St Luke's C.E. Primary School

DT Policy

Langport Avenue
Longsight
Manchester
M12 4NG

St. Luke's Mission Statement:

We believe in providing our pupils with the skills to be resilient, independent and brave. We look to God to help us be loving neighbours, caring stewards and reflective individuals. We do this through a rich diverse curriculum, which is inclusive, accepting and supportive.

'For with God, nothing shall be impossible' (Luke 1:37)

What this looks like in Design Technology?

At St Luke's, we believe that Design and Technology (DT) is important because it encourages pupils to learn, to think and intervene creatively to solve problems both as individuals and as members of a team. Children develop technical understanding and making skills, learn about design methods and investigate their environment and the materials around them. It builds up from learning in the EYFS. The nature of design and technology is such that it should provide opportunities for pupils to engage in activities that are challenging, relevant and motivating. This should give pupils enjoyment, satisfaction and a sense of purpose. Overall, it will provide a vehicle for personal development allowing children to explore, reflect, evaluate, improve on their learning as well as the work of others, giving them a concrete experience.

Rationale

The Curriculum at St Luke's is adapted to be a vocabulary rich, enquiry-based curriculum. We focus on improving pupils long and short-term memory to improve accuracy and fluency of children's grasp of knowledge and skills; in order for learning to progress well and for all children to be confident fluent learners. The DT curriculum meets the needs of the National Curriculum 2014 programmes of study as units of knowledge and skills. This is further deepened, enhanced and supported by additional experiences, opportunities, resources in the form of the Enrichment curriculum and The Global Citizen and Mental Wellbeing curriculum. We are currently using the 'Kapow scheme' to deliver DT within our school.

Intent

The DT curriculum is based upon the EYFS framework and the acclaimed 'Kapow scheme'. The Design and Technology leader has developed a structured progression of skills by carefully selecting topics throughout each year group. Each topic is specifically chosen to develop children's DT skills throughout their journey through St Luke's. The colour coded table briefly states the skills that will be taught in each topic and how these skills are built on throughout the years. The information below is more detail about how children will progress and develop their skills in the five areas of DT throughout EYFS and key stages 1 & 2.

Throughout their education at St Luke's, children will learn to develop DT skills previously learnt in earlier years and expand on these skills to design, create and review in more depth as they move through infants to juniors. The key skills that children will learn and develop during DT sessions will be:

- To develop creative and imaginative thinking to enable them to talk about what they like and dislike when designing and making. Critique, evaluate and test their ideas and products and the work of others (Kapow scheme).
- To talk about how things work, and to draw and model their ideas. Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users (Kapow scheme).
- To select appropriate tools and techniques for making a product, whilst following safe procedures, to cut, shape, join and finish designs.
- To explore attitudes towards the made world and how we live and work within it. Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world (Kapow scheme).
- To develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.
- Understand and apply the principles of nutrition (healthy diet) and learn how to cook.
- To understand where food comes from and the issues of seasonality.

Implementation

At our school we have formed an enquiry-based curriculum. In order to explore, experiment and deepen their knowledge, children will be asked a key question at the beginning of each topic. This will encourage them to research and build on their previous knowledge and skills throughout the topic in order to create a final piece. The DT coordinator, in liaison with class teachers, has devised key questions, making cross curricula links, which will be asked at the beginning of each DT topic for each year group. The structure of each lesson is as follows:

1. Prior learning opportunities – remind, refine and rehearse
2. Modelling/content/activity – challenge/concrete learning

3. Questioning and feedback

DT is taught flexibly to the teacher's discretion in years 1-6, some units are blocked off and some units are taught weekly. This is to ensure best possible learning outcomes for all year groups based on their learning needs. In EYFS DT skills are beginning to develop from nursery to reception, children are presented with daily opportunities to develop DT skills throughout the year.

Children in the EYFS will develop a range of creative skills using a wide variety of media and materials for creative expression and construction. This is planned for in the Expressive Arts and Design area of the EYFS curriculum.

Primary resources e.g. materials, sewing equipment and construction kits are stored centrally in the DT cupboard. It is important to ensure that resources are labelled, tidy and ready for use. The DT cupboard is located in Reception which contains the saws, drills and other controlled tools and equipment. Resources are regularly audited and updated by the DT subject leader.

