

Upper Nidderdale Primary Federation

Design and Technology (inc RHSE unit on Healthy Eating) Intent, Implementation and Impact Long Term Plans & Progression EYFS, KS1 and KS - Updated September 2023









At Upper Nidderdale Primary Federation, we will all approach everything we do in the CHAMPS way, help every child flourish into a caring, confident and resilient young person who has a **love of learning** and:

Chooses the right way and takes **responsibility** for their own actions

Honest in everything they do and shows **compassion** for others

Achieves the best they can with the talents they have and develop their **wisdom**Manners shown to everyone and treats everyone with **respect**Perseveres when situations are difficult and shows **courage** when they are challenged

Safety and knowing how to keep safe on and offline to ensure that everyone is kept physically and emotionally safe. This shows the special relationship we have with each other, where as a **community**, we look after each other, keeping each other safe – **Koinonia**

As Rights Respecting schools, our intents are based around the following articles;

Article 23

You have the right to special education if you have a disability.

Article 28

All children have the right to a good quality education.

Article 29

All children have the right to an education that helps to develop their talents and abilities.

Design Technology

Intent

We aim to provide all children with a broad and balanced curriculum which prepares them for life beyond primary education. We encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Design and Technology is an inspiring, rigorous and practical subject. It can be found in many of the objects children use each day and is a part of children's immediate experiences. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team.

The Design and Technology curriculum combines skills, knowledge, concepts and values to enable children to tackle real problems. It can improve analysis, problem solving, practical capability and evaluation skills. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. The children are encouraged to become innovators and risk-takers. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

<u>Aims</u>

The 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.

Design Technology

Implementation

Teachers are provided with an additional three planning days per year on top of their PPA, to plan their curriculum. As part of the planning process, teachers need to plan the following:

- A knowledge organiser which outlines knowledge (including vocabulary) all children must master;
- A cycle of lessons for each subject, which carefully plans for progression and depth;
- A low stakes quiz which is tested regularly to support learners' ability to block learning and increase space in the working memory;
- Challenge questions for pupils to apply their learning in a philosophical/open manner;
- Trips and visiting experts who will enhance the learning experience;
- A means to display and celebrate the pupils' DT work in their class.
- Teaching in DT will incorporate the RHSE 'Healthy Eating' unit.

A Spiral Curriculum

Our Design and Technology curriculum is organised into units of four lessons. Within each unit, lessons must be taught in order as they build upon each other. The curriculum is designed as a spiral curriculum with the following key principles in mind:

- Cyclical: Pupils return to key areas again and again during their time in primary school.
- Increasing depth: Each time a key area is revisited it is covered with greater complexity.
- Prior Knowledge: Upon returning to each key area, prior knowledge is utilised so pupils can build upon previous foundations, rather than starting again.

Design Technology.

Impact:

Our Design and Technology curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be making good or better progress. In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes;
- A celebration of learning for each term which demonstrates progression across the school;
- Pupil discussions about their learning; which includes discussion of their thoughts, ideas, processing and evaluations of work.
- Work will be assessed at the end of each unit against the agreed end points.
- Big Books will be used rather than individual books. They will include a range of children's work, photos and children's comments.
- Where necessary, children may be recorded to show a specific skills so that judgements can be made easily and accurately. These will be saved on TEAMS.
- Big Books will show a clear and progressive sequence of learning. Each lesson should be displayed within the big books with sufficient evidence shown. Moderation will be carried out at least once per year.

