

## INTENT

We aim for our Design and Technology curriculum to allow children to use their imagination and creativity to design, make and evaluate a range of products with different purposes within a variety of contexts. We intend for our Design and Technology curriculum to be relevant, purposeful and for children to understand how the skills and knowledge that they learn can be transferred to their everyday lives.

**Through our curriculum we intend for our children to:**

- Develop their imagination, critical thinking and their understanding of the world around them through an appreciation of Design and Technology.
- Develop the technical knowledge and vocabulary in relation to structural design, mechanical and electrical systems, textiles, food production and nutrition.
- Question and think innovatively about the world around them in order to design and develop their own products with a purpose in mind.
- Apply their knowledge and skills to plan, make, test and evaluate prototypes and design products to meet a purpose for something or someone.
- Learn how to design and follow their own recipes, learn how to cook, whilst applying the principles of good nutrition and healthy eating.
- Think critically in order to evaluate their past prototypes and when testing their current designs.

By the end of Key Stage 2, we intend for our children to show a coherent knowledge, range of Design and Technology skills and talk about their work using relevant technical language. We also intend for them to have the capabilities to design, make and test their own ideas and designs, whilst considering whether their product is fit for purpose.

## Implementation

At Thorplands Primary School, we have chosen to implement our Design and Technology curriculum using the planning, guidance and resources supplied through the scheme: [PlanBee](#). We have chosen this scheme because we feel it meets our intention, whilst ensuring it is aligned to match the scope and ambition of the National Curriculum.

Children will be taught to know more and remember more in structures, textiles, mechanics, food technology and electrical control. Whilst applying the skills of investigating, designing, making and evaluating their products.

The curriculum will be implemented through a project base approach which will include:

- Activities which involve investigating and evaluating existing products.
- Focused tasks in which children develop particular aspects of knowledge and skills.
- Activities in which children design and make something for a specific use or specific user.

Lessons will be practical, where appropriate, and purposeful with the children having access to a range of resources and materials. Substantive and disciplinary knowledge and skill progression will be cumulative with vertical and horizontal links connecting the units running throughout the school.

## Early Years

Children's Design and Technology learning journey starts in our Early Years where they will learn, through Expressive Arts and Design and Physical Development (fine motor skills), to:

- Use a range of small tools, including scissors, paintbrushes and cutlery.

- Safely explore a variety of materials, tools and techniques, experimenting with colour, texture, form and function.
- Share their creations, explaining the process they have used.

|                   | Personal, Social and Emotional Development  | Physical Development   | Understanding the World  | Expressive Arts & Design   |
|-------------------|---|--|--------------------------|--|
| <b>Pre School</b> | Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. | Use large-muscle movements to wave flags and streamers, paint and make marks.<br><br>Choose the right resources to carry out their own plan.<br><br>Use one-handed tools and equipment, for example, making snips in paper with scissors.  | Explore how things work. | Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.<br><br>Explore different materials freely, in order to develop their ideas about how to use them and what to make.<br><br>Develop their own ideas and then decide which materials to use to express them.<br><br>Create closed shapes with continuous lines and begin to use these shapes to represent objects. |
| <b>Reception</b>  |   | Progress towards a more fluent style of moving, with developing control and grace.<br><br>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.<br><br>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. |                          | Explore, use and refine a variety of artistic effects to express their ideas and feelings.<br><br>Return to and build on their previous learning, refining ideas and developing their ability to represent them.<br><br>Create collaboratively, sharing ideas, resources and skills.   |

This knowledge and skill base will then be built upon in Year 1.

