Believe. Achieve. Succeed Together.

Iver Village Junior School

Implementing the DT curriculum

Article 28, 29

Education must develop every child's personality, talents and abilities to the full

Intent Statement

As the pupils progress through each year group, they are continually developing their design skills through a variety of creative and practical activities. The pupils learn to design, make and evaluate, as well as develop the technical knowledge associated with a range of topics such as food, textiles, mechanisms and electrical systems. We encourage the pupils to develop their knowledge of a range of tools and equipment, and learn how to use them safely. We aim to develop pupils' originality and their willingness to take creative risks to produce innovative ideas and prototypes, creating a passion for the subject and nurturing creativity.

Implementation

The National Curriculum

The National Curriculum outlines the following purpose and aims for Design and Technology education in Primary Schools.

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. 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. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- 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
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

The attainment targets for Key Stage 2, set out in the National Curriculum are as followed:

Key stage 2

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.

In addition to the 4 core areas above, there is also specific guidance related to cooking and nutrition.

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

Curriculum Design – The Iver Village Junior School Curriculum

At Iver Village Junior School, we have designed a spiral curriculum which ensures key knowledge, concepts, skills and vocabulary are regularly repeated to support pupils in developing a clear understanding which is embedded into long term memory.

Curriculum overview

The below curriculum overview demonstrates how key topics are repeated, year on year. Each year pupils will engage in a ‘construction’ and ‘food’ based topic. In each phase of Key Stage 2 pupils will engage in textiles. This allows for pupils knowledge and skills to be developed logically and age appropriately throughout their time at IVJS. We have chosen this method of curriculum design to allow for clear and methodical progression both within and across year groups.

KS2 DT Overview			Subject Overview
Key Concepts	**Design** Innovation Functionality Annotated sketches Prototype and Pattern Pieces Computer Aided Design **Make** Tools and Equipment Materials and components Aesthetics **Evaluate** Design Criteria Impact of technology **Technical** Mechanical Systems Electrical Systems **Cooking and Nutrition** Principles of a healthy diet Seasonality		
Objectives to cover (Directly from NC)	Design and technology is an inspiring, rigorous and practical subject. 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. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. Aims The national curriculum for design and technology aims to ensure that all pupils: • develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world • 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 • critique, evaluate and test their ideas and products and the work of others • understand and apply the principles of nutrition and learn how to cook.		
	Autumn Term	**Spring Term**	**Summer Term**
Year 3	Textiles - Puppets	Construction – Moving Monsters	Food – Sandwiches
Year 4	Seasonal Food	Construction – Electrical Game	Design – Packaging
Year 5	Textiles and Fashion	Construction – Solar Systems	Food – Bread
Year 6	Global Food	Construction – Victorian Toys	Construction – Bridges

Key concepts:

How have they been identified?

Using the National Curriculum for Design Technology, we have identified the following concepts that pupils will develop an understanding of through their learning in Design Technology. The table below demonstrates how these concepts will be built upon, year on year.