SEND Adaptions for DT

| Cognition and Learning | | Communication and Interaction | | |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Subject Challenges for SEND | SEND Provision | Subject Challenges for SEND | SEND Provision | |
| Interpretation of designer's work. | Use stem sentences to provide subject specific language in a particular format – this will enable children to accurately communicate their thoughts and opinions. | Expressing themselves and sharing their thoughts and opinions orally. | Use stem sentences to provide subject specific language in a particular format – this will enable children to accurately communicate their thoughts and opinions. | |
| Understanding of subject specific vocabulary. Difficulty in producing accurate pieces of writing e.g. an evaluation of a D&T project. | Pre-teach subject specific vocabulary. Draw particular attention to subject specific vocabulary which have different meanings in other contexts. E.g. 'knead/need, saw/saw, seam/seem.' Use visuals via Widgit Online to aid understanding of subject specific vocabulary. Reinforce through matching activities. Use writing frames, 'fill in the blank' sentences, sentence starters, vocabulary mats, visuals to sequence etc. Children who have difficulties structuring their writing/who have difficulties with short term memory could use talking tins to 'hold their sentences' whilst they write at an individual word pace. Children can record work differently e.g. through the use of ICT (PowerPoints, Word documents, videos etc). | EAL pupils may find it difficult to access resources/learning. | Use flash cards supported by visuals to allow the children to choose adjectives to support their reasoning. E.g. children could select the word 'bright' to describe why they like a particular piece of artwork. Children could then match these flash cards to different pieces of artwork to demonstrate understanding. Teacher can use these flash cards to prompt verbal reasoning. Use a reduced number of simple instructions which are supported by visuals e.g. 'cut, stick, colour.' Appropriate modelling to aid understanding. Differentiated written resources can be | |
| Sequencing of physical art task (knowing which steps to complete first). | Utilise 'shared tasks' by pairing children with a learning buddy. One partner verbally explains the process of making something whilst the other asks questions. Partners swap roles and repeat the task. This will reinforce sequencing. Flow charts can be useful in visually demonstrating a specific sequence. | | supported by visuals and could be translated using Word. (Teachers click Review – Translate – Translate Document). This will fully translate the document and open in a new window. | |

SEND Adaptions for DT

| Sensory and Physical | | SEMH | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Subject Challenges for SEND | SEND Provision | Subject Challenges for SEND | SEND Provision |
| Fine motor skills/physical difficulties. | Teachers to be proactive in identifying appropriate resources and manipulatives for each individual child's need. For example, some children may require double holed scissors, enlarged sewing needles etc. Pre-teach can be used to ensure that children are confident using D&T equipment before the lesson. | Low self-esteem in D&T ability. | Showcase different work and a focus on the creation process rather than on the end result. Teacher be conscious to praise effort rather than ability. Make use of learning objectives which focus upon the specific art skill and not the resulting artwork. E.g. focus upon the uniform length of stitches rather than the neat cutting out of the fabric shape. |
| Sensory difficulties accessing specific materials during Art lessons. For example, some children may find it very difficult to handle a material such as cotton wool due to tactile sensory difficulties. | Ensure any sensory difficulties are considered at the point of planning and alternative materials are provided to avoid sensory overload. E.g. replace cotton wool for polyfill stuffing. Ensure that font size used in resources matches the specific font size specified in the child's report provided by the Visual Impairment Team (saved in | | Pre-teach key information and vocabulary so that children feel prepared for the lesson and can share their knowledge with their peers – resulting in raised self-esteem. Sensory breaks as required to enable children who are struggling to regulate their emotions before continuing. |
| Children with a visual impairment may find it difficult to view text/images. | SEND files on T Share). Enlarge images to appropriate sizes to aid access. | Difficulties with social skills may result in children finding group work challenging. | Carefully consider seating arrangements during group work to ensure that children are placed next to patient, non-dominant children. Additional adult support can be deployed as necessary. Ensure children have access to usual aides such as ear defenders to reduce noise. Provide talking tins for children who struggle with impulsivity so that they can record their contributions as they think of them but can play them back to other children at the appropriate time. |

<u>Design Technology - Key Areas</u>

Cooking and Nutrition

- Where food comes from
- Balanced diet
- Preparation and cooking skills
- Kitchen hygiene and safety
- Following recipes

Mechanisms/Mechanical Systems

Mimic natural movements using mechanisms, such as cams, followers, levers and slides.

Structures

- Material functional and aesthetic properties.
- Strength and stability
- Stiffen and reinforce structures.

Textiles

- Fastening, sewing, decorative and functional fabric techniques
- Cross stitch, blanket stitch and applique

Electrical Systems

- Operational series circuits, circuit components
- Circuit diagrams and symbols, combined to create various electrical products.

Digital World

 Program products to monitor and control, develop designs and virtual models using 2D and 3D CAD software.