These topics and skills are listed in the table below and the progression of skills highlighted in colour:
Red – mechanisms, blue – electronics, green – food, yellow – textiles, purple – structures, gold - digital world

	Autumn	Spring	Summer
Nursery	Topic 1 Ourselves – Who am I? Topic 2 Traditional Tales – What makes a good and bad character? Topic 3 Under the Sea – Why can't I live under the sea? Topic 4 Dinosaurs – What makes each dinosaur different? Topic 5 Food and Drink – Where does food come from? Topic 6 Animals – How are baby animals born in different habitats? **Ongoing:** • Explore different materials freely, to develop their ideas about how to use them and what to make. (EAD) • Develop their own ideas and then decide which materials to use to express them. (EAD) • Join different materials and explore different textures. (EAD) • Use one-handed tools and equipment, for example, making snips in paper with scissors. (PD)		

<table>
<tr><td></td><td colspan="3">Cooking and nutrition: fruit, vegetables, biscuit, noodles, pancakes, pasta</td></tr>
<tr><td>Reception</td><td colspan="3">Topic 1 Ourselves – Who is a family?
Topic 2 Festivals and celebrations – How do we Celebrate?
Topic 3 Transport and Travel – Which mode of transport is best?
Topic 4 Lifecycles and change – How have I changed?
Topic 5 Our planet – What is life like around the planet?
Topic 6 Superheroes – Who helps me?
Ongoing:
Explore, use and refine a variety of artistic effects to express their ideas and feelings. (EAD)
Return to and build on their previous learning, refining ideas and developing their ability to represent them. (EAD)
Create collaboratively, sharing ideas, resources and skills. (EAD)
Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. (PD)
Cooking and nutrition: fruit, vegetables fruit, biscuit, noodles, pancakes, pasta</td></tr>
<tr><td>Year 1</td><td><u>Structure</u>

Big question: What mechanisms are in a windmill?
Key skills:
Finding the middle of an object.
Puncturing holes.
Adding weight to a structure.
Creating supporting structures.
Cutting evenly and carefully.
Evaluating and improving a product</td><td><u>Textiles</u>

Big question: What is a puppet?
Key skills:
Using a template to create a design for a puppet.
Cutting fabric neatly with scissors.
Using joining methods to decorate a puppet.
Sequencing steps for construction.
Reflecting on a finished product, explaining likes and dislikes</td><td><u>Mechanism</u>

Big question: What is a moving story book?
Key skills:
Explaining how to adapt mechanisms, using bridges or guides to control the movement.
Designing a moving storybook for a given audience.
Following a design to create moving models that use levers and sliders.
Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed.
Reviewing the success of a product by testing it with its intended audience</td></tr>
</table>

Year 2	**Mechanisms** **Big question: Are all wheels round?** **Key skills:** • Conducting simple surveys or discussions to gather opinions on what others need or like in a design. • Knowing that a survey is used to find out what people like. • Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. • Knowing that a design brief helps to decide what to make. • Knowing that design criteria are the steps for making a product successful • Choosing materials, ingredients or components from a wider range of materials, ingredients or components. • Explaining their choices based on the properties of materials and components. • Knowing some properties of materials like hard, soft, flexible, waterproof, strong etc. • Following and recalling simple safety instructions	**Cooking and Nutrition** **Big question: Is my snack healthy?** **Key skills:** • Chopping foods safely to make a wrap. • Grating foods to make a wrap. • Snipping smaller foods instead of cutting. • Spreading soft foods to make a wrap. • Identifying the five food groups. • Learning about a balanced diet. • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Designing three wrap ideas	**Structure** **Big question: Why don't buildings fall over?** **Key skills:** • Generating and communicating ideas using sketching and modelling. • Learning about different types of structures, found in the natural world and in everyday objects. • Making a structure according to design criteria. • Creating joints and structures from paper/card and tape. • Building a strong and stiff structure by folding paper • Exploring the features of structures. • Comparing the stability of different shapes. • Testing the strength of their own structures. • Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of their own structure
Year 3	**Textiles** **Big question: What is cross stitch and applique?** **Key skills:** • Designing and making a template for an Egyptian collar and applying individual design criteria.	**Digital world** **Big question: What is wearable technology?** **Key skills:** • Problem solving by suggesting potential features on a micro:bit and justifying my ideas. • Drawing and manipulating 2D shapes, using	**Cooking and Nutrition** **Big question: How can seasonal eating improve nutrition?** **Key skills:** • Describing how climate affects where foods grow. • Identifying seasonal ingredients from the UK. • Tasting seasonal ingredients.

