St Mary's Fields Primary School

DT

Design & Technology POLICY

Policy Date:	March 2021		**Version:** Summer Term 2021 (1) – Clare Drew – Subject Lead		
Policy Review Date:	March 2023		Mrs R Dulieu (Head teacher)	Signature	Date
Ratified by Governing Body:					
Name: Raj Gill-Harrison			Signature		Date

1. Curriculum Intent – Design & Technology Curriculum Intent:

At St Mary's, we aim to deliver DT as an inspiring, practical, progressive subject that stimulates our children's imagination and engages them in a practical hands-on experience to realise their ideas. We will exercise our children's creativity with knowledge, often from cross curricular links, and understanding to design; make and evaluate a product.

The Design and Technology Curriculum supports the whole school curriculum intent by delivering a curriculum that:

- Supports the acquisition of new language through the explicit teaching of vocabulary.
- Ensures the children have the opportunity to make links within the subject, across subjects and to prior learning.
- Exposes children to a broad range of memorable experiences beyond the classroom, inspiring our pupils to build a wider cultural capital and support their learning of new vocabulary.
- Provides the opportunity for children to learn more about their own culture and that of others.
- Teaches children to not only have a voice, but also to use it in order to enquire, challenge and communicate their ideas and opinions.
- Supports children to develop skills of enquiry, creativity and evaluation
- Develops children's subject specific skills
- Requires children to develop skills to work collaboratively and independently in order to achieve better outcomes.
- Develops the child's key characteristics, which are essential for learning and living.
- Encourages children to know and understand the importance of and have the means to lead a healthy lifestyle that has physical and mental health at the heart of it Skills

2. Organisation and planning - Implementation Design and Technology Curriculum

The children will design in response to real and relevant problems, considering their own and other's needs. They will plan, research, organize their resources and in some cases time. As they progress through the school, where relevant, they will make prototypes.
The children will build upon existing skills to make their practical, aesthetic products in a wide range of design fields. They will be encouraged to take design risks to create structures, mechanisms, textiles, electrical systems and food products.
Evaluation is an integral part of the design process and allows children to adapt and improve their design. The children will be encouraged to critically reflect upon, evaluate and refine their products. As they progress through the school, they will evaluate against their original design specification.
The knowledge and skills progression map for Design and Technology (Appendix A) is organised to ensure it is delivered in the manner it is intended and demonstrates that it considers:

- That the curriculum approach is thematic, creative, broad and makes links to other subjects.

- How the curriculum suits the local needs – The School is part of the City Classroom Network in which staff receive CPD opportunities through The Mighty Creatives.
- How the skills and knowledge is designed, delivered and sequenced, considering the planning of Design and Technology through the use of the Knowledge Organisers as our planning documents.
- That the children have access to high quality resources, tools and well stocked materials to enable effective curriculum delivery.

3. Legislation and guidance

This policy reflects the requirements of the National Curriculum programmes of study, which all maintained schools in England must teach.

It also reflects requirements for inclusion and equality as set out in the Special Educational Needs and Disability Code of Practice 2014 and Equality Act 2010, and refers to curriculum-related expectations of governing boards set out in the Department for Education's Governance Handbook.

This policy reflects the progression outlined by the Projects on a Page and the government's The Eatwell Guide.

In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the Early Years Foundation Stage 2020 – Early Adopters - statutory framework.

This policy also acknowledges the risk assessments for safely teaching Design and Technology at St Mary's Fields Primary School. (Appendix B)

4. Roles and responsibilities

4.1 The governing board

The governing board will monitor the effectiveness of this policy and hold the head teacher to account for its implementation. The governing board will also ensure that:

- A robust framework is in place for setting curriculum priorities and aspirational targets
- Enough teaching time is provided for pupils to cover the National Curriculum and other statutory requirements
- It fulfils its role in processes to disapply pupils from all or part of the National Curriculum, where appropriate, and in any subsequent appeals.