Design Technology

| | Structures | Mechanisms | Textiles |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key Stage One | Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error. | Introduce and explore simple mechanisms, such as sliders, wheels and axles in their design. Recognise where mechanisms such as these exist in toys and other familiar products. | Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique. |
| Key Stage Two | Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs. Understand material selection and learn methods to reinforce structures. | Mechanism systems Extend pupils understanding of individual mechanisms to form part of a functional system for example. Automatas that use a combination of cams, followers, axles, shaft, cranks and toppers. | Understand that fabric can be layered for effect, recognising the appearance and technique for different stitch and fastening types, including their; • Strength • Appropriate use • Design |

Design Technology

| | Cooking and Nutrition | Electrical Systems | Digital World |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key Stage One | Learn about the basic rues of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals. | .**Key Stage 2 only Create functional electrical products that use series circuits, incorporating different components such as bulbs, LEDs, switches, buzzers and motors. | .**Key Stage 2 only Learn how to develop an electric product with processing capabilities. Apply Computing |
| Key Stage Two | Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of dishes using a range of cooking techniques and methods. Understand what is meant by seasonal foods. Know where and how ingredients are sourced. | Consider how the materials used in these products can; Protect the circuitry Reflect light Conduct electricity insulate | principles to program functions within a product including to control and monitor it. Understand how history and evolution of product design lead to the on-going Digital revolution and the impact it is having in the world today. |

<u>Design Technology - The Design Process</u>

| Design | Research Design criteria (e/g/ tailoring to an audience/user). Idea generation (e.g. annotated sketches). Idea development (e.g. templates, pattern pieces). Models and prototypes (both virtual and physical). Cross sectional and exploded diagrams. Innovated, fit-for-purpose and functional product solutions to design problems. |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Make | Select and use appropriate tools and equipment. Understand and select materials and components (including ingredients) based on their aesthetic and functional properties. Carry out practical tasks with increasing accuracy and precision. Understand the importance of, and follow the health and safety rules. |
| Evaluate | Explore existing products. Evaluate a list of design criteria. Evaluate, investigate and analyse existing products. Evaluate their own and others' ideas. Understand how key events and individuals have helped to shape the world of DT. Consider feedback to make improvements. |

Healthy Eating RHSE Statutory Guidance

Know what constitutes a healthy diet (including understanding calories and other nutritional content).

Know the principles of planning and preparing a range of healthy meals.

Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health).

| Design ' | Techno | logy → | SMSC | Links |
|----------|--------|------------|------|-------|
| | | 3 1 | | |

<u>Spiritual</u>

- Enjoy and celebrate personal creativity through cross-curricular opportunities.
- Review and evaluate created things.
- Reflect on products and inventions, as well as the diversity of materials used.
- Reflect on the way that design can improve the quality of our lives.

Moral

 Discuss and debate the moral dilemmas created by technological advances.

<u>Social</u>

• Offer opportunities to world as a team and to share equipment.

<u>Cultural</u>

• Explore how different cultures have contributed to technology.

Design Technology -> Fundamental British Values

Democracy

- The children must take the views and opinions into account but still have the right to make their own choices.
- To take turns both in speech and practically with others.
- To understand that it is not always possible or right to have their own way and understand the value of compromise.

The rule of law

- To understand the importance of safety rules when using tools.
- To understand and accept that if these rules are not followed that there are consequences to this.

Individual liberty

- To understand that there are able to listen to others but can use their own ideas and design choices when making an artefact.
- To accept that others ideas may not be the same as their own but are able to accept this.

Tolerance

- To tolerate ideas from others that are different to their own.
- To understand that many great design ideas originate from other cultures.

Mutual Respect

- To listen to and consider the ideas and opinions of others even if they differ from your own.
- To be able to take turns during discussions to resolve difficulties or make decisions.
- To offer supportive comments in evaluations that will improve learning outcomes in a way that
 is objective but sensitive to the listener.