	• Following their design criteria to create an Egyptian collar. • Selecting and cutting fabrics with ease using fabric scissors. • Threading needles with greater independence. • Tying knots with greater independence. • Sewing cross stitch to decorate or join fabric. • Decorating fabric using appliqué, beads (or other embellishments), ribbon and pinking scissors. • Evaluating an end product.	computer-aided design, to produce a point of sale badge. • Developing design ideas through annotated sketches to create a product concept. • Developing design criteria to respond to a design brief. • Following a list of design requirements. • Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm. • Analysing and evaluating an existing product. • Using feedback from peers to improve a design	• Describing the texture and flavour of ingredients. • Peeling foods by hand or with a peeler • Cutting ingredients safely. • Choosing ingredients based on a design brief • Following the instructions within a recipe. • Describing the benefits of seasonal fruits and vegetables and their impact on the environment
Year 4	**Mechanisms** **Big question: What is a mechanical system?** **Key skills:** • Designing a shape that reduces air resistance. • Drawing a net to create a structure from. • Choosing shapes that increase or decrease speed as a result of air resistance. • Personalising a design. • Measuring, marking, cutting and assembling with increasing accuracy. • Making a model based on a chosen design. • Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance	**Electrical systems** **Big question: How can electrical appliances solve problems?** **Key skills:** • Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. • Making a torch with a working electrical circuit and switch. • Using appropriate equipment to cut and attach materials. • Assembling a torch according to the design and success criteria. • Evaluating electrical products. • Testing and evaluating the success of a final product.	**Structures** **Big question: What does a structure need?** **Key skills:** • Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. • Building frame structures designed to support weight. • Creating a range of different shaped frame structures. • Making a variety of free-standing frame structures of different shapes and sizes. • Selecting appropriate materials to build a strong structure and for the cladding. • Reinforcing corners to strengthen a structure. • Creating a design in accordance with a plan. • Learning to create different textural effects with materials.
Year 5	**Structures**	**Mechanisms**	**Textiles**

	Big Question: What elements need to be considered when designing and building a bridge? **Key skills:** • Designing a stable structure that is able to support weight. • Creating a frame structure with focus on triangulation. • Making a range of different shaped beam bridges. • Using triangles to create truss bridges that span a given distance and support a load. • Building a wooden bridge structure. • Independently measuring and marking wood accurately. • Selecting appropriate tools and equipment for particular tasks. • Using the correct techniques to saw safely. • Identifying where a structure needs reinforcement and using card corners for support. • Explaining why selecting appropriate materials is an important part of the design process. • Understanding basic wood functional properties. • Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary. • Suggesting points for improvements for own bridges and those designed by others.	**Big Question: What makes a pop-up book 'pop'?** **Key skills:** • Designing a pop-up book which uses a mixture of structures and mechanisms. • Naming each mechanism, input and output accurately. • Storyboarding ideas for a book. • Following a design brief to make a pop up book, neatly and with focus on accuracy. • Making mechanisms and/or structures using sliders, pivots and folds to produce movement. • Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result. • Evaluating the work of others and receiving feedback on own work. • Suggesting points for improvement	**Big Question: What 'stuff' goes into making a stuffed toy?** **Key skills:** • Designing a stuffed toy considering the main component shapes required and creating an appropriate template. • Considering the proportions of individual components. • Creating a 3D stuffed toy from a 2D design. • Measuring, marking and cutting fabric accurately and independently. • Creating strong and secure blanket stitches when joining fabric. • Threading needles independently. • Threading needles independently. • Using appliqué to attach pieces of fabric decoration. • Sewing blanket stitch to join fabric. • Applying blanket stitch so the spaces between the stitches are even and regular. • Testing and evaluating an end product and giving points for further improvements.
Year 6	**Electrical Systems** **Big question: Steady now! What can I**	**Cooking and Nutrition** **Big question: Come Dine With Me! What**	**Digital World** **Big question: What can I design to help**