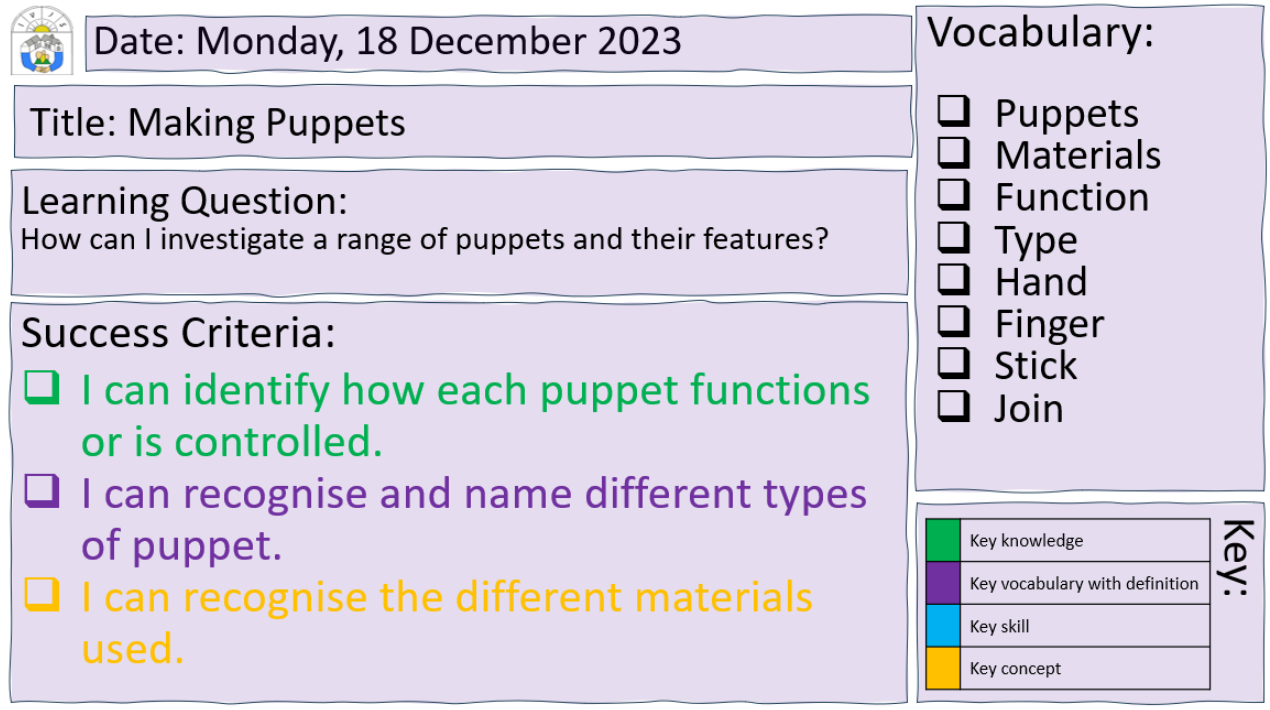
Concepts	KS1	Y3	Y4	Y5	Y6	KS3 (Year 7)
Design						
Innovation	Children know that you can create a new method, idea or product.	Children begin to understand how design can be used to plan a new product for a given criteria.	Children can confidently understand that new methods, ideas and products can be designed for a specific design criterion. They can apply this knowledge to designing their own.	Children can discuss a range of different audiences and how you would create a new product that is fit for intended audience. They can apply this knowledge to designing their own new product.	Children can explain confidently why a new product should be designed for a particular audience. They can use subject specific vocabulary in their discussion.	Extend their design knowledge using principles of design and research. Children should be able to solve their own design problems when creating innovative and functional products. At this stage, children should be planning in detail, with annotated sketches and with an audience in mind.
Functionality	Children know that products are designed for a specific purpose.	Children can begin to discuss why a product is made in a certain way, discussing its purpose with their peers. Children begin to problem solve in order to test functionality.	Children can explore different designs/products in order to determine its intended audience and function. They can use this knowledge to compare and contrast their suitability for an intended audience. Children can problem solve in order to test the functionality of an item with more confidence.	Children can confidently explain a product's purpose and evaluate whether it is suitable for the intended function. They can begin to use this knowledge to design their own products, fit for purpose, for multiple different audiences.	Children understand the function of trusses, arches and beams in supporting a bridge structure. They can confidently design what criteria is required ensure a product is suitable for its intended purpose. Use their knowledge of functionality to evaluate whether their design works and meets the user's needs.	
Annotated sketches	Children recognise labels on a design when looking at pictures.	Children know that designs need labels to describe them and start to label their own designs using simple terms.	Children can explain why designs need labels and can use this knowledge to label their own designs using simple terms.	Children can explain why designs need labels and can use this knowledge to label their designs with more detail.	Children confidently explain why and how labels are used on designs and label their own designs with detail and technical vocabulary, noting different materials, design elements and tool required.	
Prototypes/Pattern Pieces		Children should understand how practising a design or skill is necessary to make a good final product.	Children are introduced to the term prototype and are able to make a prototype of their own design, before making their own product.	Children are introduced to the term pattern piece and are able to make a pattern piece of their own design, before making their own product.	Children are able to explain why a prototype/pattern piece is needed and are able to start problem solving design faults from their own prototypes.	
Computer Aided Design			Children should understand that certain graphics can be designed on a computer in order to contribute to the design of a product.			
Make						
Tools and Equipment	Children should know that tools and equipment are required to make a product.	Children should begin to understand why certain tools and equipment are chosen. They should use these to make and finish their own products.	Children should understand why certain tools and equipment are chosen. They should use these to make and finish their own products.	Children should understand why certain tools and equipment are chosen and use this knowledge to select their own equipment when designing and making a product.	Children should confidently explain why they have chosen certain tools to create a product of their own choosing.	Children should be able to select appropriate tools when making a product and be able to use them with confidence. They should be using a range of different materials that are fit for purpose.
Materials and Components	Children should be able to name some materials that things are made from.	Children should be able to name different materials from visual clues and be able to predict what products can be made from it.	Children are able to name different materials with much more confidence from a visual and written clues and be able to select products that are made from them and how they are fit for purpose. Children should be able to begin to select the correct components to make a simple circuit.	Children are able to confidently name different materials from visual and written clues and be able to select appropriate materials for their own designs. Children should be able to describe the different fabrics and materials used in their textiles unit.	Children should confidently name and describe different materials. They should pick suitable materials for their products dependent upon their functionality and how appropriate they are for their intended use. They should consider which materials work better in order to make a structure strong and secure.	