4.2 Head teacher

The head teacher is responsible for ensuring that this policy is adhered to, and that:

- All required elements of the curriculum, and those subjects which the school chooses to offer, have aims and objectives which reflect the aims of the school and indicate how the needs of individual pupils will be met
- The amount of time provided for teaching the required elements of the curriculum is adequate and is reviewed by the governing board

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- Where appropriate, the individual needs of some pupils are met by permanent or temporary disapplication from all or part of the National Curriculum
- They manage requests to withdraw children from curriculum subjects, where appropriate
- The school's procedures for assessment meet all legal requirements
- The governing board is fully involved in decision-making processes that relate to the breadth and balance of the curriculum
- The governing board is advised on whole-school targets in order to make informed decisions
- Proper provision is in place for pupils with different abilities and needs, including children with SEN

4.3 Subject Leaders

Subject Leaders will ensure that their curriculum subject is implemented in accordance with this policy.

5. Inclusion

Teachers set high expectations for all pupils. They will use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEN
- Pupils with English as an additional language (EAL)

Teachers will plan lessons so that pupils with SEN and/or disabilities can study every National Curriculum subject, wherever possible, and ensure that there are no barriers to every pupil achieving.

Teachers will also take account of the needs of pupils whose first language is not English. Lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part in all subjects.

6. Subject Monitoring arrangements

Governors monitor coverage of National Curriculum subjects and compliance with other statutory requirements through:

- Governors monitor whether the school is complying with its funding agreement and teaching a "broad and balanced curriculum" which includes the required subjects, through: planned Governor Visits, reading the end of year Governor's Reports and Subject Action Plans and looking at subject data and outcomes.
- Subject Leaders monitor the way their subject is taught throughout the school by: planning scrutiny – looking at Knowledge Organisers – considering the coverage, taught knowledge, skills & vocabulary. Learning walks – which monitor the quality of teaching, ensuring this reflects

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the intent for the subject. The monitoring of work and outcomes – looking at the impact evidence - through the work in books, on display, and photographs on Staff Share, etc. Staff & pupil interviews to get the teachers and children's opinions, which support measuring the impact.

- Subject Leaders also have responsibility for monitoring the way in which resources are stored and managed and are responsible for the ordering of new resources and managing the associated budget.
- The Head Teacher and the Subject Leader will review this policy every two years. At every review, the policy will be shared with the governing board.

7. Links with other policies

This policy links to the following policies and procedures: The Assessment Policy & The Teaching & Learning Policy.

Appendix A = Progression & Skills Map for Design and Technology – pages 5 –

Appendix B = Risk Assessments for Design and Technology- pages

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Food: EYFS and Years 1,2, 3,4 ,5 and 6

EYFS

Designing
- Taste some fruit and vegetables
- Say which fruit and vegetables they like. It could be based on taste or colour.
- Having the opportunity to draw, paint and print with some fruit and vegetables and understand what colours they are.
- Being able to name some fruit and vegetables.

Making
- To use a child's knife or masher to cut/mash soft fruit like a banana, slices of a mango or boiled potatoes.
- To choose their favourite fruit or vegetables and combine them with another ingredient.
- With help where necessary mix two ingredients to make a simple food combination.

Evaluating
- Taste the food and decide if they like it.
- Tell another person what they did to make the combination.

Technical Knowledge, vocabulary and understanding

Some fruit and vegetable names, knife, soft, sweet, sticky, hard, skin, seed, core, cut, mash, taste. mix

Acquired skills:
- Know some fruit and vegetables
- Wash hands before preparing food have clean surfaces and use clean utensils.
- Cut, mash and mix some soft vegetables and/or fruit.

Yr1

Prior knowledge
- Knowledge of common fruit and vegetables
- Experience of cutting some soft fruit and vegetables with simple utensils.
- Exploration of some common fruit and vegetables- taste and smell.

Designing
- Investigate a wide variety of fruit and vegetables to help generate ideas and understand that they are plant based foods.
- Design appealing products for a particular user based on simple design criteria.
- Communicate these ideas through talk and drawings.

Making
- Name and use a range of basic tools safely, e.g. small knife, chopping board, measuring spoon.
- Select from a small range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.
- With help prepare a range of healthy dishes and drinks safely and hygienically.

Evaluating
- Taste the food and decide if someone else would like to eat their product.
- Think about if they wasted a lot of food when they prepared it.
- Say what they might change their food product.

