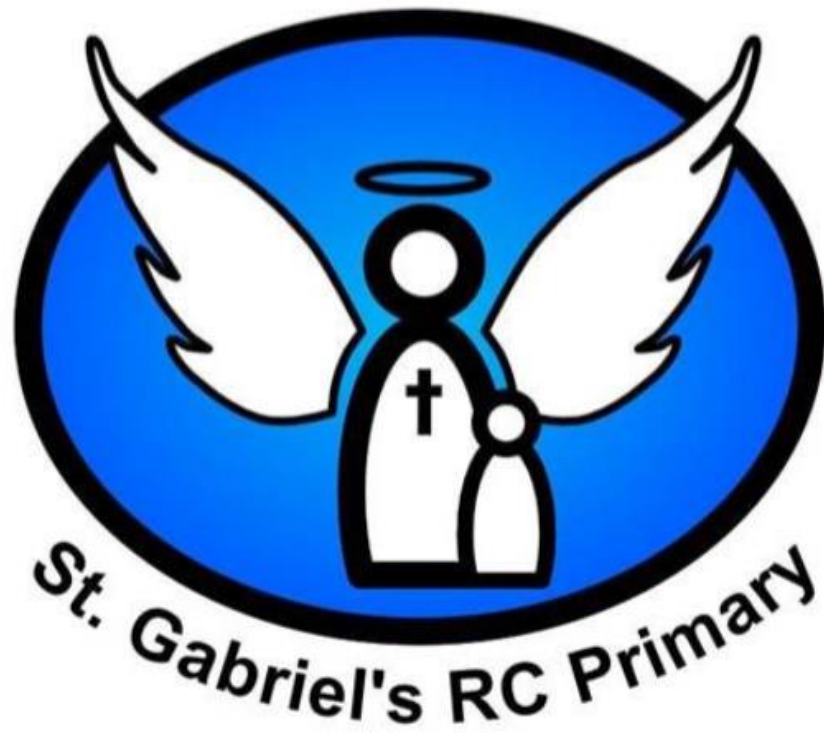




Design and Technology

Intent, Implementation and Impact Policy

Intent, Implementation and Impact in Design and Technology

INTENT	Subject Statement	Design and Technology is an inspiring, rigorous and practical subject. Children will use their creativity and imagination to design and make products that solve real and relevant problems. Our Design and Technology curriculum is designed to engage and interest our children by posing problems that are grounded in real life situations. The Design and Technology curriculum is designed to encourage pupils to believe in a healthy mind and body through active learning and aims to stimulate pupil's imagination and engage them in practical hands-on experience to realise their ideas and to experiment with different materials including food. Through Design and Technology our children learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens.
	Subject Expectations	Design and Technology had been split into six areas: food, mechanisms/mechanical systems, structures, textiles, KS2 only-Electrical systems and Digital world. These areas have five strands that run through out: Design, Make, Evaluate, Technical Knowledge, Cooking and Nutrition Children are expected to: • 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 • 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 • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria • Articulate their ideas and thoughts in well-formed sentences. • Connect one idea or action to another using a range of connectives. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen • Use basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from. • High expectations for children to develop their emotional expression through art to further enhance their personal, social and emotional development and enable children to be confident, inquisitive and resilient learners. • Understanding of the functional and aesthetic properties of a range of materials and resources. • Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products. • Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients, and scenarios. • Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment. • Have an appreciation for key individuals, inventions, and events in history and of today that impact our world. • Recognise where our decisions can impact the wider world in terms of community, social and environmental issues. • Self-evaluate and reflect on learning at different stages and identify areas to improve. • Meet the end of key stage expectations outlined in the National curriculum for Design and technology. • Meet the end of key stage expectations outlined in the National Curriculum

Intent, Implementation and Impact in Design and Technology

	Conditions for learning	<u>Displays / Working Environment</u> - Children's work to be displayed on classroom/corridor/art room walls. The appropriate logo disc to be displayed with an explanation of what has been achieved. <u>Learning Behaviours / Attitudes to Learning</u> - Children have a positive attitude to learning art and design and become more interested as they build their knowledge and develop their skills. Having confidence and a positive attitude to learning and high expectations children are motivated, determined and proactive in their learning and are relentless in their pursuit of positive attitudes to learning. Children build their resilience to evaluate a piece of work and be able to progress on and modify/change it. Children reflect on how to develop their skills further and developing the skills of appreciation of other people's work.
	Planning	<u>Progression and Sequencing</u> - Following the 'Kapow' scheme of learning, the progression of skills taught year on year ensures the children become confident and proficient in a variety of techniques and craft skills. Children will develop their knowledge of a variety of famous artists, designers and craft makers. Children will build on their skills progression, knowledge and develop their interest and curiosity about art and design as they progress through the key stages. Children will have an opportunity to develop and demonstrate their skills in a variety of ways. <u>Planning</u> - Following the 'Kapow' scheme of learning <u>Structure of Lessons</u> - Following the 'Kapow' Scheme of learning, each lesson builds on the previous lesson allowing children to revisit skills and techniques taught and to improve any previous work. <u>Resourcing</u> - See Kapow resource lists

