Thurlaston CE (Aided) Primary School
Teaching and living the Christian way of life

Design Technology Policy

Approved ……

Date ……
Review date ……

Design and Technology Policy

Rationale

At Thurlaston C of E Primary School we believe that Design and Technology 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.

DT is not taught in isolation, although it often requires its own creative approaches, skill set and techniques throughout the design process. Wherever possible the design objective is linked to other areas of the curriculum and gives children the opportunities to apply learning from across the curriculum to give their work practical context and apply skills to "real world" problem solving. Within this "real world" approach opportunities are available to promote children's spiritual, moral, social and cultural development in Design and Technology.

Aims

To:

- Develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- Enable children to talk about how things work, and to draw and model their ideas.
- Encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- Explore attitudes towards the made world and how we live and work within it.
- Develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.
- Foster enjoyment, satisfaction and purpose in designing and making.
- Understand and apply the principles of a healthy diet.
- Understand where food comes from and the issues of seasonality.

Knowledge and understanding

All pupils are encouraged to

- Generate ideas through discussion and experimentation
- Extend knowledge and understanding of a wide range of materials, including construction kits, textiles, food, wood, plastic, and reclaimed/junk materials.
- Work within groups and as individuals.
- Make use of drawings and models to communicate their ideas.
- Evaluate their work and identify strengths and weaknesses in a positive way.
- Experiment with simple components, mechanisms and structures.
- Learn about health and safety aspects when working with a variety of materials and tools.
- Consider risk to themselves and to others and build up a knowledge and understanding of the dangers inherent in certain products and tools.
- Experience design technology through off-site visits, where practicable, in order to see technology used in a real environment.

Role of the Subject Leader

The role of the subject leader is to;

- advise and support staff in planning teaching and learning of design and technology
- monitor teachers' planning as part of on-going subject monitoring and evaluation of practice and use feedback from monitoring.
- audit, identify, purchase and organise resources, ensuring they are readily available and well maintained
- document and review the agreed ways of working through a written policy document and scheme of work
- keep up-to-date on the use of Design and Technology in the curriculum
- promote Design and Technology throughout the school

Teaching and Learning

The Foundation Stage

The different aspects of the arts and design are encompassed within Creative Development in the Foundation Stage Curriculum, however elements can also be found in other areas of learning (Understanding the world, Physical development, Literacy and Mathematics). This curriculum lends itself to an integrated approach to learning. Nursery and Reception teachers plan quality learning opportunities for art and design using the Early Years Curriculum. There is an emphasis on independence and self- initiated learning, which enables foundation stage children to freely explore resources and pursue their own creative interests and talents in addition to the planned learning experiences.

Key Stages 1 and 2

Staff use a variety of teaching and learning styles in design and technology lessons. The principal aims are to develop children's knowledge, skills and understanding in design and technology and food preparation. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products, and then evaluating them. This is done through a mixture of whole-class teaching and individual or group activities. Within lessons, children are given the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including ICT.

Use of I.C.T

Information and communication technology enhances the teaching of design and technology, wherever appropriate, in all key stages. Children use software to enhance their skills in designing and making things. The children also use ICT to collect information and to present their designs through a range of design and presentation software.

Health and safety

Health and safety is important, particularly when working with tools, equipment and resources. Children should be given suitable instruction on the operation of all equipment before being allowed to work with it.

Children need to be taught how to

- use tools and equipment correctly
- recognise hazards and risk control

Children should be

- strictly supervised in their use of equipment at all times.
- taught to respect the equipment they are using and to keep it stored safely while not in use.
- taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Food Hygiene

- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food.
- Pupils and staff working with food must wear aprons designated for cooking.
- All jewellery should be removed and hair tied back.

Glue Guns

- Key Stage 2 children should use low temperature glue guns under supervision in a designated work area. Care should be taken with trailing wires,

Craft Knives

- Key Stage 2 children may use cutting equipment under supervision, using a cutting mat.

Sawing

- Bench hooks and clamps must be used when sawing any material.
- Safety goggles must be worn and any loose items of clothing/hair must be tucked in.

Equal opportunities

Equal opportunities are considered when we decide upon the resources we provide and the teaching strategies we employ. In our curriculum planning we ensure that all children, with due respect to their culture, religion and background, have equal access to all areas of the curriculum, extra curricular activities, all areas of the grounds, equipment and resources, the staff, and time to contribute to the whole class and group work.