Technical Knowledge, vocabulary and understanding

fruit and vegetable names, knife, chopping board, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, cutting, healthy diet, choosing, ingredients, planning, tasting, design,

Acquired skills:
- Recognise the importance of preparing and cooking food safely and hygienically, e.g. handwashing, cleaning up regularly, keep work surfaces clean.
- .. be able to get ready to cook, e.g. tie back long hair, wash hands, wear an apron.
- .. be aware that food purchased or cooked needs to be stored in different ways to keep it safe, e.g. fridge, freezer.

Yr2

Prior knowledge
- Knowledge of a wider variety of fruit and vegetables.
- Experience cutting a variety of fruit and vegetables.
- Explored a wider variety of fruit and vegetables- taste, appearance, smell and texture.

Designing
- Investigate a wide variety of fruit and vegetables to help generate ideas. And begin to understand if the food is grown in our country or elsewhere.
- Design appealing products for a particular user based on their investigation.
- Communicate these ideas through talk and labelled drawings.
- Understand that some people may have allergies to their chosen foods.
- Make changes to their idea if they need to.

Making
- use a range of food preparation skills with supervision, e.g. peeling, slicing, mixing, scooping, grating, spreading.
- Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.
- With help prepare a range of healthy dishes and drinks safely and hygienically.
- Avoid wasting food during preparation.

Evaluating
- Taste and evaluate the food to determine if their food will appeal to others.
- Evaluate their food against what they intended to make.
- Discuss what they like and dislike about their food.
- Say how they might change their food next time. Could they waste less or use a different ingredient?

Technical Knowledge, vocabulary and understanding

fruit and vegetable names, kebab, knife, peelers, graters, juicers, skewers, jugs, chopping board, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, pith, seed, pip, core, slicing, cutting, peeling, squeezing, healthy diet, choosing, investigating, arranging, ingredients, planning, tasting, design,

Acquired skills:
- .Be aware that we all need a balanced and varied diet to grow, be active and maintain health, and that we need to eat more of some foods than others, e.g. as depicted in the eatwell guide.
- .Know that some people eat or avoid certain foods for different reasons, e.g. due to allergy/intolerance, religion.
- .Be aware that some foods have labels which provide information to help when making a choice.
- .recognise the importance of preparing and cooking food safely and hygienically, e.g. handwashing, cleaning up regularly, keep work surfaces clean.
- Be aware that food needs to be stored in different ways to keep it safe, e.g. fridge, freezer.

Yr3

Prior knowledge
- Know some ways to prepare ingredients safely and hygienically.
- Have some basic knowledge and understanding about healthy eating and The Eatwell Plate.
- Have used some equipment and utensils and prepared and combined ingredients to make a product.

Designing
- Generate and clarify ideas through discussion with peers and adults to develop design criteria.
- Ideas should consider appearance and taste for an appealing product.
- Use annotated sketches and a short written explanation on how the food will be made.
- Designs should consider the importance of a healthy and balanced diet, good oral health and being physically active for health and wellbeing.

Making
- Plan the main stages of a recipe, listing ingredients.
- Select and use appropriate utensils and equipment to prepare and combine ingredients.
- Avoid food waste.
- With some adult help, store, prepare and cook a variety of predominantly savoury dishes safely and hygienically.

Evaluating

Evaluate the ongoing work and the final product with reference to the views of others.

Consider how to improve the design by changing some of the ingredients.

Technical Knowledge, vocabulary and understanding

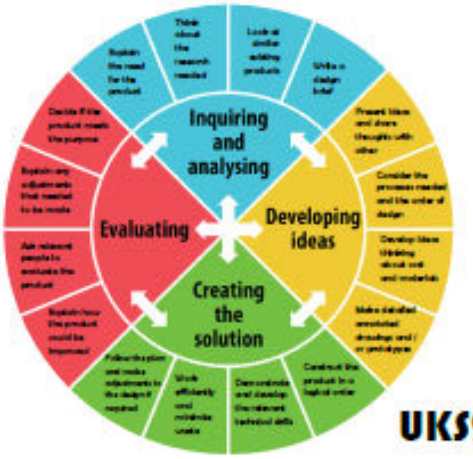
knife, peelers, graters, juicers, skewers, jugs, chopping board, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, spicy, hard flesh, skin, pith, seed, pip, core, slicing, cutting, peeling, squeezing, healthy diet, choosing, investigating, arranging, ingredients, planning, tasting, design, appearance, smell, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, healthy/varied diet , design criteria, purpose, user, annotated sketch.

