FEDERATION OF ST JOSEPH'S INFANT, JUNIOR AND NURSERY SCHOOLS

Together We Can

WHOLE SCHOOL CURRIULUM INTENT

We deliver a broad and balanced curriculum that meets the needs of all our pupils within the school community. We ensure our pupils achieve their full potential and with a growth mindset and resilience, based on our belief that 'we learn to love, we love to learn' Our curriculum is driven by:

- **A strong moral purpose based on Christ's teachings of tolerance, respect, and empathy**
- **High expectations where everyone encourages pupils to be aspirational and reach their potential**
- **A wide range of opportunities for our pupils to be confident, articulate young people with strong thinking and reasoning skills and a lifelong love for learning**
- **Passionate staff who empower pupils to be confident with English and Maths skills and in a range of other subjects**
- **Preparing pupils with the skills and knowledge to thrive in a fast-changing world**
- **Teaching our pupils about their local, national, and global community and encouraging them to know they can make a difference**

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PROGRESSION PLAN FOR KNOWLEDGE AND SKILLS

DESIGN AND TECHNOLOGY

INTENT STATEMENT – VISION

At St Joseph's, Design and Technology encourages children to develop the skills, knowledge and understanding to design and make functional products that solve real life or relevant problems. Children are given the opportunity to be creative in their designs, make imaginative designs using a range of materials and evaluate their final products. We aim to give children the opportunity to explore and evaluate past and present design technology and encourage them to become resourceful risk-takers and innovators.

IMPLEMENTATION – How this will be achieved

The teaching and application of Design and Technology curriculum at St Joseph's is based on the National Curriculum and supported by the Learning Challenge scheme of work. Children are taught Design and Technology as part of their termly topic work. The knowledge and skills that children develop through each topic are mapped out for each year group and ensure they show progression. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing, and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising, and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world.

IMPACT – How it is to be monitored

Monitoring to be carried out by subject leader and class teachers through planning and sketchbook scrutiny.

Knowledge, Skills and Understanding breakdown for			
YEAR 1			
Developing, planning, and communicating ideas. • Think of some ideas independently. • Explain what they want to do. • Use pictures and words to plan.	Working with tools, equipment, materials and components to make quality products • Explain what is being made. • Explain which tools are being used.	Evaluating processes and products • Describe how something works. • Talk about their own work and things that other people have done.	Cooking and nutrition • Cut food safely. • Describe the texture of foods. • Wash hands and make sure that surfaces are clean. • Think of interesting ways of decorating food they have made.
Textiles • Describe how different textiles feel. • Make a product from textiles by gluing.	Mechanisms • Make a product which moves. • Cut materials using scissors. • Describe the materials using different words. • Say why moving parts have been chosen.	Use of materials • Make a structure/model using different materials. • Work tidily. • Make a model stronger if it needs to be.	Construction • Talk with others about how they want to construct a product. • Select appropriate resources and tools for a building Projects. • Make simple plans before making objects, e.g. drawings, arranging pieces of construction before building.

YEAR 2			
Developing, planning, and communicating ideas. • Think of ideas and plan what to do next. • Choose the best tools and materials. Give a reason why these are best. • Describe a design by using pictures, diagrams, models, and words.	Working with tools, equipment, materials and components to make quality products • Join things (materials/ components) together in different ways.	Evaluating processes and products • Explain what went well with work. • Explain, if they did it again, what they would improve.	Cooking and nutrition • Describe the properties of the ingredients that are being used. • Explain what it means to be hygienic and consider if they are hygienic in the kitchen.
Textiles • Measure textile. • Join textiles together to make something. • Cut textiles. • Explain why they chose a certain textile.	Mechanisms • Join materials together as part of a moving product. • Add some kind of design to the product.	Use of materials • Measure materials to use in a model or structure. • Join material in different ways. • Use joining, folding, or rolling to make it stronger.	Construction • Make sensible choices as to which material to use for a construction. • Develop ideas from initial starting points. • Incorporate some type of movement into models. • Consider how to improve a construction.
Additional notes and driver questions		Outdoor learning opportunities	Opportunities for visits