Differentiation

The teaching of Design and Technology needs to take into account the varied abilities, attitudes and individual needs of the children.

We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of results; setting tasks of increasing difficulty where not all children complete all tasks
- grouping children by ability and setting different tasks for each group
- providing a range of challenges through the provision of different resources
- using additional adults to support the work of individual children or small groups

We give children of all abilities the opportunity to develop their skills, knowledge and

understanding, and we also build planned progression into the scheme of work, so that the children are increasingly challenged as they move through the school.

Assessment and recording

We assess children's work in design and technology by making informal judgements as we observe them during each art lesson. On completion of a piece of work, the teacher responds to children's work, identifying areas for development. At the end of each year a written report is given to parents about their child's achievements in design and technology.

Appendix 1

SMSC within Design and Technology Thurlaston CE (aided) Primary School

Pupils' spiritual development is shown by their • Ability to be reflective about their own beliefs, religious or otherwise, that inform their perspective on life and their interest in and respect for different people's faiths, feelings and values • Sense of enjoyment and fascination in learning about themselves, others and the world around them • Use of imagination and creativity in their learning • Willingness to reflect on their experiences	
Foundation Stage	Throughout Foundation Stage children will have the opportunity for daily plan do and review activities, involving DT, during self-initiated time, e.g. shop signs, constructing building using building blocks. This also includes the opportunity to be reflective when returning to class to explain the activity they have participated in. During the Spring term, they will have the opportunity to make 3d vehicles for emergency services linked to literacy using their own creativity and imagination. Weekly, they have the sense of enjoyment and fascination in learning at forest school where they have the opportunity to develop their outdoor cooking skills and create artefacts from natural materials e.g. Dream Catchers.
Year 1	Developing a sense of fascination as they explore the design of objects in order to understand how they are designed, constructed and function. Children then use this knowledge combined their own imagination and creativity to develop and make their own designs. From this, children then reflect on their work by critically evaluating the quality of their design and whether it is fit for purpose.
Year 2	Developing a sense of fascination as these explore the design of objects in order to understand how they are designed, constructed and function. Children then use this knowledge combined their own imagination and creativity to develop and make their own designs. From this, children then reflect on their work by critically evaluating the quality of their design and whether it is fit for purpose. During the Summer term the children design, make and evaluate a Brazilian carnival float. In order to design this the children need to explore the faiths, feelings and values of the people of Brazil.
Year 3	Developing a sense of fascination as these explore the design of objects in order to understand how they are

	designed, constructed and function. Children then use this knowledge combined their own imagination and creativity to develop and make their own designs. From this, children then reflect on their work by critically evaluating the quality of their design and whether it is fit for purpose.
Year 4	Developing a sense of fascination as these explore the design of objects in order to understand how they are designed, constructed and function. Children then use this knowledge combined their own imagination and creativity to develop and make their own designs. From this children then reflect on their work by critically evaluating the quality of their design and whether it is fit for purpose. During the summer term children have the opportunity to make their own recipes for "Explorers Soup" and experience the awe and wonder of creating their own fires to cook their soup outdoors.
Year 5	Developing a sense of fascination as these explore the design of objects in order to understand how they are designed, constructed and function. Children then use this knowledge combined their own imagination and creativity to develop and make their own designs. From this children then reflect on their work by critically evaluating the quality of their design and whether it is fit for purpose.
Year 6	Developing a sense of fascination as these explore the design of objects in order to understand how they are designed, constructed and function. Children then use this knowledge combined their own imagination and creativity to develop and make their own designs. From this children then reflect on their work by critically evaluating the quality of their design and whether it is fit for purpose. During the Autumn term children design and make a fabric Advent Calendar to link with their RE theme "How Christians Celebrate Christmas" During the Summer the Y6 children have the experience, excitement and awe and wonder of taking their finished products "Controllable vehicles as toys for younger children" to the children in KS1 children to observe their responses.
Whole School Children are involved ion a range of design opportunities where they are involved in using their design and creativity in various activities to promote whole school initiatives e.g design a "Well Done " postcard to send out to parents. In the Spring term the global theme is 'Reach for the Stars' where the DT subject leader has led an assembly on careers for a future in DT.	

