COURTWOOD PRIMARY SCHOOL
Nurturing Knowledge; Learning for Life.
Respect Resilience Aspiration Kindness

Curriculum Statement: Design Technology

'Design is not just what it looks like and feels like. Design is how it works.' Steve Jobs

The Courtwood Curriculum Intent and Offer					
National Curriculum: Pupils learn the knowledge and skills required of them to be academically successful, building on their individual starting points.	**Inclusion:** Pupils value diversity and demonstrate tolerance, compassion and mutual respect to all members of the school and wider community, whilst developing the life-skills needed to unlock their potential.	**Nurture:** Pupils build their confidence, self-esteem and resilience, developing strategies which enable them to effectively safeguard their well-being.	**Outdoor Learning:** Pupils understand and take responsibility for their influence in living healthy lifestyles, and supporting the planet to be sustainable, both now and in the future.	**Responsibility:** Pupils have an awareness of their own impact on their future and how they can contribute positively to wider society.	**Enrichment:** Pupils access experiences and opportunities which develop aspirations and broaden the horizons of life-long learning.

Intent, Implementation and Impact in Design Technology

Intent **(What will take place before teaching in the classroom? What do we want our children to know and be able to do?)**	**Implementation** **(What will this look like in the classroom?)** ***school focus – retrieval & vocabulary***	**Impact** **(How will this be measured?)**
• The DT curriculum coverage is organised so that children encounter each of the five strands (Cooking and Nutrition, Textiles, Mechanisms, Structures, Electrical Systems) in each key stage, including EYFS, and are able to revisit, build on and extend their previous learning and skills. • The units are designed so that although there is a different theme/context for each (which may complement another curriculum Learning Journey), the skills build progressively and can be applied in each context. • Design and Technology will be taught twice per year in Reception and Key Stage 1 and	• National Curriculum Programme of Study is used to deliver learning in line with the National Curriculum expectations for Design and Technology. In EYFS, DT will incorporate the skills, learning and development in the area of Expressive Arts and Design. • All units of work in DT follow the cyclical Design, Make, Evaluate process and include Technical Knowledge. Skills and knowledge that fall under each of these categories are taught throughout the unit. • Key vocabulary* is explicitly taught to children as part of quality-first teaching. Vocabulary is clearly modelled on knowledge organisers.	• Pre and Post Learning Challenges (progress from a baseline activity at the start of the unit of learning) will reflect progression of knowledge, skills and understanding. • Increasing percentages of children will achieve mastery (at age-related expectation) of each DT topic and become skilled and articulate young designers. • High-quality DT outcomes will demonstrate that children can choose and use tools and select materials appropriately. • Work in children's DT booklets will demonstrate their cumulative knowledge building of the Design, Make and Evaluate process, resulting in

three times per year in Key Stage 2. It will be taught on a weekly basis for the half term, or in a block of a week or two weeks as part of a Learning journey. • First-hand experiences will be provided for the children where possible to enhance their interest in Design and Technology, and to develop their further learning, e.g. after school clubs, visits to local secondary schools or visitors to school. • Children will learn how individuals and careers in the STEM industries relate to them, developing their understanding of what STEM is and how it affects our every day lives. • Children will be aware of how DT transcends different cultures, religions and backgrounds and speaks a universal language. • Children will understand and appreciate the value of Design and Technology in the creative and cultural industries and will have an insight into their future career opportunities.	• Teachers will teach units themed around each of the core strands – Structures, Textiles, Cooking and Nutrition, Mechanisms, Electrical Systems (KS2 only), allowing children opportunity to **build incrementally on previously learned knowledge and skills**. • Children will be **taught explicit technical knowledge skills**. They are given **time in lessons to practice these** and each skill is revisited on a bi-annual cycle, enabling children to demonstrate progress. Children will be encouraged to be open to the possibility that they may fail when trying a new skill, they will be encouraged to be resilient when they are not achieving what they may have set out to, children will develop the confidence to make mistakes and learn from these. • Children use **design booklets** (Y1 upwards) to investigate, design, plan and evaluate their DT products and outcomes. These clearly show children's design process, skills practice and evidence of making (e.g. photos) and evaluation of the product. • During a project, where applicable, children will consider sustainability and the environmental impact of existing products. • Children **are introduced to great designers and engineers from the STEM disciplines** and encouraged to understand how they have contributed to the world and technological advancement.	• a well-planned and executed final design. • Pupil's will speak enthusiastically about their DT learning and articulate what they are learning and why it is important. Children will enjoy and value Design and Technology and know why they are doing things, not just how. • Children will be excited and passionate about DT, keen to participate and speak enthusiastically about their learning. • Children will be able to use appropriate vocabulary accurately, independently, to demonstrate their understanding. • Children will be aware of the work and impact of great designers and engineers, recognising their contribution to design technology. • Children will be enthused to continue their DT learning at secondary school, and some may pursue careers in the STEM subjects, in their future careers. • As designers, engineers, chefs and architects, Courtwood children will develop skills and attributes that can use beyond school and into adulthood. • The DT curriculum will contribute to children's personal development in creativity, independence, judgement and self-reflection. Children will develop presentation skills to share their ideas and designs with an audience.

	• **Teachers' skilful questioning** allows all children to make progress and reflect on learning. • **Knowledge Organisers*** are used to support children's understanding and retrieval of key knowledge, skills, designers and engineers and vocabulary. • **Retrieval opportunities** are planned for by teachers, to ensure children have opportunity to secure new knowledge. Children will **know more, remember more** and understand more about Design Technology.	

National Curriculum Objectives

KS1:
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.

KS2:
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
- ♣ 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 [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.

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 and how a variety of ingredients are grown, reared, caught and processed.