Aesthetics	Children should be able to share their own opinions of whether they like or dislike a product or idea.	Children should discuss whether they like a chosen design using their 5 senses to guide this discussion.	Children should discuss whether they like a chosen design using their 5 senses to guide this discussion, whilst understanding how this relates to the term 'aesthetics'	Children should compare and contrast the aesthetics of different products.	Children should discuss aesthetics of different products, compare and contrast these products using the word aesthetics in their discussions.	
Evaluate						
Design Criteria	Children should be able to make something following a basic, given design criteria with adult support.	Children understand that a design criteria is set for people to follow and make a particular product. Children should be able to make something following a basic, given design criteria with some independence.	Children understand that a design criteria is set for people to follow and make a particular product. They should be able to describe why this is important when designing a product, considering different audiences. Children should be able to design their own product based on a chosen design criteria with some adult guidance.	Children understand that a design criteria is set for people to follow and make a particular product. They should be able to describe why this is important when designing a product, considering different audiences Children should be able to design their own product based on a chosen design criteria independently.	Children understand that design criterion are set for people to follow and make a particular product. They should be able to confidently explain why this is important when designing a product, considering different audiences. Children should design and make their own product that is fit for purpose, based upon a design criteria that they have decided upon given the intended audience of their product.	Children should be able to analyse work of professionals and peers as well as their own. They should evaluate prototypes and make changes to designs in order to improve a product. They should continue to use technology to research designs. They should begin to understand the impact of technology of individuals in design and also the environment.
Impact of Technology		Children should begin to understand how researching online can help to generate ideas for a new product. They should use examples from research to help them design their own products.	Children should know that technology can be used to research different design ideas when brainstorming a new idea/product.	Children should describe the advantage of using technology to brainstorm ideas for a new product. With adult guidance, they should use a computer/iPad to research	Children can confidently use technology for research purposes. Children should be able to discuss the advantages of using technology when	
			Children should begin to understand how technology can contribute to a design with the use of graphics.	different products that are made using textiles.	designing a new product. They should refer to how technology can help to problem solve when problems arise with prototypes.	
Technical Knowledge						
Mechanical Systems		Children should begin to understand how mechanics can be used when designing and making a product. Making moving monsters should aid the children's understanding of this concept.			Children should know that products can be made using mechanics. They should understand how these improve a product and effect the structure and movement of a product. They should apply their knowledge to creating an effect cams system.	Children should understand how the properties of certain materials impact their effectiveness in certain structures. They should understand how some mechanical systems work and use this knowledge to inform future designs (moving mechanics or electrical mechanics). Children should know how simple circuits can cause a product to move, light up or make a sound. In addition, children should begin to use computing to program designs and include electronics.
Electrical Systems			Children should begin to understand how simple circuits can be used within certain products to make sounds, light or movement. They should use their knowledge to complete their own simple circuits within a product using sound.			
Cooking and Nutrition						