EYFS

Practitioners will;

- Model to pupils how to join different material, displaying a variety of techniques and providing opportunities to investigate and experiment.
- Provide opportunities for pupils to design, make and evaluate products in different areas of provision.
- Model how to use a variety of tools safely.
- Provide safe opportunities for children to practice using and handling these tools.
- Develop pupil's vocabulary around materials, tools, techniques, purpose, form and function.
- Provide opportunities for pupils to explore materials freely.
- Provide opportunities to investigate how things work.
- Provide opportunities to make healthy snacks and to bake.

KS 1 Design and Technology - Long Term Overview

| | AUTUMN TERM | SPRING TERM | SUMMER TERM |
|---------------|-------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------|
| 2023- 2024 | FOOD: A Balanced Diet RSHE – Healthy Eating Link | STRUCTURES: Baby Bear's Chair (4 lessons) | <u>MECHANISMS</u> : Fairground Wheel (4 lessons) |
| | MECHANISMS: Making a Moving Monster (4 lessons) | TEXTILES: Pouches (4 lessons) | |
| 2024- 2025 | FOOD: Fruit and Vegetables (4 Lessons) RSHE – Healthy Eating Link | STRUCTURES: Constructing a Windmill (4 lessons) | MECHANISMS: Axles and Wheels (4 lessons) |
| | MECHANISMS: Making a Moving Story Book (4 lessons) | TEXTILES: Puppets (4 lessons) | |

| | Lower Key Stage 2 | |
|------------|---------------------------------|---|
| Design and | Technology - Long Term Overview | • |

| | Design and Tech | nology - Long Term | Overview |
|----------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| | AUTUMN TERM | SPRING TERM | SUMMER TERM |
| 2023- 2024 | MECHANICAL SYSTEMS: Making a Slingshot Car (4 Lessons) DIGITAL WORLD: Mindful Moments Timer (4 lessons) | FOOD: Adapting a Recipe (4 lessons) RSHE - Healthy Eating Link STRUCTURES: Pavilions (4 lessons) | TEXTILES: Fastenings (4 lessons) ELECTRONIC SYSTEMS: Torches (4 lessons) |
| 2024 - 2025 | MECHANICAL SYSTEMS: Pneumatic Toys (4 Lessons) DIGITAL WORLD: Electronic Charm (4 lessons) | FOOD: Eating Seasonally (4 lessons) RSHE - Healthy Eating Link STRUCTURES: Constructing a Castle (4 lessons) | TEXTILES: Cushions (4 lessons) ELECTRONIC SYSTEMS: Electric Poster (4 lessons) |

| | Upper Key Stage 2 | |
|------------|--------------------------------|----|
| Design and | Technology - Long Term Overvie | 2W |

| | Design and Tech | nology - Long Term | Overview |
|----------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| | AUTUMN TERM | SPRING TERM | SUMMER TERM |
| 2023- 2024 | TEXTILES: Waistcoats (4 Lessons) ELECTRICAL SYSTEMS: Steady Hand Game (4 lessons) | STRUCTURES: Playgrounds (4 lessons) DIGITAL WORLD: Navigating the World (5 lessons) | FOOD: Come Dine With Me (4 lessons) RSHE - Healthy Eating Link ELECTRONIC SYSTEMS: Automata Toys (4 lessons) |
| 2024 - 2025 | TEXTILES: Stuffed Toys (4 Lessons) ELECTRONIC SYSTEMS: Doodlers (4 lessons) | STRUCTURES: Bridges (4 lessons) DIGITAL WORLD: Monitoring Devices (4 lessons) | FOOD: What Could Be Healthier? (4 lessons) RSHE - Healthy Eating Link MECHANICAL SYSTEMS: Making a Pop Up Book (4 lessons) |

Design Technology Knowledge

Substantive Knowledge

Children are taught the substantive knowledge 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 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

Disciplinary Knowledge

Through disciplinary knowledge, children will be able to:

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

Apply Technical knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products
- Understand and use electrical systems in their products
- Apply their understanding of computing to program, monitor and control their products

National Curriculum - Key Stage Two

Pupils should extend their knowledge and understanding beyond the local area to include the United Kingdom and Europe, North and South America. This will include the location and characteristics of a range of the world's most significant human and physical features. They should develop their use of geographical knowledge, understanding and skills to enhance their locational and place knowledge

Locational knowledge

- Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
- identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)

Place knowledge

understand geographical similarities and differences through the study of human and physical geography
of a region of the United Kingdom, a region in a European country, and a region within North or South
America

Human and physical geography

- describe and understand key aspects of:
- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

National Curriculum - 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.