	design to make a child's motor skill development engaging and enjoyable? **Key skills:** • Designing a steady hand game, identifying and naming the components required. • Drawing a design from three different perspectives. • Generating ideas through sketching and discussion. • Modelling ideas through prototypes • Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. • Constructing a stable base for a game. • Accurately cutting, folding and assembling a net. • Decorating the base of the game to a high-quality finish • Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. • Constructing a stable base for a game. • Accurately cutting, folding and assembling a net. • Decorating the base of the game to a high-quality finish	**kind of a healthy meal could I prepare that leaves people coming back for more?** **Key Skills:** • Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken. • Following a recipe, including using the correct quantities of each ingredient. • Adapting a recipe based on research. • Working to a given timescale. • Working safely and hygienically with independence. • Evaluating a recipe, considering: taste, smell, texture and origin of the food group. • Taste testing and scoring final products. • Suggesting and writing up points of improvements in productions. • Evaluating health & safety in production to minimise cross contamination	**an adventurer navigate the world?** **Key skills:** • Writing a design brief from information submitted by a client. • Developing design criteria to fulfil the client's request. • Developing a product idea through annotated sketches. • Placing and manoeuvring 3D objects, using CAD. • Changing the properties of, or combine one or more 3D objects, using CAD. • Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). • Explaining material choices and why they were chosen as part of a product concept. • Programming an N,E, S,W cardinal compass. • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. • Developing an awareness of sustainable design. • Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch. • Demonstrating a functional program as part of a product concept

<u>5 Core skills</u>

Within DT there are 5 strands which are core of the subject and run through each of the key areas of Structures, Mechanisms/mechanical structures, Electrical systems (KS2), Cooking and nutrition, Textiles and Digital world (KS2). **"**Within each key area, the development of the core skills (design, make, evaluate) and technical knowledge is detailed, to ensure that progression is logical, achievable and measurable" (Kapow).

Designing:

When designing, children need to understand the context they are working in, think about who their products will be for and decide what tasks they will perform. They need opportunities to generate, develop, model and communicate ideas in a variety of ways, including spoken language, drawings, templates, mock-ups, prototypes and pattern pieces.

Designing	EYFS	Key Stage 1	Key Stage 2
Understanding contexts, users and purposes	In EYFS pupils begin to: • Explore how things work (3-4) • Recognise some environments that are different from the one in which they live. (R) • Explore the natural world around them (R)	Across KS1 pupils should: • work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for • say how their products will work • say how they will make their products suitable for their intended users • use simple design criteria to help develop their ideas	Across KS2 pupils should: • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work In early KS2 pupils should also: • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas In late KS2 pupils should also: • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • develop a simple design specification to guide their thinking
Generating, developing, modelling and communicating ideas	In EYFS pupils begin to: • Choose the right resources to carry out their own plan. (3-4) • Explore collections of materials with similar and/or different properties. (3-4) • Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. (3-4) • Explore, use and refine a variety of artistic effects to express their ideas and feelings. (R) • Create collaboratively, sharing ideas, resources and skills. (R)	Across KS1 pupils should: • generate ideas by drawing on their own experiences • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mock- ups • use information and communication technology, where appropriate, to develop and communicate their ideas	Across KS2 pupils should: • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas In early KS2 pupils should also: • generate realistic ideas, focusing on the needs of the user • make design decisions that take account of the availability of resources In late KS2 pupils should also: • generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost

Making:

When making, children should select from a range of tools and equipment, explaining their choices. They also need opportunities to choose the materials and components they will use, thinking about their working characteristics. They should follow procedures for safety and hygiene and develop a repertoire of practical skills and techniques, working with increasing accuracy.

Making	EYFS	Key Stage 1	Key Stage 2
Planning	In EYFS pupils begin to: • Select and use activities and resources, with help when needed. This helps them to	Across KS1 pupils should: • plan by suggesting what to do next • select from a range of tools and	Across KS2 pupils should: • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using

	achieve a goal they have chosen, or one which is suggested to them. (3-4) • Use all their senses in hands-on exploration of natural materials. (3-4) • Explore and talk about different forces they can feel. (3-4) •	equipment, explaining their choices • select from a range of materials and components according to their characteristics	• select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities In early KS2 pupils should also: • order the main stages of making In late KS2 pupils should also: • produce appropriate lists of tools, equipment and materials that they need • formulate step-by-step plans as a guide to making
Practical skills and techniques	In EYFS pupils begin to: • Use one-handed tools and equipment, for example, making snips in paper with scissors. (3-4) • Use a comfortable grip with good control when holding pens and pencils. (3-4) • Join different materials and explore different textures. (3-4) • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.(R)	Across KS1 pupils should: • follow procedures for safety and hygiene • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design	Across KS2 pupils should: • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components In early KS2 pupils should also: • measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with some accuracy In late KS2 pupils should also: • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems

Evaluating:

When evaluating, children should make increasingly sophisticated judgements about their own ideas and products against design criteria. They should consider the views of others in order to improve their work. They should also investigate and evaluate existing products using a variety of questioning techniques and, in KS2, learn about important inventors and their inventions.