Principles of a Healthy and Varied Diet	Children should begin to understand that eating healthy foods is important for staying healthy.	Children should begin to gain a better understanding of what makes up a healthy diet and have discussions about which foods are 'healthy' and which foods should be eaten in small amounts. They should use this knowledge to design a sandwich that would be part of healthy diet. They will do this by selecting a variety of fillings from a given list.	Children should be able to describe what makes up a healthy diet and should refer to the eatwell plate within their discussions. They should use this knowledge to design a meal that is balanced and could contribute to a healthy diet.	Children should be able to describe what makes up a healthy diet and should refer to the eatwell plate within their discussions. Children should be able to discuss why certain foods are important in a balanced diet and then be able to design a product that use certain ingredients that are important for a healthy diet.	Children should be able to explain what makes up a healthy, balanced diet whilst referring to the eatwell plate. They should begin to understand how seasonality and locality of foods can impact the availability of a varied and healthy diet. They should compare different diets from different countries and apply their knowledge to preparing something from each location.	Children should understand the principles of healthy diet and confidently explain how a good diet contributes to staying healthy. Children should continue to build their cooking skills by cooking a variety of savoury dishes. They should begin to gain an understanding of different flavours and textures and use this knowledge to plan their own recipes. Children should also confidently explain where food comes from and what is meant by seasonality. The continuation of the DT curriculum in KS3 should instil a love of cooking and give children the confidence they need to independently cook themselves meals in adult life in a safe and hygienic way.
Seasonality	Children should begin to understand foods can be grown.		Children should begin to describe where food comes from, understanding which foods are grown, caught and reared. Children should begin to understand that different foods are at their best at certain times of year. They should use this knowledge to plan their own dish using vegetables that are grown in the UK.		Children should describe where food comes from and explain where in the world food grown, caught and reared. They should begin to understand how locality of certain ingredients contributes to different countries having different diet choices to the UK. They should apply this knowledge to preparing food from around the world.	

The concepts identified above a taught explicitly within DT lessons and teachers are responsible for planning to teach these concepts and making it explicit to pupils. Within the above documents, the expected outcomes for previous and future year groups is evident. Teachers are familiar with the previous learning and use this as building blocks for their lessons. They are aware of future learning to ensure their lesson planning provides pupils with appropriate foundations for their next stage of learning.

In every DT lesson, teachers will introduce the learning using the slide below. They will colour code success criteria to identify knowledge, skills, concepts and vocabulary.



Key Knowledge:

Key knowledge, relevant to the National Curriculum and chosen topics of study have been identified. This highlights to teachers the outcomes in learning or what pupils know has been identified. Teachers also use previous teacher assessment and 'KWL' activities at the start of topics to pitch lessons appropriately to reach intended outcomes in knowledge.

The table below is from the progression of knowledge for DT documents. It identifies a series of questions pupils will need to be able to answer to demonstrate the progression of their knowledge in each topic.