Acquired skills:
- ,Know how to use appropriate equipment and utensils to prepare and combine food.
- ,Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.

Electrical circuits: Years 4 and 6

Design and Technology field: Electronics			
Year groups the field is covered: 4 and 6			
Word colour key	Already covered in a previous year group in DT.	Cross- curricular links with science.	Cross- curricular links with maths.

LKS2



UKS2

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Experienced basic cutting, joining and finishing techniques with paper and card . Know how to construct simple series circuits and have a basic understanding of conductors, insulators and open and closed switches.	Gather information about needs and wants, and develop ideas to inform the design of products that are fit for purpose, aimed at particular individuals or groups. Investigate and analyse a range of existing battery-powered products. Discuss what they intend to do. Use annotated sketches to develop and communicate ideas. Suggest ways to improve their design if it fails.	Order the main stages of making Select from and use tools and equipment to cut, shape, join and finish with some accuracy. Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities	Evaluate their ideas and products against their own design ideas and identify the strengths and areas for improvement in their work. Understanding where their product succeeds and understanding its weaknesses. Evaluate their products using appropriate tests Yr4	circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, user, purpose, function, design criteria, innovative, appealing, design brief Acquired skills: Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
.Understanding of the essential characteristics of a series circuit and experience of creating a battery powered, functional, electrical product. .Experience of cutting and joining techniques with a range of materials including card, plastic and wood.	Use research to develop a design specification for a functional product that responds to changes in the environment. Take account of constraints including time, resources and cost. Develop and communicate ideas through discussion and annotated sketches, pictorial representations of electrical circuits or circuit diagrams.	Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. If appropriate, allocate tasks within a team. Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. Make modifications as they go along.	Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose. Consider the views of others to improve their work Record their evaluation using drawings with labels.	annotated drawings, electrical system, functionality, innovation, purpose, design specification, design brief, series circuit, parallel circuit, names of switches and components, function, innovative, design specification, design brief, user, purpose Acquired skills: Understand and use electrical systems in their products. Yr6

Levers: EYFS and Years 1, 2 ,4 and 6

EYFS

Designing
- Talk about when they may have seen a greetings card before.
- Tell an adult what they are going to make.
- Understand that the fold in the card or paper helps to make it stand up

Making
- Cut, stick, draw, print or paint a design on the front
- Explain who their greeting is for and why
- With help where necessary, fold the card enabling it to stand.

Evaluating
- Say if the receiver of the greeting like it.
- Say what they like about the design.

Technical Knowledge, vocabulary and understanding

Card, paper, glue, make, fold, draw, print, paint, stick.

Acquired skills:
- Folding card or paper in order to make it stand up.
- Understand that the main design goes on the front.
- Understand that they need to design a card that will appeal to the recipient.

Yr1

Prior knowledge
- Early paper/ card experiences
- Simple folds to make flaps
- Simple cutting
- Simple attaching using: glue and tape

Designing
- Draw on their own ideas and experiences to help to generate ideas.
- Suggest ideas and explain what they are going to do.
- Make simple models of their ideas in paper.
- Make changes to their idea if they need to.

Making
- Choose the tools that they need to cut, shape and join paper and card.
- Explain their choice of tool when asked.
- With help, measure and mark out
- Where necessary, with help cut and shape materials
- Assemble and join materials using glues, tapes and /or paper fasteners.

Evaluating
- Say if the product fits the purpose.
- Say what works well.
- Say what they might change

Technical Knowledge, vocabulary and understanding

Card, paper, fastener, glue, tape, join, pull, push, up, down, forwards, backwards, design, make, evaluate, ideas, materials, slider, lever, curved, straight, pivot, slot, mechanism.

Acquired skills:
- Knowledge of how simple sliders and levers work.
- Understand how a pivot works
- Make holes using a sharp pencil over some blue tac...
- Make simple bridges and guides.

Yr2

Prior knowledge
- Use of card and paper
- Making holes, levers and sliders
- Measuring and marking with help.
- Cutting
- Attaching using: glue, a variety of tape and fasteners

Designing
- Explore a range of products with axils and wheels to base their ideas upon.
- Draw upon their own ideas and other people's experiences to help to generate ideas.
- Discuss what they intend to do.
- Use labelled drawings to demonstrate what they intend to make.
- Make changes to their idea if they need to.
- Choose their materials from: paper, card, plastic and wood in accordance to their properties

Making
- Select the tools that they need and name them.
- Measure and mark with some accuracy.
- Use hand tools appropriately with knowledge of safety.
- Assemble and join materials to make a product.
- Choose ways to finish their product.