Evaluating	EYFS	Key Stage 1	Key Stage 2
Own ideas and products	In EYFS pupils begin to learn about: • Talk about the differences between materials and changes they notice. (3-4) • Return to and build on their previous learning, refining ideas and developing their ability to represent them (R)	Across KS1 pupils should: • talk about their design ideas and what they are making • make simple judgements about their products and ideas against design criteria • suggest how their products could be improved	Across KS2 pupils should: • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work In early KS2 pupils should also: • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products In late KS2 pupils should also: • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification
Existing products	In EYFS pupils begin to learn about:	Across KS1 pupils should explore: • what products are • who products are for	Across KS2 pupils should investigate and analyse: • how well products have been designed • how well products have been made

	• Be able to express a point of view and to debate when they disagree with an adult or a friend, using words as well as actions. (3-4) • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.(R)	• what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products	• why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants In early KS2 pupils should also investigate and analyse: • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused In late KS2 pupils should also investigate and analyse: • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose
Key events and individuals	Not a requirement in EYFS	Not a requirement in KS1	Across KS2 pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products

Technical knowledge:

Technical knowledge is the body of knowledge and understanding that is specific to design and technology that needs to be developed and then applied when children are designing, making and evaluating products.

Technical knowledge	EYFS	Key Stage 1	Key Stage 2
Making products work	In EYFS pupils begin to learn about: • Make comparisons between objects relating to size, length, weight and capacity. (3-4) • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. (3-4) • Combine shapes to make new ones – an arch, a bigger triangle, etc. (3-4) • Select, rotate and manipulate shapes to develop spatial reasoning skills (R) • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.(R) • Compare length, weight and capacity. (R)	Across KS1 pupils should know: • about the simple working characteristics of materials and components • about the movement of simple mechanisms such as levers, sliders, wheels and axles • how freestanding structures can be made stronger, stiffer and more stable • that a 3-D textiles product can be assembled from two identical fabric shapes • that food ingredients should be combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking	Across KS2 pupils should know: • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking In early KS2 pupils should also know: • how mechanical systems such as levers and linkages or pneumatic systems create movement • how simple electrical circuits and components can be used to create functional products • how to program a computer to control their products • how to make strong, stiff shell structures • that a single fabric shape can be used to make a 3D textiles product • that food ingredients can be fresh, pre-cooked and processed In late KS2 pupils should also know: • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients

Cooking and nutrition:

Cooking and nutrition provides opportunities for children to learn about where food comes from, how food is grown, reared or caught and the effect of seasonality on the availability of food. They also learn about the principles of healthy eating and how to prepare and cook dishes safely and hygienically using a range of techniques. Cooking and nutrition is taught alongside designing and making within a D&T food project.

Cooking and nutrition	EYFS	Key Stage 1	Key Stage 2
Where food comes from	In EYFS pupils begin to learn about: • food coming from animals or plants. • different types of food involved in celebrating festivals (Chinese New Year, pancake day)	Across KS1 pupils should know: • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught	Across KS2 pupils should know: • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world In late KS2 pupils should also know: • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking Across KS2 pupils should know: • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
Food preparation, cooking and nutrition	In EYFS pupils begin to learn about: • healthy/unhealthy food (fruit and vegetables) • the importance of hygiene when cooking with particular emphasis on hand washing. • develop skills in cutting and peeling. • Know and talk about the different factors that support their overall health/wellbeing	Across KS1 pupils should know: • how to name and sort foods into the five groups in The Eatwell Guide • that everyone should eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating	In early KS2 pupils should also know: • that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Guide • that to be active and healthy, food and drink are needed to provide energy for the body In late KS2 pupils should also know: • that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health

The following tables outline the area, big questions and LQs (Medium term plan) that will be completed for each topic for each year group (Y1-Y6). The purpose of the questions is to deepen children's knowledge and understanding and to help them develop and complete their projects.