Knowledge	Y3	Y4	Y5	Y6
Autumn	Textiles – Puppets - How can I investigate a range of puppets and their features? - How can I work with fabric to create a finger puppet? - How can I develop and practise my sewing skills? - How can I design a glove puppet? - How can I follow a design to make a puppet? - How can I evaluate my finished product?	Food - Seasonal Food - How can I understand where food comes from? (global & UK) - How can I explore when British food is in season? (grown, reared, caught & processed) - How can I investigate the advantages and disadvantages of eating seasonal food? - How can I design a healthy meal that uses seasonal vegetables? (eat well plate) - How prepare a healthy meal that uses seasonal vegetables? - How can I review the meal that I prepared?	Textiles – Fashion and textiles - How can I investigate and analyse items made using textiles, the materials used and how they are made? - How can I explore some ways in which textiles are joined and decorated? - How can I design an item made using textiles, and draw pattern pieces? - How can I use pattern pieces to measure, mark and cut fabric, to sew design elements according to a design? - How can I join fabric pieces by hand sewing to add detail to my designs? - How can I sew hems on an item I have made?	Food – Global food - How can I understand where in the world ingredients come from? - How can I explain that diets around the world are based on similar food groups? - How can I explain why rice is a good table food? How can I cook rice? - How can I demonstrate a range of food skills and techniques? (Mexican food) - How can I demonstrate a range of basic and advanced food skills and cooking techniques? (Chinese food) - How can I accurately and mainly independently follow a recipe demonstrating a range of cooking techniques? (Italian food)
Spring	Construction – Moving Monsters - How do I investigate a variety of familiar objects that use air to make them work? - How do I investigate techniques for making simple pneumatic systems? - How do I gather ideas for creating moving monsters? - How can I make a monster with a moving pneumatic part? - How can I make a monster with a moving pneumatic part? - How do I evaluate my finished product?	Construction – Electrical game - How can I research and analyse a range of children's toys? - How can I explore how some toys can be programmed using a computer? - How can I plan and design an electric loop game? - How can I make my electric loop game? - How can I make my electric loop game? - How can I evaluate my electric loop game?	Construction – Solar system - How do I research the different planets? - How do I plan and design my mini solar system? - How do I create my own mini solar system? - How do I create my own mini solar system? - How do I complete my own mini solar system? - How do I evaluate my design?	Construction – Victorian toys - How do I research Victorian Toys? - How do I research cam mechanisms? - How do I plan and design my Victorian toy? - How do I create my Victorian toy with a Cam mechanism? - How do I create my Victorian toy with a Cam mechanism? - How do I evaluate my design?
Summer	Food – Sandwiches - How can I understand the information provided by food labels? - How can I explore the variety of sandwiches that can be created? - How can I understand the food preferences of different children in my class? - How can I design a healthy sandwich based on the likes and dislikes of children in my class? - How can I safely prepare the sandwich I have designed? - How can I review my sandwich?	Design – Packaging - How can I investigate a range of packaging? - How can I construct nets for 3-D shaped packages? - How can I explore the use of graphics on packaging? - How can I design a packaging box for a particular purpose? - How can I make a packaging box by following a design? - How can I evaluate a finished product?	Food – Bread - How can I investigate and evaluate bread products according to their characteristics? - How can I explain that bread is an important part of a balanced diet and that it can be eaten in different ways? - How can I research and compare which different ingredients are needed to make different bread products? - How can I design a bread product for a particular person or event? - How can I make a bread product? - How can I evaluate my bread product?	Construction – Bridges - How can I explore ways in which pillars and beams are used to span gaps? - How can I explore ways in which bridges are strengthened? (trusses and arches) - How can I understand how suspension bridges are able to span long distances? - How can I develop criteria and design a prototype bridge for a purpose? - How can I make a bridge from my design and prototype? - How do I analyse and evaluate my bridge based on the design criteria?

Key skills:

As a practical subject, development of disciplinary skills is essential. Using the National Curriculum as a basis, a progression of skills document has been formed which underpins lesson planning. Teachers refer to this document, previous skills taught and assessment data from previous topics or year groups taught to ensure appropriate support and instruction is given. There is a gradual progression through each year group to build on previous skills. In each lesson, the skill focus is shared explicitly with pupils (using the success criteria slide above) and previous skills are revised and recapped. Future skills are addressed during the lesson sequence so pupils know where they are going in their learning journey.

