | Shell structures                              |                           |                    |
|                  |        | Shell, Tabs                                   | Scoring                   | Edge,              |
| E<br>Y<br>F<br>S |        | 3D, Net                                       | Stiff                     | Stable             |
|                  |        | CAD                                           | Vertex                    | Strengthen         |
|                  |        | Marking out                                   | Prototype                 | Packaging          |
|                  |        | Electrical systems                            |                           |                    |
|                  |        | Fault                                         | Series circuit            | Switch name        |
|                  |        | Crocodile clip                                | Micro-controller          | Program, System    |
|                  |        | Debug                                         | Connection                | Input/output       |
|                  |        | Control                                       | Device                    | Crumble            |
|                  |        | General Terms                                 |                           |                    |
|                  |        | Function                                      | Purpose                   | Innovation         |
| 2                |        | Design criteria                               | Annotated sketch          | Appeal User        |
|                  |        | Investigate                                   | Evaluate                  | Properties         |
|                  |        | Materials                                     | Tools                     | Diagram            |
|                  |        | Healthy and varied diets: Sandwich wraps      |                           |                    |
|                  |        | Healthy                                       | Food groups               | Processed          |
|                  |        | Hygienic                                      | Appearance                | Preference         |
|                  |        | Recipe                                        | Flavour                   | Ingredients        |
|                  |        | Texture, Five tastes                          | Chopping board            | Balanced diet      |
|                  |        | Harvested                                     | Slice, Cut                | Frozen             |
|                  |        | Fresh                                         | Grate, Peel               | Tinned             |
| 1                |        | Textiles                                      |                           |                    |
|                  |        | Needle                                        | Pattern pieces            | Aesthetics         |
|                  |        | Seam                                          | Stitch types              | Fastening          |
|                  |        | Thread                                        | Template                  | Applique           |

**Yrs: Combining different fabric shapes: A pencil case**

Children will use research to explore the aesthetic styles and functions of pencil cases. They will consider the different uses of these and how they can be designed.

Children will use research and their own experiences to make design decisions and create a design specification where they understand how the purpose is dependent on the user.

Children will generate, develop and model their ideas through discussion, annotated sketches and cross-sectional diagrams.

Children will create 3D products from a combination of accurately made fabric shapes and with different finishes, demonstrating their sewing skills to improve the appearance and consistency of a range of stitches. They will also practise the blanket stitch.

Children will evaluate their design decisions, purpose, functionality, authenticity and innovation, of their product.

**Year 4: Shell structures: Fruit packaging**  
To evaluate a range of existing products, exploring packaging and how these products are strengthened.  
Chn will create design criteria to help them design an innovative, functional product that is purposeful and has a clear user by generating ideas through discussion and annotated sketches  
Chn will select and use a range of appropriate tools safely with some accuracy for cutting, joining and finishing.  
Chn will use CAD to make their product.  
Chn will evaluate the purpose, user, functionality and innovation of their product against the design brief.

**Year 4: Simple programming and control: Nightlight**

- Chn will investigate and evaluate the design criteria for different types of lights.
- Their design must be an innovative, functional product that is purposeful and has a clear user that they have created. They will generate realistic ideas through discussion and annotated sketches, focusing on the needs of the user.
- Chn will have the experience of writing and modifying a program to make a light turn on or flash on or off.
- Chn will select from a wide range of materials to create an innovative and purposeful product for their intended user.
- Chn will evaluate the purpose, functionality, appeal, innovation and the user of their product.

**Year 3: Pneumatics: Moving Monster toy**

Chn will evaluate products that use pneumatics (air), considering the input, output and purpose.

Chn will design an innovative, functional product that is purposeful and has a clear user. They will generate realistic ideas through discussion and annotated sketches, focusing on the needs of the user

Chn will select from and use appropriate tools with some accuracy to cut, shape and join paper and card.

Chn will create prototypes to develop help develop their final idea

Chn will evaluate the purpose, functionality, appeal, innovation and the user of their product.