Year 1

Focus – structures	**Big question: What is the structure of a windmill?** LQ1: How do I create a stable structure? LQ2: What tools and equipment do I need to make parts of a structure? LQ3: How do I join parts of a structure?

	LQ4: How do I evaluate my structure?
Focus – Textiles	**Big question: What fabrics do I need to make a puppet?** LQ1: What methods do I use to join fabrics together? LQ2: Why does a template help create designs? LQ3: How do I join two fabrics together accurately? LQ4: What embellishments enhance my design?
Focus – Mechanisms	**Big question: What do I need to make a moving book?** LQ1: What is a mechanism? LQ2: What different designs make a moving storybook? LQ3: How do I construct a moving picture? LQ4: How do I evaluate my finished storybook?

Year 2

Focus – Mechanisms	**Big question: Are all wheels round?** LQ1: I can explore wheel mechanisms and design a fairground wheel? LQ2: Can I select materials with appropriate properties? LQ3: How do I build and test a moving wheel? LQ4: How do I conduct a simple survey to gather opinions? LQ5: Can I finish and evaluate a structure with a rotating wheel?
Focus – Cooking and Nutrition	**Big question: Is my snack healthy?** LQ1: Can I recognise foods and their food groups? LQ2: How do I identify an appropriate piece of equipment to prepare a given food? LQ3: How do I select balanced combinations of ingredients? LQ4: Can I design based on a criteria? LQ5: How do I evaluate a dish based on design criteria?
Focus- Structures	**Big question: Why don't buildings fall over?** LQ1: Why did London Bridge fall down? LQ2: Who is that breaking my chair? LQ3: How can I fix the Baby Bears Chair?

Year 3

Focus – Textiles	**Big question: What is cross stitch and applique?** LQ1: How do we sew using cross stitch? LQ2: How will a template improve the product? LQ3: How do assemble fabric on your design? LQ4: How do you decorate fabric using appliqué and cross-stitch?
Focus – Digital World	**Big question: What is wearable technology?** LQ1: Why should we research and evaluate existing products? LQ2: What is a design criteria? LQ3: How do we program and control a product? LQ4: How can we communicate our ideas to an audience? LQ5: What is computer aided design? LQ6: How can we improve our design after feedback?
Focus – Cooking and Nutrition	**Big question: How can seasonal eating improve nutrition?** LQ1: Why does our food come from all over the world? LQ2: What is seasonal food? LQ3: What technology skills are needed in food preparation? LQ4: How can we evaluate seasonal food? LQ5: How will your design appeal to its target audience? LQ6: How could you improve your design?

Year 4

Focus – Mechanisms	**Big question: What is a mechanical system?** LQ1: What's the best way to make a strong chassis? LQ2: How can we increase the strength of the chassis and the driving mechanism at once? LQ3: What will allow my axel to turn with as little friction as possible? LQ4: How will I implement my aerodynamic design? LQ5: What's important after I have built my machine

Focus – Electrical Systems	**Big question: How can electrical appliances solve problems?** LQ1: How does electricity work? LQ2: How does a torch work? LQ3: What are the useful features of a torch? LQ4: What do I need to make my torch? LQ5: How could we improve our design?
Focus – Structure	**Big question: What does a structure need?** LQ1: What should a structure's frame look like? LQ2: What will my structure look like? LQ3: How will I build my frame? LQ4: How will cladding help my structure? LQ5: How could I improve my pavilion's structure?

Year 5

Focus – Structure	**Big Question: What elements need to be considered when designing and building a bridge?** LQ1: How can reinforcing a structure improve its strength? LQ2 and 3: Which shapes are important when building a truss bridge? LQ4 and 5: How can I use my knowledge to build my own wooden bridge? LQ 6: Has my final design met the success criteria?
Focus – Mechanisms	**Big Question: What makes a pop-up book 'pop'?** LQ1: What types of mechanisms can we see in pop-up books? (Explore) LQ2: How do prototypes help us to understand mechanisms? (Making different types) LQ3: How can I use my design brief to construct a pop-up book? (Making – make book with middle pop up) LQ4: What kind of movement can levers produce? (Making p. 1 Lever) LQ5: What kind of movement can sliders produce? (Making p. 2 Slider) LQ6: How can I ensure that my finished product is aesthetically pleasing and fit for purpose?
Focus - Textiles	**Big Question: What 'stuff' goes into making a stuffed toy?** LQs 1 and 2: What are the component parts of a stuffed toy?