Skill	Y3	Y4	Y5	Y6
Design	Show design meets a range of requirements. Describe purpose of product. Follow a given design criteria. Have at least one idea about how to create product. Create a plan which shows order, equipment and tools. Describe design using an accurately labelled sketch and words. Make design decisions. Explain how product will work. Begin to use computers to show design. Select appropriate materials, fit for purpose.	Use research for design ideas. Show design meets a range of requirements and is fit for purpose. Have at least one idea about how to create product and suggest improvements for design. Produce a plan and explain it to others. Say how realistic a plan is. Include an annotated sketch. Make and explain design decisions considering availability of resources explain how product will work. Begin to make a prototype. Select appropriate materials, fit for purpose; explain choices.	Take a user's view into account when designing. Begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose. Have a range of ideas. Produce a logical, realistic plan and explain it to others. Use annotated sketches. Clearly explain how parts of product will work. Model and refine design ideas by making prototypes and using pattern pieces. Select appropriate materials, fit for purpose; explain choices, considering functionality. Explain how product will appeal to an audience.	Use research of user's individual needs, wants, requirements for design. Identify features of design that will appeal to the intended user. Create own design criteria and specification. Come up with innovative design ideas. Follow and refine a logical plan. Use annotated sketches. Clearly explain how parts of design will work, and how they are fit for purpose. Independently model and refine design ideas by making prototypes. Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics. Explain how product will appeal to audience; make changes to improve quality.
Make	Work through plan in order. Begin to measure, mark out, cut and shape materials/components with some accuracy. #Select suitable tools/equipment, explain choices; begin to use them accurately. Begin to cut materials/components with some accuracy. Begin to assemble, join and combine materials and components with some accuracy. Begin join different textiles in different ways.	Work through plan in order. Measure, mark out, cut and shape materials/components with some accuracy. Select suitable tools and equipment, explain choices in relation to required techniques and use accurately. Grow in confidence when cutting materials/components with some accuracy. Assemble, join and combine materials and components with some accuracy. Explain alterations to product after checking it. Grow in confidence about trying new/different ideas. Apply a range of finishing techniques with some accuracy.	Create and follow detailed step-by-step plan. Mainly accurately measure, mark out, cut and shape materials/components. Use selected tools/equipment with good level of precision. Produce suitable lists of tools, equipment/materials needed. Use techniques that involve a small number of steps. Cut materials/components with accuracy. Explain how to join things in a different way. Mainly accurately assemble, join and combine materials and components. Refine products after testing. Grow in confidence about trying new/different ideas.	Create, follow, and adapt detailed step-by-step plans. Accurately measure, mark out, cut and shape materials/components. Use selected tools and equipment precisely. Produce suitable lists of tools, equipment, materials needed, considering constraints. Cut materials/components with accuracy and confidence. Accurately assemble, join and combine materials and components. Refine product after testing, considering aesthetics, functionality and purpose. Be confident to try new/different ideas. Accurately apply a range of finishing techniques. Use techniques that involve a number of steps.
			Mainly accurately apply a range of finishing techniques.	
Technical Knowledge	Use simple mechanisms to create movement. Use pneumatics to create movement. Begin to apply a range of finishing techniques with some accuracy. Choose textiles considering appearance and functionality. Begin to understand that a simple fabric shape can be used to make a textiles project. Think about user when choosing textiles. Begin to devise a template for a textiles project. Think about how to make product strong.	Plan to use a simple circuit in product. Use simple circuits in a product with confidence and begin to use more components in a circuit. Begin to use different techniques to strengthen a product.	Think about user and aesthetics when choosing textiles. Use own template/pattern. Think about how to make product strong and look better. Think of a range of ways to join things. Begin to understand that a single textiles project can be made from a combination of fabric shapes. Think carefully about what would improve the final product.	Confidently know how to make product strong and look better. Securely use different techniques to strengthen a product. Use cams to create movement.
Cooking and Nutrition	Carefully select ingredients. Use equipment safely. Describe how healthy diet= variety/balance of food/drinks. Prepare and cook some dishes safely and hygienically. Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing and spreading.	Explain how to be safe/hygienic. Begin to understand about food being grown, reared or caught in the UK or wider world. Describe eat well plate and how a healthy diet=variety / balance of food and drinks. Begin to understand seasonality of foods understand food can be grown, reared or caught in the UK and the wider world. Prepare and cook some dishes safely and hygienically. Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Explain how to be safe / hygienic and follow own guidelines. Present product well - interesting, attractive, fit for purpose. Describe how recipes can be adapted to change appearance, taste, texture, aroma. Explain how there are different substances in food / drink needed for health. Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source. Use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Understand a recipe can be adapted by adding / substituting ingredients. Explain seasonality of foods. Name some types of food that are grown, reared or caught in the UK or wider world. Adapt recipes to change appearance, taste, texture or aroma. Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. Use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Evaluate	Look at design criteria while designing and making. Use design criteria to evaluate finished product. Say what I would change to make design better. Begin to evaluate existing products, considering how well they have been made, materials, whether they work, how they have been made, fit for purpose. Begin to be resourceful with practical problems.	Refer to design criteria while designing and making. Use criteria to evaluate product. Begin to explain how I could improve original design. Evaluate existing products, considering how well they've been made, materials, whether they work, how they have been made, fit for purpose. Develop their ability to be able to be resourceful with practical problems.	Evaluate quality of design while designing and making. Evaluate ideas and finished product against specification, considering purpose and appearance. Test and evaluate final product. Evaluate and discuss existing products, considering how well they've been made, materials, whether they work, how they have been made, fit for purpose. Mostly be able to independently be resourceful with practical problems.	Evaluate quality of design while designing and making; is it fit for purpose? Keep checking design is best it can be. Evaluate ideas and finished product against specification, stating if it's fit for purpose. Test and evaluate final product; explain what would improve it and the effect different resources may have had. Securely be able to independently be resourceful with practical problems.