Pupils' moral development is shown by their • Ability to recognise the difference between right and wrong readily apply this understanding in their own lives and, in so doing, respect the civil and criminal law of England • Understanding of the consequences of their behaviour and actions • Interest in investigating and offering reasoned views about moral and ethical issues, and being able to understand and appreciate the viewpoints of others on these issues	
Foundation Stage	In the Spring term the Foundation Stage children get the opportunity to make their own masks of story characters. This is part of their literacy work where they recognise the difference between right and wrong. They are able to offer reasoned views about moral and ethical issues when considering the character's behaviour and how to reflect this in the design of the mask.
Year 1	In the Spring term the children design and make a moving picture that forms part of a whole class book about traditional tales. These stories often relate to right and wrong with a moral issue at the end of the tale. The children explore the different viewpoints of characters portrayed in various images and then design and make mechanical features to interpret these.
Year 2	In the Summer term the children create puppet pirates. Through an understanding of the story the children develop an understanding of the characters intentions, exploring the right and wrong of their actions, and then use fabric and colour choices to represent these character traits.
Year 3	In the Spring term the children design packaging for a range of products. Children research and investigate aspects of advertising and the moralistic issues related to it. They explore the ethical issues relating to over packaging and waste of materials.
Year 4	In the Autumn term the children design and make a moving picture that forms part of a whole class book about traditional tales. These stories often relate to right and wrong, behaviours and actions and exploring a moral issue at the end of the tale. The children explore the different viewpoints of characters portrayed in various images and then design and make mechanical features to interpret these. In the spring term the children design and make a torch for a Rainforest explorer. As part of their design they consider the moral and ethical issues of the materials they use from both the point of recycling during manufacture and environmental impact during use.

Year 5	In the Spring term the children design and make an alarm system to protect and artefact. As part of this the children consider the extent to which the alarm may be used as a deterrent within the confines of civil and criminal law of England.
Whole School In all year groups, when children are making artefacts, we encourage children to use recycled materials which the may already have in their homes. Children are made aware of issues relating to health and safety and the consequences of their actions and behaviour, whether this be in the tools the use, the safety of the products they are designing or food hygiene via the teacher sharing elements of the Risk Assessments.	

Pupils' social development is shown by their • Use a range of social skills in different contexts, including working and socialising with pupils from different religious, ethnic and socio-economic backgrounds • Willingness to participate in a variety of communities and social settings, including by volunteering, cooperating well with others and being able to resolve conflicts effectively • Acceptance and engagement with the fundamental British values of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs; the pupils develop and demonstrate skills and attitudes that will allow them to participate fully in and contribute positively to life in modern Britain	
Foundation Stage	Foundation Stage children have the opportunity, throughout the year, to develop signs and artefacts relating to their role-play area, to develop a range of social skills in different contexts. E.g. The Healthcare centre, Vets etc.
Year 1	In the Autumn term the children design a healthy Christmas jelly where they explore a healthy and varied diet, including cooking and nutritional requirements. Children explore socio-economic factors by develop an understanding of how they and their families can make the right food choices within the limitations of their budgets.
Year 2	In the Autumn term the children design a healthy pizza where they explore a healthy and varied diet, including cooking and nutritional requirements. The children visit good preparation establishments and take part in the production of food products. Children explore socio-economic factors by develop an understanding of how they and their families can make the right food choices within the limitations of their budgets.
Year 3	In the Autumn term the children design a health snack where they explore a healthy and varied diet and nutritional requirements. The children develop and understanding to enable them to contribute positively and healthily to life in modern Britain by making positive food choices, avoiding high sugar/salt/fat snacks. Children explore socio-economic factors by develop an understanding of how they and their families can make the right food choices within the limitations of their budgets.
Year 4	In the Spring term the children have the opportunity to participate in the Cooking Bus initiative. With the support of an outside agency the children are introduced to the concept of preparing and cooking raw vegetables to produce a low-cost, nutritious and tasty dish.