### Long Term Map

Design and Technology will be taught in all year groups, in blocks of approximately 6 lessons, three times a year – usually alternating with the teaching of Art and Design.

| Thorplands Primary School Design & Technology Techniques Long Term Map |   |   |  |  |  |  |
|--|---|---|--|--|--|--|
| Coverage   | Year 1  | Year 2  | Year 3   | Year 4   | Year 5   | Year 6   |
| Building Structures  | <b>Structures</b><br>Strong bases<br><b>Windmills</b>   | <b>Textiles</b><br>Working with material & sewing skills.<br><b>Puppets</b> | <b>Structures:</b><br>Stable structures<br><b>Mini Greenhouses</b>                                   | <b>Textiles</b><br>Sewing with different stitches with purpose<br><b>Pencil Cases</b>                    | <b>Strength in more complex structures:</b><br><b>Bridges</b>                                      | <b>Textiles</b><br>Incorporating previous skills & developing cutting, joining and finishing skills<br><b>Fashion &amp; Textiles</b> |
| Mechanisms / Computing   | <b>Levers and sliders</b><br><b>Moving Minibeasts</b>   | <b>Axels and wheels</b><br><b>Vehicles</b>                                  | <b>Levers and Linkages</b><br><b>Pop Up Books</b>  | <b>Electrical Systems-</b><br>electrical circuits,<br><b>buzzers and motors</b><br><b>Light Up Signs</b> | <b>Gears, pulleys and cams</b><br><b>Moving Toys</b>   | <b>Programming, monitoring and control</b><br><b>Fairgrounds</b>   |
| Cooking  | <b>Diet and Where Food is From:</b><br><b>Fruit &amp; Vegetables</b><br>cutting, grating, peeling<br><b>Eat more Fruit &amp; Vegetables</b> | <b>Diet and Where Food is From:</b><br>Baking<br><b>Perfect Pizza</b>       | <b>Seasonality and Origin:</b><br><b>Baking</b><br>(Predominantly savoury)<br><b>Sandwich Snacks</b> | <b>Seasonality and Origin:</b><br><b>Frying</b><br>(Predominantly savoury)<br><b>Seasonality</b>         | <b>Seasonality and Processing: Boiling</b><br>(Predominantly savoury)<br><b>Great British Food</b> | <b>Seasonality and Processing:</b><br><b>Incorporating all</b><br>(Predominantly savoury)<br><b>Burgers</b>                          |

### Enrichment of STEM Subjects:

Each year, we participate in a **STEM week** which gives the whole school a problem to solve around a theme. The whole school works collaboratively to solve this problem which is shared in assemblies and with parents at the end. We do this to demonstrate to children how science, technology, engineering and maths work together to solve some of the

World's biggest problems. We have also **named our classes** after collaborators to the field of STEM to show children some of the areas of work and how they contribute to how we live.

### Cooking & Nutrition:

Learning how to prepare a range of healthy and nutritious meals is a vital life skill for young learners to develop. We ensure that there are opportunities for the children to experience lots of tasty and varied recipes allowing children to test, improve or take inspiration from. This is important to us as a school as we seek to tackle the rise in childhood obesity by giving children the knowledge & skills to shop, prepare & cook for themselves. We also make a link in Health Week (Sports day week in the summer term) to making healthy meals.

Each year group also has an additional cooking session with our trained Teaching Assistant each half term aimed at further fostering interest and excitement about cooking. We also run an after-school club throughout the year which culminates in families cooking together at the end of the half term.

**From 2022/2023**, children will put their recipes in a class cooking book which will move up with children and be available for children to refer to their growing bank of recipes.

## IMPACT

The impact will be that pupils have a **clear enjoyment and confidence in Design and Technology** in which they apply key skills across other areas of the curriculum. Pupil voice, will provide evidence about what they have learnt in Design and Technology, **using subject specific vocabulary**. This pupil voice and discussion will include their thoughts, **ideas, processing and evaluations of work**. Work is of **high quality** and demonstrates pupils are acquiring knowledge, skills and vocabulary in an appropriate sequence and they are building an understanding of links to other subjects.

### The impact of our curriculum will be assessed through:

- Teacher observations, quizzes and questioning,
- Completed products from the practical tasks,
- The ability to critique and evaluate their own and others designs and products,
- Pupil voice.