	LQ3: What should I include in my design? LQ4: How can I use a template to ensure accuracy in the making process? LQ5: What stitches are most appropriate for joining the different components? LQ6: Does my toy meet the design brief?

Year 6

Focus - Digital World	**Big question: What can I design to help an adventurer navigate the world?** **LQ1 –** Design brief: What does our client want from us? **LQ2 –** Prototype: How can coding help me make one product with multiple functions? **LQ3 –** Design concept: How can I maximise this product's sustainability? **LQ4 –** Design: How will the design brief inform my computer-aided design? **LQ5 –** Evaluation: How will I pitch my design concept to our client?
Focus – Cooking and Nutrition	**Big question: Come Dine With Me! What kind of a healthy meal could I prepare that leaves people coming back for more?** LQ1:Which flavours complement each other well? LQ2 – What should I consider when designing a three-course meal? LQ3 – How can I refine my food preparation skills? LQ4 – Starter: What will inspire my pepper-based starter? LQ5 – Main course: What kind of a course do I want to create with salmon as the 'hero ingredient'? LQ6 – Dessert: How could my pineapple-based dessert end my meal with a flourish?

Inclusion

We are committed to ensuring that all pupils are able to access a broad, high quality curriculum. Pupils are likely to learn at different rates and require different levels and types of support. We seek to understand pupils' differences, including their different levels of prior knowledge and potential barriers to learning. We use adaptive teaching where we focus on how teachers can help all learners reach the same goal and learn the same skills and concepts at their own individual level. In order to meet the additional needs of individual SEND pupils at St. Luke's, we tailor resources, organise classroom environments and buy further resources as and when the need arises.

The needs of all learners to check, embed, extend learning will be met through the following:

All curriculum plans - termly;

a) Identify greater challenge/tasks for the more able learners.
b) Opportunities for all SEND pupils in class and how their needs will be met to enable access/achievement/attainment/closing the gap.
c) How the needs of disadvantaged pupils - to ensure there are no gaps between their learning and those of non-disadvantaged.
d) EAL - pupils for when English is not their first language.

Support will take many forms:
- Interventions including for the most able
- Resources
- Staff deployment
- Task setting
- Questioning

All children are encouraged to participate in DT sessions at St Luke's. Special provisions will be made for individual children, where appropriate, to ensure they can access the full curriculum in line with the Accessibility, Global Citizen and Wellbeing and SEND Policies.
Equality Act 2010 – with a particular regard to protected characteristics and to ensure all pupils get the highest quality of provision and opportunities.
Our school primarily has children from EAL backgrounds 90%+, we also have children who have SEND, at St Luke's we strive to have an inclusive curriculum suitable for everyone. For those who need extra support we provide opportunities in lessons such as:

- Talk for learning
- Differentiated groups
- Mixed ability groups
- Using pair work
- Using questioning to promote thinking
- Monitoring and giving feedback
- Teacher/t.a led groups
- Assessing progress and performance

How do we promote SMSC and British Values?

SMSC and British values are consistently promoted through the curriculum, and in DT (through Speaking and Listening and now Communication and Language) particularly through choice of texts, discussions, topics and themes we are studying. We aim to ensure that children have exposure to genres and styles from other cultures and many of our topics provide opportunities for discussion about PHSCE and SMSC topics, friendships, democracy,

treating others with respect and kindness, rules of law, individual liberty and freedom of choice.

How do we safeguard children?

We promote safeguarding and wellbeing of all of our children at all times throughout the curriculum. Our children are given opportunities to develop self-confidence and resilience; they are taught to challenge, question and make informed choices, and are given skills to resolve conflicts. Should any pupil make a disclosure, all staff are aware of the safeguarding policy and follow our safeguarding procedure.

Impact

Impact will be measured by:

- Outcomes
- Assessment
- Attendance
- Behaviour
- Monitoring

To ensure school is ambitious for all its pupils.

OUTCOMES:

Children will keep a creative portfolio containing their designs from year 1 – year 6. This will encourage them to reflect on previous methods they have learnt in earlier years and develop these skills to apply to a new theme or product.