	In the Summer term the children design an explorer's soup where they explore a healthy and varied diet and nutritional requirements. The children challenge their own preconceptions relating to healthy foods and prepare a dish, from scratch, from seasonal raw ingredients. Children also explore socio-economic factors by develop an understanding of how they and their families can make the right food choices within the limitations of their budgets. The children also have the opportunity to participate in the Little Chefs initiative. With the support of an outside agency a group of children develop their food preparation skills in various social settings and then volunteer to prepare and serve food for a range of school events.
Year 5	In the Summer term the children design a Father's Day meal where they explore a healthy and varied diet and nutritional requirements. The children build on their previous experiences to design and produce a complete 2-course meal. Children explore socio-economic factors by develop an understanding of how they and their families can make the right food choices within the limitations of their budgets.
Year 6	In the Spring term the children design a meal which celebrates culture and seasonality. The children develop an understanding to enable them contribute positively and healthily to life in modern Britain by exploring the relationship of the source of food products from farm to supermarket. Children explore socio-economic factors by develop an understanding of how they and their families can make the right food choices within the limitations of their budgets.
Whole School Throughout the school, food is used as an opportunity for children to participate in a range of social settings. E.g. Autumn Banquet, Mad Hatters Tea Party, Summer Picnic.	

Pupils' cultural development is shown by their • Understanding and appreciation of the side range of cultural influences that have shaped their own heritage and that of others • Understanding and appreciation of the range of different cultures within school and further afield as an essential element of their preparation for life in modern Britain • Knowledge of Britain's democratic parliamentary system and its central role in shaping our history and values, and in continuing to develop Britain • Willingness to participate in and respond positively to artistic, sporting and cultural opportunities • Interest in exploring, improving understanding of and showing respect for different faiths and cultural diversity, and the extent to which they understand, accept, respect and celebrate diversity, as shown by their tolerance and attitudes towards different religious, ethnic and socio-economic groups in the local, national and global communities	
Foundation Stage	Daily the children in Foundation Stage have the opportunity to take part in creative activities during self-initiated time this shows that the children are encouraged to have a willingness to participate in DT. The children get to understand and appreciate a range of cultures within school and further afield through their DT work on designing a dress of Cinderella or designing a kite for Chinese New Year. This helps children to be more aware of the different cultures and celebrations in modern Britain.
Year 1	In the summer term the children design and construct a tent. They develop an appreciation of how tents are used in a range of different cultures, ranging from holidays, festivals to homes for other global communities.
Year 2	During the Summer term the children design, make and evaluate a Brazilian carnival float. In order to design this, the children explore the cultural meanings of carnival and understand, accept and respect diversity.
Year 3	During the Summer term the children design and make Roman purses. The children understand and appreciate cultural influences that have shaped their own heritage by comparing the materials, design and fastening devices with those of modern day.
Year 5	During the Autumn term the children design and make a shelter using Anglo Saxon design features and construction methods. The children understand and appreciate cultural influences that have shaped their own heritage by comparing the materials, and construction methods with those of modern day both in Britain and other cultures around the world.
Whole School Throughout the school, short design opportunities are created to celebrate culture events. E.g. Mother's Day cards, Hanukah cards.	

Appendix 2

Foundation Stage Areas of Development that support/link to the teaching of Design and Technology

	Understanding the world		Expressive Art and Design		Physical Development	Literacy	Mathematics
	Technology	The world	Exploring Media and Materials	Being Imaginative	Moving and Handling	Writing	Shape, space and measure
22-36 months	Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.	Notices detailed features of objects in their environment.	Experiments with blocks, colours and marks	Beginning to use representation to communicate e.g. drawing a line and saying 'That's me'	Shows control in holding and using jugs to pour, hammers, books and mark making tools Initiates drawing simple shapes such as circles and lines	Distinguishes between the different marks they make	Notices simple shapes and patterns in pictures
30-50 months	Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.	Talks about why things happen and how things work.	Understands that they can use lines to enclose a space and then begin to use these shapes to represent objects Beginning to describe the texture of things Realises tools can be used for a purpose	Developing preferences for forms of expression Captures experiences and responses with a range of media such as music, dance and paint and other materials or words	Draws lines and circles using gross motor movements Uses one-handed tools and equipment e.g. makes snips in paper with child scissors	Sometimes gives meaning to marks as they draw and paint	Shows interest in shape and space by playing with shapes and making arrangements with objects Beginning to talk about the shapes of everyday objects eg. Round, and tall
40-60 months		Looks closely at similarities, differences, patterns and change.	Uses simple tools and techniques competently and appropriately	Create simple representations of events, people and objects	Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control. movement and retrace vertical lines	Gives meaning to marks they make as they draw, write and paint. .	Uses familiar objects and common shapes to create and recreate patterns and build models
Early Learning Goals	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another.	Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.	Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.		Children recognise, create and describe patterns.

Appendix 3

Programme of Study for Design and Technology

Key stage 1

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.

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.

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.

