Design and Technology

These 5 intentions underpin our curriculum because we want our pupils to have a love of learning which they can share, a sense of understanding and pride of where they live, and be safe in different situations.

How to communicate using appropriate vocabulary

About Corsham and their local area

Through experiences inside and beyond the classroom

New knowledge and understanding appropriate to their age

How to keep themselves safe

The essential skills and knowledge that we want our pupils to learn by the end of:

EYFS	KS1
Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used. Make use of props and materials when role playing characters in narratives and stories.	**Design** Design functional and appealing products with a clear purpose Use software to design Develop ideas through talking, drawing, templates and mock-ups. Select from a wide range of materials and components including construction material. **Make** Use a range of tools and equipment to cut, shape, join and finish. Use a wide range of materials such as construction and textiles. Join using hinges, glue or combine materials to strengthen Decorate textiles by printing, adding sequins **Evaluate** Explore objects and designs to identify likes and dislikes Suggest improvements to existing designs Refine design as the work progresses. Explore and evaluate a range of existing products and how they have been made. **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. **Cooking and nutrition**

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	Use the basic principles of a healthy and varied diet to prepare dishes using a range of ingredients. Understand where food comes from
EYFS Misconceptions	**KS1 Misconceptions**
• Materials only have one use. • When sharing their work, they only say *"It's a castle"* rather than explaining how they made it.	• Thinking design is only drawing and not part of the thinking or planning process. • Believing their first idea is always the best idea. • Thinking bigger structures are always stronger.
LKS2	**UKS2**
Design Design functional and appealing products based on a design criteria that are fit for purpose and aimed at individuals or groups. Develop ideas through the use of annotated sketches and CAD (micro:bits, Scratch) Improve existing designs and give reasons for choice. **Make** Cut materials accurately Apply appropriate cutting and shaping techniques that include cuts in the perimeter of the material –such as slots for the cut outs. Work efficiently and choose materials carefully. Select appropriate joining techniques Join textiles with a seam allowance Use appropriate techniques to decorate textiles **Evaluate** Investigate and analyse a range of existing products Refine product and techniques as work progresses, continually evaluating the product design. Identify great designs and designers. **Technical knowledge** Understand and use a series or parallel circuit when used in products. This should include switches and bulbs. Choose suitable techniques to construct products or repair items. Strengthen materials using suitable techniques. Use scientific knowledge (forces) to choose appropriate mechanisms for products. This could include pulleys, gears, winding mechanisms and levers.	**Design** Develop ideas and establish the most appropriate way to represent designs. This should be through the use of discussions, annotated sketches, cross-sectional and explodes diagram, prototypes, pattern pieces and CAD (Tinkercad, micro:bits) Combine elements of design from a range of inspirational designers throughout history and give reasons for choices Use research and develop a design criteria to inform the design and are fit for purpose and with the user in mind. **Make** Cut materials with precisions and refine the finish with appropriate tools –such as sanding Show an understanding of the qualities of the materials and choose appropriate tools to cut. Make products through stages of prototypes and refine throughout. Ensure high quality finish . Make objects by joining textiles using a combination of stitching techniques Embellish fabrics **Evaluate** Evaluate ideas and products against own design criteria Consider the views of others to improve work Understand how key events and others in DT have helped shape the world. **Technical knowledge** Understand and use electrical products and use components such as buzzers and motors. Apply understanding of computing to programme, monitor and control products. Develop a range of practical skills to create products. This could include cutting, drilling, screwing, nailing, gluing, filing and sanding Understand how to strengthen, stiffen and reinforce more complex structures.

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Cooking and nutrition Understand and apply the principles of a healthy and varied diet Prepare dishes using appropriate utensils and a range of ingredients. Follow a recipe	Understand and use mechanical systems in products such as gear, lever, linkages and cams. **Cooking and nutrition** Prepare and cook a variety of predominantly savoury dishes using a range of ingredients and cooking techniques Understand the seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Measure accurately
LKS2 Misconceptions	**UKS2 Misconceptions**
• Labels are enough – I don't need to explain my ideas. • It doesn't matter if my cutting isn't straight. • Cooking isn't really designing.	• Thinking that a single sketch is enough before making. • Rushing cutting and believing small inaccuracies do not matter. • They assume glue is the easiest joining method.

Strong Foundations	**Blocked Teaching**
In EYFS, strong foundations in Design and Technology (D&T) are built through hands-on experience that help young children explore materials, develop practical skills and begin to understand how things work. Frequent repetition and depth of their experiences in D&T help to support progression in developing their creativity, imagination, resilience, ability to make choices and problem solving skills. Design and Technology is not a stand-alone subject within the EYFS framework but is embedded within Expressive Arts and Design, Understanding the World and Physical Development.	This approach provides the children with an immersive experience for a term, where both knowledge and skills are explored and developed thoroughly. At the beginning of a term, knowledge organisers are shared with the children so that all understand the expectations of the learning ahead. These are in their topic books and referred to throughout each topic and revisited through weekly Topic Talk Time sessions to and retention of knowledge as each year progresses.
Creative and Critical thinking	
In Design and technology, pupils are encouraged to work well as a team, to collaborate and have the mind-set to solve problems. At Regis pupils learn that trial and error is part of the design process and why this is essential when solving problems. In addition to this, we focus on the importance of resilience and by making mistakes we can often find improved results and a more satisfactory outcome.	

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As a designer leaving Regis, every child will have the skills to:

Design
Understand who the product is for and why.
How to approach real world problems.
Be able to reflect on what works, what does not and how to improve.

Making
Have the skills to use tools safely and appropriately
Understand the properties of materials
Work with precision and accuracy.

Cooking and nutrition
Understand food groups and know what makes a balanced meal
Know how to prepare food
Know where our food comes from.

Technical Knowledge
Know how to make things strong and stable
How mechanisms works
Know that programming can be used to control models.