ASSESSMENT:

At St Luke's, we assess children's work in DT by making informal judgements as we observe them during each lesson. Through weekly pupil dialogue sessions, the class teacher will assess selected pupils on their understanding of the transferable skills they have learnt by questioning children in cross curricula activities. On completion of a piece of work, the teacher and peers respond to children's work, identifying areas of success and areas for development.

ATTENDANCE AND PUNCTUALITY:

Poor attendance and punctuality impacts negatively on learning creating gaps with a possible impact on social and emotional wellbeing (more acute where attendance is significantly below the expected).

BEHAVIOUR:

Where behaviour leads to pupil disengagement and/or impacts on the learning and progress of children, teachers and the SLT will intervene as appropriate in line with the school behaviour policy.

Reading

Reading has the highest priority in our school: The ability to read and comprehend fluently impacts on pupils' ability to access DT and to attain and achieve to their maximum potential. Poor reading skills are a limiting factor to pupils' future life chances and the ability to deepen and widen their understanding of DT. In DT, there is a wealth of new vocabulary for children to practise, learn and develop. Therefore, in lessons, teachers are conscious that some language may be complex for children to understand. Consequently, every effort is made by teachers to embed and secure a deeper understanding of terminologies through

the use of reading, investigations, research, discussion, etc. Within DT there are 4 strands that each define the importance of reading within the whole subject for all year groups, these are, Design, Make, Evaluate and Technical Knowledge. During DT lessons children are given opportunities to practice many of the DT skills that are used, such as arguing from evidence, communicating and evaluating information, in addition to constructing explanations. Knowledge of vocabulary and DT in general, will help our pupils with their reasoning and problem-solving skills. As a result, opportunities are provided for our children to transfer their reading and writing skills in DT.

Suggested list of books to help develop children's DT skills in primary school:
Children's First Cookbook: Have Fun in the Kitchen, Annabel Karmel
Complete Children's Cookbook, DK
Look Inside How Things Work:1, Rob Lloyd Jones
Look Inside Things That Go, Rob Lloyd Jones
365 Things to Make and Do, Fiona Watt
365 Things to Do with Paper and Cardboard, Fiona Watt
My First Sewing Book, Susan Akass
My First Sewing Machine Book, Alison McNicol
A Beginner's Guide to Circuits, Oyvind Nydal Dahl
Electronics for Kids, Oyvind Nydal Dahl

Vocabulary

Key vocabulary to be used during DT sessions throughout the school:

function	join	mechanism	design	equipment
practical	template	draw	cut	tool
develop	shape	mock-up	material	computer
textile	build	finish	evaluate	cooking
ingredient	recipe	make	model	structure
product	construct	connect	light	circuit

Communication and Language Policy Statement

Secure communication and language skills are prioritised in our school as they bedrock of all subjects within St. Luke's. Being competent and confident in these areas lays the foundation for a successful future for our children and it is essential that these skills are nurtured and developed at every stage of their schooling.

Language is fundamental to life and without it, limits experiences, reduces positive and purposeful interactions and creates additional challenge. Having a large bank of vocabulary helps children learn more. Words allow them to make sense of the world around them and therefore opens the doors of opportunity throughout their lives. Going hand in hand with language skills, communication skills are essential. If children cannot

communicate effectively, they are limited in all areas of their school life, not only with regard to academic progression, but socially, emotionally and spiritually, too.

This is why we believe that, by fostering and developing the acquisition and understanding of communication and language skills, our children can effectively use words, share their emotions and communicate appropriately through body language, too. In turn, they will thrive and prosper, not only throughout their primary school careers, but- and perhaps more importantly- in their futures beyond.

Out of School Learning

Children may receive DT homework based on their current topic. Please see class pages for topic homework and apps/links.
Children of St Luke's can also use their purple mash login at home to access a number of programs that can help to improve their designing skills.

Reporting

The curriculum policy and overview will be available for parents and governors to read on the school website so that they can track the DT topic the children are learning at any time. Parents are kept regularly informed of children's progress and attainment in DT through our open-door approach, which fosters and on-going dialogue between home and school. We hold two parents' Evening (October and March), at which parents and carers are given a clear written and verbal indication of how their children are progressing and targets for future development. At the end of each academic year, each pupil receives a written report of their progress and attainment. Additional reports are sent home to parents of pupils at the end of EYFS, Year 1, Year 4 and Year 6 to explain their performance against national standards.

Document Control	
Title	**Faaria Noor**
Date	**December 2025**
Review	**Reviewed December 2025**