Appendix 4

Assessing without Levels

D&T

Name _____

Year 1

Cut, peel or grate ingredients safely and hygienically.	
Measure or weigh using measuring cups or electronic scales.	
Assemble or cook ingredients.	
Cut materials safely using tools provided.	
Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).	
Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.	
Create products using levers.	
Design products that have a clear purpose and an intended user.	
Make products, refining the design as work progresses.	
Explore objects and designs to identify likes and dislikes of the designs.	

D&T

Name _____

Year 2

Cut, peel or grate ingredients safely and hygienically.	
Measure or weigh using measuring cups or electronic scales.	
Assemble or cook ingredients.	
Cut materials safely using tools provided.	
Measure and mark out to the nearest centimetre.	
Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).	
Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).	
Shape textiles using templates.	
Join textiles using running stitch.	
Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).	
Create products wheels and winding mechanisms	
Design products that have a clear purpose and an intended user.	
Make products, refining the design as work progresses.	
Use software to design	
Explore objects and designs to identify likes and dislikes of the designs.	
Suggest improvements to existing designs.	
Explore how products have been created.	

D&T

Name _____

Year 3

Cut, peel or grate ingredients safely and hygienically.	
Measure or weigh using measuring cups or electronic scales.	
Prepare ingredients hygienically using appropriate utensils.	
Measure and mark out to the nearest millimetre.	
Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).	
Understand the need for a seam allowance.	
Join textiles with appropriate stitching.	
Select the most appropriate techniques to decorate textiles.	
Choose suitable techniques to construct products or to repair items.	
Strengthen materials using suitable techniques.	
Design with purpose by identifying opportunities to design.	
Make products by working efficiently (such as by carefully selecting materials).	
Refine work and techniques as work progresses, continually evaluating the product design.	
Use software to design and represent product designs.	
Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.	
Improve upon existing designs, giving reasons for choices.	

D&T

Name _____

Year 4

Prepare ingredients hygienically using appropriate utensils.	
Measure ingredients to the nearest gram accurately.	
Follow a recipe.	
Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).	
Cut materials accurately and safely by selecting appropriate tools.	
Select appropriate joining techniques.	
Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).	
Model designs using software.	
Control and monitor models using software designed for this purpose.	
Write code to control and monitor models or products.	
Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	
Design with purpose by identifying opportunities to design.	
Make products by working efficiently (such as by carefully selecting materials).	
Refine work and techniques as work progresses, continually evaluating the product design.	
Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.	
Improve upon existing designs, giving reasons for choices.	
Disassemble products to understand how they work.	

D&T

Name _____

Year 5

Prepare ingredients hygienically using appropriate utensils.	
Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.	
Demonstrate a range of baking and cooking techniques.	
Create and refine recipes, including ingredients, methods, cooking times and temperatures.	
Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).	
Create series and parallel circuits	
Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).	
Control and monitor models using software designed for this purpose.	
Write code to control and monitor models or products.	
Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding).	
Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).	
Ensure products have a high quality finish, using art skills where appropriate.	
Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.	
Evaluate the design of products so as to suggest improvements to the user experience.	

D&T

Name _____

Year 6

Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).	
Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.	
Demonstrate a range of baking and cooking techniques.	
Create and refine recipes, including ingredients, methods, cooking times and temperatures.	
Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).	
Create objects (such as a cushion) that employ a seam allowance.	
Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).	
Use the qualities of materials to create suitable visual and tactile effects in decoration of textiles. (Such as a soft decoration for comfort on a cushion)	
Convert rotary motion to linear using cams.	
Use innovative combinations of electronics (or computing) and mechanics in product designs.	
Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).	
Make products through stages of prototypes, making continual refinements.	
Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.	
Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.	
Create innovative designs that improve upon existing products.	
Evaluate the design of products so as to suggest improvements to the user experience.	

D&T assessment sheet (Key stage 1) Base:

	Below National	National	Mastery
Year 1 When working with food pupils can cut, peel or grate ingredients safely and hygienically. They can measure or weigh using measuring cups or electronic scales and assemble or cook ingredients. When making products pupils can cut materials safely using tools provided and demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). They can use materials to practice drilling, screwing, gluing and nailing materials to make and strengthen products. Pupils can create products using levers. They can design products that have a clear purpose and an intended user and make products, refining the design as work progresses. Pupils explore objects and designs to identify likes and dislikes of the designs.			