Intent, Implementation and Impact in Design and Technology

IMPLEMENTATION	Curriculum	Design and Technology curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical and technical understanding required for each strand. Cooking and nutrition has a separate section with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality. The National curriculum organises the Design and Technology attainment targets under five subheadings or strands: 1. Design 2. Make 3. Evaluate 4. Technical knowledge 5. Cooking and nutrition Following the 'Kapow Primary's Design and Technology' scheme there is a clear progression of skills and knowledge within these five strands across each year group. Through Kapow Primary's Design and Technology scheme, pupils respond to design briefs and scenarios that require consideration of the need of others, developing their skills in six key areas: • Mechanisms • Structures • Textiles • Food • Electrical systems (KS2) • Digital world (KS2) Each of the key areas follow the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The Kapow Primary scheme is a spiral curriculum with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils learning are available when required. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary. Strong subject knowledge is vital for staff to be able to deliver a highly effective and robust Design and Technology curriculum. Each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD. <u>Scope</u> • There is a wide scope of units for each year group which develops skills and Knowledge. Children are taught life skills and gain knowledge they can transfer to many situations. <u>Sequencing</u> • The 'Kapow' Scheme is progressive and units build on previous units. Within a unit of work each lesson builds on skills and Knowledge learnt in previous lessons. <u>Knowledge</u> • Children build on prior knowledge learnt in previous units or year groups. Knowledge organisers are provided to embed learning.
-----------------------	-------------------	--

Intent, Implementation and Impact in Design and Technology

	Pedagogy Teaching and Learning Quality 1st teaching based on current research	<u>Learning and Teaching</u> A range of learning and teaching strategies are utilised throughout the teaching of Design and Technology as detailed below: - modelling - provide models / guide pupil practice independent practice; - enabling and deliberate practice; - daily / weekly review using retrieval questions; - new content of knowledge and skills introduced in small steps; - spacing and interleaving - ensure cognitive load theory practices are utilised from short term memory to long term memory; - growth mind-set; - metacognition; - build resilience; - scaffolding; - use of technology. - 'Kapow' Scheme of learn provides videos for both teachers and children that demonstrate skills and technology. - Integrated teaching of the formal elements of art (line, shape, tone, texture, pattern and colour) - Knowledge organisers for all units are provided. Throughout the units of work children will be expected to: - Produce accurate scientific profile of the work; - Produce high quality work; - Have the opportunity to repeat and improve drafts (as many times to improve); - Self-assess their work. Throughout the units of work children will receive: - Critical advice / discussion – from teacher /peers; - Specific feedback; - Positive explanation and encouragement.
	Meeting the needs of the learner	<u>Planning</u> • Planning is differentiated within each lesson. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary. <u>Provision for SEND / disadvantaged</u> • Inclusion strategy • Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all children. <u>Challenge</u> • Children can stretch their own ideas and develop their own skills and be as creative as they wish. <u>Catch up / interventions / Cumulative dysfluency / Addressing gaps</u> • Opportunities are provide for children who have not achieved or been exposed to skills to visit previous units.

Intent, Implementation and Impact in Design and Technology

IMPACT	Review and Assess Assessment for Learning	Review of learning – assessment for end of unit questions. Feedback to improve – monitoring and evaluation and how to improve/prepare for next unit. At the end of each unit there is an assessment 'Quiz' and a 'Knowledge Catcher' which will provide an assessment of the children knowledge. Assessment - Curriculum expectation-this can be done by considering the quality of progress: Quality – is the quality of children's work improving over time? Breadth – are children broadening their knowledge? Height – are children raising the level of their skills? Depth – are children deepening their understanding? Skills – working below / working at / working above Accurate scientific profile of the work. High quality work. Critical advice / discussion – from teacher /peers. Specific feedback. Opportunity to repeat and improve drafts (as many times to improve) Positive explanation and encouragement. Children's self-assessment
	Summative assessment	- At the end of each unit a quiz is presented and children complete a question and multiple choice assessment and a knowledge catcher. - Design and Technology skills are assessed using the following criteria at the end of each unit / year: working below / working at / working above.
OTHER	Culture	Love of Design and Technology flourishes throughout school by: - Children have the opportunities to gain experiences with a variety of materials that enables them to develop their skills and increase their knowledge which will enrich them for further life. - Children are engages with design and technology as there is no right or wrong answers. Children have the opportunity to engage with their creation and develop it over a period of time. Children feel free to express their own imaginations and creativity and develop a sense of pride with their creative master pieces. - Children are rewarded with an end product that they are proud to have produced, - Children have the opportunity to transfer their skills and knowledge and produce healthy and nutritious dishes at home. .
	Wider curriculum opportunities / Cultural capital	- English – Reading, writing - Science - Thinking scientifically – classifying e.g. Discussing the properties of materials when choosing materials for their fairground wheel; discussing the senses that humans have, having an awareness of food hygiene; interpreting the results of tests; Electricity (Y4) - building a simple circuit and identifying components of a circuit; Forces - understanding the concept - Maths – 2D and 3D shapes. Measure, - Computing - Practising drag and drop skills by creating an inspiration board
	Reading within the Curriculum Area	- Reading Recipe books - Design manuals – cars, computers
	Related Policies	- Handwriting and Presentation - Feedback and Marking to improve - Teaching and Learning - Assessment

Intent, Implementation and Impact in Design and Technology