Key vocabulary:

In order to successfully access lessons, pupils must have an appropriate understanding of the subject specific vocabulary to be used in the lessons and topic sequence. The below document demonstrates the vocabulary considered necessary for each topic area. Teachers are responsible for identifying the vocabulary that is ***essential*** for each lesson and topic and providing pupils with

support to understanding this. This support may be provided through knowledge organisers or word banks and be visual as appropriate for pupils.

Progression of DT Vocabulary							
Year 3		**Year 4**		**Year 5**		**Year 6**	
• Design • Make • Cut • Fold • Glue • Attach • Sew • Stick • Decorate • Fabric • Material • Running Stitch • Over Stitch • Puppet • Aesthetic • Syringe • Tube • Balloon • Expand • Pneumatic • Air • Hinge • Movement • Recipe • Ingredients • Evaluate • Healthy • Flavour • Texture • Sandwich • Nutrition • Spread • Balanced • Vegetable		• Design • Make • Cut • Attach • Measure • Decorate • Instructions • Evaluate • Electricity • Circuit • Design criteria • Functional • Material • Technique • Seasonality • Seasonal • Reared • Caught • Processed • Design • Recipe • Ingredients • Healthy • Flavour • Aesthetic • Fold • Glue • Stick • Purpose • Material • Nets • Graphics • Font/Type • Attract	• Prototype • Eatwell plate • Balanced diet • Packaging	• Design • Make • Cut • Join • Sew • Hem • Textiles • Pattern • Fashion • Fabric • Attach • Decorate • Material • Running stitch • Research • Evaluate • Aesthetic • Instructions • Thread • Needle • Glue • Planet • Solar system • Size • Proportion • Technique • Paint • Cook • Weigh • Ingredients • Recipe • Measure • Proving	• Sift • Wheat • Processed • Yeast • Gluten • Bake • Temperature • Healthy • Texture • Hollow • Balanced diet • Fold • Knead	• Design • Make • Cook • Taste • Recipe • Ingredients • Global • Texture • Flavour • Nutrition • Technique • National • Prepare • Healthy • Balanced diet • Eatwell plate • Locality • Seasonality • Food groups • Evaluate • Join • Glue • Tools • Equipment • Aesthetic • Cam • Mechanism • Mechanics • Join • Movement • Victorian • Cut • Measure • Material	• Bridge • Linear • Design Criteria • Join • Joints • Purpose • Trusses • Arches • Suspension • Pillars • Beams • Three-dimensional • Prototype • Analyse • Structure • Functional

Medium term planning:

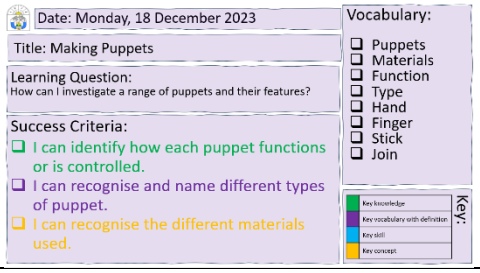
Using the documents mentioned above, medium term plans have been created. These plans have suggested learning questions and identify the key concepts and skills which will be addressed. This planning is a guide for teachers and may be adapted based on the needs, learning and development of pupils and classes.