Evaluating
- Evaluate their idea in comparison to the products with wheels and axils that they explored initially.
- Evaluate their product against what they intended to make.
- Discuss the strengths and weaknesses of their product.
- Say how they might change their product next time.

Technical Knowledge, vocabulary and understanding

glue, design, make, evaluate, ideas, materials, vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free moving, mechanism, purpose, user, criteria, functional, dowel, tubes, straws, wood, mdf, axil holder, friction, dowel

Acquired skills:
- Distinguish between fixed and freely moving axles.
- Explore and use wheels, axles and axle holders.

Could: add a trailer thinking of how to join the two- pipe cleaners/ magnets...

Yr4

Prior knowledge
- Used flaps, sliders and levers
- Experienced basic cutting, joining and finishing techniques with paper and card

Designing
- Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.
- Evaluate products and identify criteria that can be used in their own design.
- Discuss what they intend to do.
- Use annotated sketches and prototypes to develop, model and communicate ideas.
- Suggest alternative materials and methods if the 1st attempt fails.

Making
- Select appropriate tools and techniques for making their product.
- Order the main stages of making
- Measure, mark out, cut and shape a range of materials using appropriate tools, equipment and techniques safely.
- Join/ combine materials in temporary and permanent ways.
- Select from and use finishing techniques suitable for the product they are creating.

Evaluating
- Compare their design to that in books and, where available, other products with lever and linkage mechanisms.
- Understanding where their product succeeds and understanding its weaknesses.
- Evaluate their own products and ideas against criteria and user needs, as they design and make.
- Evaluate their products using appropriate tests

Technical Knowledge, vocabulary and understanding

design, make, evaluate, ideas, materials, lever, assembling, fixed, free, moving, mechanism, purpose, user, criteria, pivot, fixed, loose, pop up, linear, linkage, slot, guide, bridge, systems, forwards, backwards, reciprocating, arc, oscillating,

Acquired skills:
- Understand and use lever and linkage mechanisms.
- Distinguish between fixed and loose pivots.

Yr6

Prior knowledge
- Experience of axles, axle holders and wheels that are fixed or free moving.
- Experience of cutting and joining techniques with a range of materials including card, plastic and wood.
- An understanding of how to strengthen and stiffen structures

Designing
- Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources.
- Develop a simple design specification to guide their thinking
- Discuss what they intend to do.
- Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.

Making
- Produce detailed lists of tools, equipment and materials.
- Formulate step-by-step plans
- If appropriate, allocate tasks within a team.
- Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished.
- Work safely and within the constraints of time, resources and cost.
- Make modifications as they go along.

Evaluating
- Compare the final product to the original design specification and suggest ways their product could be improved.
- Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose
- Consider the views of others to improve their work
- Investigate some manufacturing and engineering companies relevant to the project.
- Record their evaluation using drawings with labels.

Technical Knowledge, vocabulary and understanding

Motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output decisions, functionality, innovation, driver, follower, authentic, user, purpose, design specification, design brief, gear, drive belt, mesh

Acquired skills:
- Understand that mechanical and electrical systems have an input, process and an output.
- Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.

Structures: EYFS and Years 1, 3, and 5

Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Explore a range of materials and explore balancing and stacking them. If the structure falls, they may rebuild it and change it. Talk about what they are going to build. Use blocks to stack to understand how objects balance. They may talk about a stacking or balancing experience.	Explain what they are using and what they intend to do with it. Where necessary, ask for help to construct an object. Choose what materials to use to build with. When appropriate use fixing materials like tape and glue.	Say if they like the construction. Talk about what the construction is for.	cut, card, paper, glue, tape, make, wall, tower, strong, top, side, blocks, bricks, shape Acquired skills: Begin to understand that structures can fall over. Have an understanding that sometimes a fixing prevents a structure breaking.

