Design Technology

'RIVERS OF LIVING WATER'

What do we intend?

What design technology looks like in our school:

- Opportunities to inspire children to explore art and design using artwork and designs from around the world.
- Exciting and creative topics engage children and foster their curiosity about designers and their creations.
- Children working individually, in pairs and groups to develop their skills in Design and Technology.
- A progression of the key design skills is used across the school evidenced in sketch books with photos which will be transition through the year groups with the children.
- Children's interests are captured through topics in our Creative Curriculum, ensuring that links are made in a cross curricular way and giving children motivation and meaning for their learning.
- Evaluation is an integral part of the design process and allows children to adapt and improve their product- a key skill which they need throughout their life.
- Children understand and apply the principles of nutrition and learn how to cook.

This is our philosophy:

- Children learning through exploring different designers' techniques whilst acquiring and developing their own skills.
- Children developing an awareness of different techniques used by different designers, building up a knowledge of how to incorporate this learning into their own creations.
- High quality modelling, scaffolding and discussion of different skills and techniques leading to children creating high-quality products for a wide range of users.

This is the knowledge and understanding gained at each stage:

By the end of EYFS pupils will:

Physical Development: Fine Motor Skills

- Use a range of small tools, including scissors, paintbrushes and cutlery.
- Begin to show accuracy and care when drawing.

Expressive Arts and Design: Creating with Materials

- Share their creations, explaining the process they have used.

By the end of Key Stage 1 pupils will:

connect	sequence	change	replace	reduce	compare	add	arrange	classify	assemble

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Through a variety of creative and practical activities, children will know, understand and use skills needed to engage in an iterative process of designing and making. They will work in a range of relevant contexts
When designing and making, children will:

- **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. 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 in their products.

By the end of Key Stage 2 pupils will:

Through a variety of creative and practical activities, children will 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.
When designing and making, children will 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 accurately. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and 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. Understand and use electrical systems in their products. Apply their understanding of computing to program, monitor and control their products.

How will we implement it?

Each class has different skills to focus on in a rolling 2-year programme

- Design technology is provided as either cross curricular or discrete lessons.
- The skills and techniques developed will be evidenced in a sketch book with photos which will transition up the school with the children.

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- A progression document is used to ensure that previous knowledge and skills are built on.
- By the time the children leave Year 6, they will have explored and discussed a range of different designers and their work, focusing on the techniques used or the features designers incorporated in their inventions or products. The children will then have a chance to recreate and reimagine these into their own designs.
- All children will be given a chance to work on a range of different collaborative design projects and have their work showcased across the school and in the local community.
- Where appropriate, links will be made across the curriculum to create a deeper and meaningful design education.
- Workshops or Design and Technology days relevant to specific topics may be used to immerse children in the design experience.

This is what adults do:

- Create a positive learning environment where children feel comfortable discussing and sharing their own and others work and suggesting positive
- Plan inspiring, progressive lessons which work on developing or acquiring design skills and techniques.
- Create a positive learning environment where children feel comfortable discussing and sharing their own and others work and suggesting positive feedback and ways to improve.
- Regularly monitor books, listen to pupil feedback and audit planning.
- Raise the profile of Design Technology within the school, using displays, design and technology days and running extra-curricular design technology clubs.

This is how we support:

- Work might be differentiated so that all children are able to meet the learning objective in activities suitable to their own individual needs.
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- Offering a range of equipment and resources so that all children can make progress during a lesson, e.g. use of templates or guides, different tools etc.
- Small group/1:1 adult support given where required.
- We use teacher and self-assessment to quickly identify any child who requires additional support developing specific skills and techniques.

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- These pupils will then receive additional support or resources to use in order for them to successfully meet the learning objective.

This is how we challenge:

- Lessons will be differentiated.
- Additional activities stretch the learning within the lesson and further develop certain skills or techniques.

This is how ensure all children can access the curriculum:

- Children who have SEN or EAL needs are introduced to specific subject relevant language prior to the lesson.
- Seating children alongside good role models to support one another or working in groups to enable children to discuss their design choices.
- By providing equipment and resources relevant to each individual child, e.g. templates, relevant vocabulary necessary for writing up design choices, writing frames.

How will we know it is working?

- Happy and engaged learners.
- Children posing questions about designs that they wish to research.
- A range of different activities including practical lessons, research lessons, showcase of inventions and evaluations of designs.
- Children able to self-reflect on their designs and the making process, finding both areas of success and evaluating areas of possible improvement.
- Displays around the school and showcases of children's designs.
- Confident children who are willing to persevere with skills and techniques they are developing.

This is how we know how well our pupils are doing:

- Marking, evaluation and feedback by teacher and peers.
- Monitoring of progress.
- Photographic evidence included in children's sketch books.
- Displays of work in classes.

- Book scrutiny, pupil voice and planning audits.
- Targeting both Teacher and Learning Assistant support during lessons to ensure progress of all children.

This is the impact of the teaching:

- Children who enjoy Design and Technology.
- Children who can confidently discuss their learning and progress in Design and Technology.
- Reflective learners.
- Increasingly resilient learners.
- Children who are able to showcase their developing skills and techniques by creating different products and inventions.
- Children who are prepared to share the learning they have acquired in a variety of ways.
- Children who are able to apply the different design skills and techniques they have acquired to design innovative, functional, appealing products.
- Children who are inspired by the inventions and achievements of the designers they have learnt about.
- Children who aspire to becoming designers of the future.