Y3	Topic	DT Skills	Concepts	Skills Used	Vocab
Autumn: Textiles: Puppets		1. Design 2. Make 3. Technical Knowledge 4. Cooking and Nutrition 5. Evaluate	• Research • Design • Make • Evaluate • Technical Knowledge • Cooking and Nutrition		Design Make Cut Fold Glue Attach Sew Stick Decorate Fabric Material Running Stitch Over Stitch Puppet Aesthetic Syringe Tube Balloon Expand
Lesson 1		How can I investigate a range of puppets and their features?	Research Evaluate	5	
Lesson 2		How can I work with fabric to create a finger puppet?	Make Technical Knowledge	1, 2	
Lesson 3		How can I develop and practise my sewing skills?	Make Technical Knowledge	2	
Lesson 4		How can I design a glove puppet?	Design	1, 2, 5	
Lesson 5		How can I follow a design to make a puppet?	Make Technical Knowledge	2, 5	
Lesson 6		How can I evaluate my finished product?	Evaluate	5	

For each topic, pupils will have access to a knowledge organiser which can act as a visual scaffold for their learning throughout the topic. These are designed by teachers using the planning documents.

Lesson Design

All Design and Technology lessons follow a similar structure to support pupils in developing a depth of understanding and opportunity to practice key skills and further understanding of core concepts and vocabulary.

Aspect of lesson	**Details**
Review of previous learning and retrieval practice	Recap and introduce new objectives.
Introduction of learning question	Learning Question slide 
Concepts, knowledge, skills, vocabulary	Concepts, knowledge, skills and vocabulary are explicitly incorporated into lessons using the above guidance documents.

Modelling	Teachers model key skills in different ways, this may be through the demonstration of a skill such as cutting in cooking or through thinking aloud for skills such as planning or evaluating.
Guided practice	Guided practice tasks will be planned for in which groups and classes can work together. Teachers will plan for questioning within a 'we do' approach to develop skills alongside modelling.
Independent practice (learning tasks)	Some tasks will be independent, in pairs or groups. Teachers will vary this depending on the learning required Tasks may vary in length with the teacher using mini plenaries to guide pupils and address misconceptions. Lessons are scaffolded to assist learning. Word banks, guided instructions to complete the task.
Plans for scaffolding	- Visual prompts - Task organisers -Knowledge organisers - Adaptations to meet the overall task -Adaptations of equipment where appropriate

Classroom Practice

Retrieval practice	Every lesson will begin with retrieval practice of previously taught content. This will help to assess the extent to which learning is embedded in long term memory.
Modelling:	Demonstrating skills required by modelling or using video clips of various DT skills where a classroom isn't suitable or achievable.
Questioning	WHAT? What are we doing? WHY? Why are we doing this? HOW? How can we improve? This type of questioning checks that the curriculum is relevant, that the pupils are enjoying the topic.
Scaffolding:	Scaffolding will vary dependent on pupil need and progress. The suggestions above will be planned into lessons where appropriate and shared with all staff supporting within the lesson. In the case where adapted equipment is required this will be organised with the subject lead and SENco.

Practise	Pupils will be provided with learning tasks which provide opportunities for practice of key skills. This practice may occur individually, in pairs or groups.
Oracy	Pupils are encouraged to talk for a range of purposes within DT lessons. This may include presenting planning and evaluation.

Adaptive teaching:

The main aim for adaptive teaching within Design Technology is providing appropriate and timely scaffolding to allow for all pupils to access the lesson. The table below identifies some of the ways scaffolding is provided during DT lessons.

Task organisers	Task organisers to be used by teachers for specific pupils for individual tasks.
Physical Resources	Physical resources may require adaptation such as pencil grips, adapted rulers, scissors etc. Where these will be required, discussion with the SENco or subject leader may be needed.
Visual supports	Visual supports such as word banks, task organisers or worked examples may be used to support individual pupils.
Adult support	Adult support may be used as needed to ensure pupils can access learning, this may include additional modelling as required or close monitoring to ensure safety such as in cooking lessons.

Additional intervention

For some pupils, additional support is required to support the development of pupils *subject* understanding. The below table identifies the types of additional intervention that may be provided. This provision is planned with support from the SENCo.

Pre-teaching of vocabulary	Pupils identified as needing vocabulary pre-teaching are supported through intervention which will support their learning in class.

Support for teachers:

Subject knowledge	https://nationalcollege.com/webinars/primary-dt-intent
Pedagogy	https://nationalcollege.com/webinars/primary-dt-implementation https://nationalcollege.com/webinars/primary-design-technology-assessment

	https://nationalcollege.com/webinars/primary-design-technology https://nationalcollege.com/webinars/teaching-assistants-design-technology-primary