Year 3			
Developing, planning and communicating ideas • Show that a design meets a range of requirements. • Put together step-by-step plan which shows the order and also what equipment and tools are needed. • Describe a design using an accurately labelled sketch and words. • Consider how realistic a plan is.	Working with tools, equipment, materials and components to make • Use equipment and tools accurately.	Evaluating processes and products • Explain what has been changed when a design has been made even better.	Cooking and nutrition • Choose the right ingredients for a product. • Use equipment safely. • Make sure that a product looks attractive. • Describe how combined ingredients have come together. • Set out to grow plants such as cress and herbs from seed with the intention of using them for a food product.
Textiles • Join textiles of different types in different ways. • Choose textiles both for their appearance and qualities.	Electrical and mechanical components • Select the most appropriate tools and techniques to use for a given task. • Make a product which uses both electrical and mechanical components. • Use a simple circuit. • Use several components.	Stiff and flexible sheet Materials • Use the most appropriate materials. • Work accurately to make cuts and holes. • Join materials.	Mouldable materials • Select the most appropriate materials. • Use a range of techniques to shape and mould. • Use finishing techniques.

Year 4			
Developing, planning, and communicating ideas • Come up with at least one idea about how to create a product. • Take account of the ideas of others when designing. • Produce a plan and explain it to others. • Suggest some improvements and say what was good and not so good about an original design.	Working with tools, equipment, materials, and components to make quality products • Consider if a finished product is going to be good quality. • Consider the need to produce something that will be liked by others. • Show a good level of expertise when using a range of tools and equipment. • Work at a product even though an original idea might not have worked.	Evaluating processes and products • Think about how to check if a design is successful. • Begin to explain how an original design can be improved. • Evaluate a product, thinking of both appearance and the way it works. • Take time to consider how an idea could have been improved.	Cooking and nutrition • Know what to do to be hygienic and safe. • Think how to present a product in an interesting way.
Textiles •Think what the user would want when choosing textiles. • Think about how to make a product strong • Devise a template. • Explain how to join things in a different way.	Electrical and mechanical components • Add things to circuits. • Alter a product after checking it. • Have confidence to try out new and different ideas.	Stiff and flexible sheet Materials • Measure carefully to make sure mistakes have not been made. • Consider if a product is strong.	Mouldable materials • Use a range of advanced techniques to shape and mould. • Use finishing techniques, showing an awareness of audience.

Year 5			
Developing, planning, and communicating Ideas • Come up with a range of ideas after information has been collected. • Take a user's view into account when designing. • Produce a detailed step by-step plan. • Suggest some alternative plans and say what the good points and drawbacks are about each.	Working with tools, equipment, materials and components to make quality products • Explain why a finished product is going to be of good quality. • Explain how a product will appeal to the audience. • Use a range of tools and equipment expertly. • Persevere through different stages of the making process.	Evaluating processes and products • Keep checking that a design is the best it can be. • Check whether anything could be improved. • Evaluate appearance and function against original criteria.	Cooking and nutrition • Describe what needs to be done to be hygienic and safe. • Consider whether or not a product has been well presented.
Textiles • Think about what the user would want when choosing textiles. • Consider whether or not a product is attractive and strong. • Make up a prototype first. • Use a range of joining techniques.	Electrical and mechanical components • Incorporate a switch into a product. • Refine a product after testing it. • Incorporate hydraulics and pneumatics.	Stiff and flexible sheet Materials • Consider if measurements are accurate enough to ensure that everything is precise. • Consider if a product is strong and fit for purpose.	Mouldable materials • Refine and further improve a product using mouldable materials.

Year 6			
Developing, planning, and communicating ideas • Use a range of information to inform a design. • Use market research to inform plans. • Work within constraints. • Follow and refine a plan if necessary. • Justify a plan to someone else. • Consider culture and society in a design.	Working with tools, equipment, materials, and components to make quality products • Use tools and materials precisely. • Change the way they are working if needed.	Evaluating processes and products • Test and evaluate a final product. • Consider if it is fit for purpose. • Consider what would improve it. • Consider if different resources would have improved a product. • Consider if more or different information was needed to make it even better. • Reflect on whether a product meets all design criteria. • Consider the use of the product when selecting materials.	Cooking and nutrition • Explain how a product should be stored with reasons. • Set out to grow a product with a view to making a salad, taking account of time required to grow different foods.
Textiles • Think about how a product could be sold. • Think about what would improve a product even more.	Electrical and mechanical components • Use different kinds of circuit in a product. • Think of ways in which adding a circuit would improve a product.	Stiff and flexible sheet Materials • Justify selected specific materials. • Ensure that work is precise and accurate. • Hide joints so as to improve the look of a product.	Mouldable materials • Justify why the chosen material was the best for the task. • Justify design in relation to the audience.