D&T assessment sheet (Key stage 1) Base:

	Below National	National	Mastery
Year 2 When working with food pupils can cut, peel or grate ingredients safely and hygienically. They can measure or weigh using measuring cups or electronic scales and assemble or cook ingredients. When making products or prototypes pupils can cut materials safely using tools provided and can measure and mark out to the nearest centimetre. Pupils can demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) and a range of joining techniques (such as gluing, hinges or combining materials to strengthen). Pupils can shape textiles using templates, join textiles using running stitch and colour & decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). When working with mechanisms the children can create products using wheels and winding mechanisms. In all their work, children can design products that have a clear purpose and an intended user, make products and refining the design as work progresses. Within the design process children can use software to design, explore objects and designs to identify likes and dislikes of the designs, suggest improvements to existing designs and explore how products have been created.			

D&T assessment sheet (Lower Key Stage 2) Base:

	Below National	National	Mastery
Year 3 When working with food pupils can cut, peel or grate ingredients safely and hygienically. They can measure or weigh using measuring cups or electronic scales and prepare ingredients hygienically using appropriate utensils. When working with textiles pupils can measure and mark out to the nearest millimetre, apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs) and understand the need for a seam allowance. When join textiles they can use appropriate stitching, selecting the most appropriate techniques to decorate textiles. In general pupils can choose suitable techniques to construct products or to repair items, strengthen materials using suitable techniques where necessary. Childers design with purpose by identifying opportunities to design, they make products by working efficiently (such as by carefully selecting materials) and refine work and techniques as work progresses, continually evaluating the product design. Children use software to design and represent product designs. Children Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs and improve upon existing designs, giving reasons for their choices.			

D&T assessment sheet (Lower Key Stage 2) Base:

	Below National	National	Mastery
Year 4 When working with food pupils prepare ingredients hygienically using appropriate utensils and measure ingredients to the nearest gram accurately. They can follow a recipe and assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). Cut materials accurately and safely by selecting appropriate tools. Children can select appropriate joining techniques when constructing products and prototypes. When working with electrical systems pupils can diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). In general pupils can model designs using software, control and monitor models using software designed for this purpose and write code to control and monitor models or products. When working with mechanisms pupils can use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). In general pupils design with purpose by identifying opportunities to design, make products by working efficiently (such as by carefully selecting materials), refine work and techniques as work progresses, continually evaluating the product design. They can Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs, improve upon existing designs, giving reasons for choices and disassemble products to understand how they work.			

D&T assessment sheet (Upper Key Stage 2) Base:

	Below National	National	Mastery
Year 5 When working with food pupils prepare ingredients hygienically using appropriate utensils. They can measure accurately and calculate ratios of ingredients to scale up or down from a recipe, demonstrate a range of baking and cooking techniques and create and refine recipes, including ingredients, methods, cooking times and temperatures. When constructing products or prototypes pupils cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). When working with electrical systems pupils can create series and parallel circuits, create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). They can control and monitor models using software designed for this purpose, write code to control and monitor models or products. Children develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding). In general pupils design with the user in mind, motivated by the service a product will offer (rather than simply for profit). They ensure products have a high quality finish, using art skills where appropriate, use prototypes, cross-sectional diagrams and computer aided designs to represent designs. They evaluate the design of products so as to suggest improvements to the user experience.			

D&T assessment sheet (Upper Key Stage 2) Base:

	Below National	National	Mastery
Year 6 When working with food pupils understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). They measure accurately and calculate ratios of ingredients to scale up or down from a recipe, demonstrate a range of baking and cooking techniques, create and refine recipes, including ingredients, methods, cooking times and temperatures. When constructing products and prototypes pupils show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). When working with textiles pupils create objects (such as a cushion) that employ a seam allowance. They join textiles with a combination of stitching techniques (such as backstitch for seams and running stitch to attach decoration) and use the qualities of materials to create suitable visual and tactile effects in decoration of textiles. (Such as a soft decoration for comfort on a cushion). When working with mechanical systems pupils can convert rotary motion to linear using cams. In general pupils use innovative combinations of electronics (or computing) and mechanics in product designs, design with the user in mind, motivated by the service a product will offer (rather than simply for profit), make products through stages of prototypes, making continual refinements. They use prototypes, cross-sectional diagrams and computer aided designs to represent designs c combine elements of design from a range of inspirational designers throughout history, giving reasons for choices, create innovative designs that improve upon existing products and evaluate the design of products so as to suggest improvements to the user experience.			