## Year 2: Wheels and axles: Skateboard

Chn will explore and evaluate a range of wheeled products. They will consider the user and purpose of vehicles. Chn will investigate the shapes of wheels and how it impacts movement.

Chn will use discussion and drawings to generate ideas that are in line with the design criteria

Chn will create a skateboard with wheels and axles considering their design and selecting a range of tools to allow movement and materials such as paper, card, plastic and wood.

Chn will evaluate their dislikes and likes about their product in regards to functionality, purpose and appeal and in regards to the design criteria.

## Year 2: Templates and Joining: T-Shirts

Chn will explore and use a range of T-Shirts and discuss their purpose.

Chn will use discussion and drawings to generate and develop ideas of a design that must be functional, appealing and fit-to purpose in line with design criteria

Chn to select from and use a range of equipment and materials to join fabrics using running stitch, glue, over-stitch and/or stapling.

Chn will use different finishing techniques such as using paint, fabric crayons, stitching, sequins, buttons and ribbons.

Chn will evaluate their dislikes and likes about their product in regards to functionality, purpose and appeal and in regards to the design criteria.

**Year 2: Preparing fruit and vegetables Salads**

- Chn will explore a range of fruit and vegetables and recognise their differences and how they grow.
- Chn to understand what healthy eating is and that fruits and vegetables are an important part
- Chn will use discussion of experiences and drawings to generate and develop ideas.
- Chn will cut, peel or grate ingredients safely and hygienically using simple utensils and equipment. They will also practise chopping using the claw technique
- Chn will evaluate their dislikes and likes about their product in regards to simple design criteria.

**Year 1: Free-standing structures: Playground equipment**

Chn will explore a range of playground equipment using photos and construction kit to help them to develop their ideas.

To use discussion and drawings to generate ideas

The design must use their own experiences to be original and fit-to-purpose in line with design criteria

Chn will select tools and materials chosen by their teacher to cut, shape and join paper and card.

Chn to make structures stronger using resources such as tape, glue and staples.

Chn will evaluate their dislikes and likes about their product in regards to its functionality, purpose and appeal.

**Year 1: Sliders and Levers: Mr Men/Little Miss moving picture**

Chn will explore a range of pop up books that use simple sliders and levers and to understand that different mechanisms produce different types of movement.

To use discussion and drawings to generate ideas from an imaginary, story-based context.

Chn will design a functional, and fit-to-purpose product in line with design criteria.

Chn to develop their skills by replicating the slider and lever mechanisms aids. Chn will select tools and materials chosen by their teacher.

Chn will evaluate their dislikes and likes about their product in regards to its functionality, purpose and appeal.

**Year 1: Preparing fruit: Fruit Kebab**

Chn will explore a range of fruit according to their colour and taste. They will understand that fruit are grown.

Chn will use discussion of experiences and drawings to generate ideas

Chn will cut or peel ingredients safely and hygienically using simple utensils and equipment.

Chn will evaluate their dislikes and likes about their product in regards to the design criteria.

**EYFS: Mechanisms**

Chn will explore a range of mechanisms including vehicles and moving parts in toys

Chn will use discussion of experiences to support their making process

With support begin to incorporate moving parts in to models. For example, use split pins to make body parts move

Chn will evaluate and improve their creations as they make them

**EYFS: Structures**

- Chn will explore a range of freestanding structures using construction kits and blocks during free flow play
- Chn will use discussion of experiences to support their making process
- Chn will create structures at their creative table for a purpose or part of taught lessons.
- Chn will select tools and techniques needed to shape, assemble and join materials they are using.
- Chn will evaluate and improve their creations as they make them

**EYFS: Food and Nutrition**  
Chn will understand the importance of healthy food choices. They can talk about ways to keep healthy and safe.

|                                                                               |
|-------------------------------------------------------------------------------|
| Physical development: Fine motor skills                                       |
| Expressive Arts and Design: Creating with materials                           |
| Personal, Social and Emotional development: Managing self and Self-Regulation |
| Communication and language: Speaking                                          |

## Early Learning Goals