National Curriculum - Key Stage One

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 and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical Knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

National Curriculum - Key Stage Two

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

<u>Make</u>

- 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

National Curriculum - Key Stage Two

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.

We have plotted end points for each year group to ensure that children keep on track for the end of Key Stage end points. In this way we can get children ready for the next stage of their education

Our end points ensure that our curriculum is purposefully structured and logically sequenced, and new knowledge builds on previous knowledge – links can be made across different areas of study.

| EYFS | ELGs in Purple |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fine Motor Skills Creating with Materials | Pupils will work collaboratively, sharing ideas, resources and skills. Pupils will develop their fine motor skills so they can use a growing range of tools competently, safely and confidently. Pupils will explore and evaluate a range of existing products. Pupils use a range of small tools, including scissors, paintbrushes and cutlery. (FMS) Pupils will begin to show accuracy and care when drawing. (FMS) Pupils will safely use and explore a variety of materials, tools and techniques experimenting with colour, design, texture, form and function. (CWM) Pupils will share their creations, explaining processes they have used. (CWM) |

Key Stage One

| DT | Year One | Year Two |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Developing, planning and communicating ideas. | Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Model their ideas in card and paper Develop their design ideas applying findings from their earlier research | Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation, drawing and modelling Make simple drawings and label parts |
| Working with tools, equipment, materials and components to make quality products (inc-food) | Make their design using appropriate techniques With help measure, mark out, cut and shape a range of materials Use tools eg scissors and a hole punch safely Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape Select and use appropriate fruit and vegetables, processes and tools Use basic food handling, hygienic practices and personal hygiene Use simple finishing techniques to improve the appearance of their product | Begin to select tools and materials; use vocab' to name and describe them Measure, cut and score with some accuracy Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product Cut, shape and join fabric to make a simple garment. Use basic sewing techniques Follow safe procedures for food safety and hygiene |
| Evaluating processes and products | Evaluate their product by discussing how well it works in relation to the purpose Evaluate their products as they are developed, identifying strengths and possible changes they might make Evaluate their product by asking questions about what they have made and how they have gone about it | Evaluate against their design criteria Evaluate their products as they are developed, identifying strengths and possible changes they might make Talk about their ideas, saying what they like and dislike about them |

Lower Key Stage Two

| DT | Year Three | Year Four |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Developing, planning and communicating ideas. | Generate ideas for an item, considering its purpose and the user/s Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting Make drawings with labels when designing | Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail Evaluate products and identify criteria that can be used for their own designs |
| Working with tools, equipment, materials and components to make quality products (inc-food) | Measure, mark out, cut, score and assemble components with more accuracy Work safely and accurately with a range of simple tools Think about their ideas as they make progress and be willing change things if this helps them improve their work Measure, tape or pin, cut and join fabric with some accuracy Demonstrate hygienic food preparation and storage | Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques Join and combine materials and components accurately in temporary and permanent ways Sew using a range of different stitches, weave and knit Measure, tape or pin, cut and join fabric with improving accuracy. |
| Evaluating processes and products | Evaluate their product against original design criteria e.g. how well it meets its intended purpose Disassemble and evaluate familiar products | Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests |

Upper Key Stage Two

| DT | Year Five | Year Six |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Developing, planning and communicating ideas. | Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail | appropriate materials, tools and techniques |
| Working with tools, equipment, materials and components to make quality products (inc-food) | Measure and mark out accurately Use skills in using different tools and equipment safely and accurately Weigh and measure accurately (time, dry ingredients, liquids) Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens | Select appropriate tools, materials, components and techniques Assemble components make working models Construct products using permanent joining techniques Make modifications as they go along Pin, sew and stitch materials together create a product |
| Evaluating processes and products | Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others | Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests Record their evaluations using drawings with labels Evaluate against their original criteria and suggest ways that their product could be improved |