EYFS

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Experience of using construction kits to build walls, towers and frameworks. Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper.	Draw on their own ideas and experiences to help to generate ideas. Suggest ideas and explain what they are going to do. Make simple models of their ideas. Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. Make changes to their idea if they need to.	Explain their choice of tool and skill when asked. Where necessary, ask for help to construct or shape materials. Select new and reclaimed materials and construction kits to build their structures.	Say if the product fits the purpose. Say what works well. Say what they might change.	cut, fold, join, fix Card, paper, fastener, glue, tape, design, make, evaluate, ideas, materials, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder Acquired skills: Begin to understand Know how to make freestanding structures stronger, stiffer and more stable.

Yr1

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Experience of constructing a freestanding structure in Year 1. A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science	Generate realistic ideas and designs Discuss ideas with peers and work collaboratively. Make sketches and prototypes to model and communicate their ideas. Make changes to their idea based on their prototype if necessary.	Order the main stages of making. Select and use a simple range of tools. Measure, mark out, cut, score, shape and assemble safely with some accuracy. Explain their choice of materials. Listen to ideas about how to improve their work and follow them.	Evaluate their product against some existing similar products. Discuss what works well. Suggest what they might change.	cut, fold, join, Card, paper, adhesives marking out, scoring, shaping, tabs, joining, assemble,, tape, design, make, evaluate, ideas, prototype, materials, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, three-dimensional (3-D) shape net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity Acquired skills: Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.

Yr3

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Experience of constructing a freestanding structure in Year 1 and Shell structures in Year 3. Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials. Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.	Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to take into account: time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.	Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. Use finishing and decorative techniques suitable for the product they are designing and making. Adjust the design if any problems arise during making.	Investigate and evaluate against a range of existing frame structures. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development. Carry out appropriate tests. Seek an evaluative from others.	Freestanding structure, shell structure, frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional Acquired skills: Understand how to strengthen, stiffen and reinforce 3-D frameworks.

Yr5

Textiles: Years 2 ,3 and 5

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Explored and used different fabrics Thought about the use and purpose of different fabrics May have woven thread. Threaded beads Cut fabric Simply joined fabric probably by gluing Yr2	Explore a range of products of a similar nature to what the children will be expected to make from cloth. Draw upon their own ideas and other people's experiences to help to generate ideas. Discuss what they intend to do. Use labelled drawings to demonstrate what they intend to make. Make changes to their idea if they need to. Choose their materials from: felt and reclaimed fabric and wool.	Select from and use a range of equipment to: mark out, cut, join and finish. Select from and use textiles according to their properties. Mark out and use simple templates Join materials to make a product by gluing, stapling, pinning and simple running stitch. Choose simple ways to finish their product using fabric paints and gluing sequins etc...	Evaluate their idea in comparison to the fabric products that they explored initially. Evaluate their product against what they intended to make. Discuss the strengths and weaknesses of their product. Say how they might change their product next time.	glue, design, make, evaluate, ideas, materials, , cutting, joining, shaping, finishing, purpose, user, template, mark out, decorate, finish, scissors, pins, thread, sew Acquired skills: Understand how a template can help you to make several shapes that are the same. Understand how to join fabrics using different techniques e.g. running stitch, glue, stapling. Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Used a simple template Joined fabric basically: running stitch, glue, pin and staple. Finished a fabric design with fabric paints and gluing sequins, buttons and ribbons	Investigate a range of 3-D textile products relevant to the project Generate realistic ideas and designs Discuss ideas with peers and work collaboratively. Produce annotated sketches, prototypes, final product sketches and pattern pieces. Make changes to their idea if they need to.	Plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.	Test their product against the original design criteria and with the intended user. Take into account others' views Discuss and record strengths and weaknesses of their product. Say how they might improve their product next time. Yr3	glue, design, make, evaluate, ideas, materials, , cutting, joining, shaping, finishing, purpose, fastening, user, template, mark out, decorate, finish, scissors, pins, thread, sew, button, seam, pattern, running stitch, over stitch, knitted, woven, felted, applique Acquired skills: Understand how to securely join two pieces of fabric together. Understand the need for patterns and use them. Explore different finishing techniques including running stitch, over stitch and applique.

Prior knowledge	Designing	Making	Evaluating	Technical Knowledge, vocabulary and understanding
Understood how to securely join two pieces of fabric together Understood the need for patterns and use them. Explored different finishing techniques including running stitch, over stitch and applique. Yr5	Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to take into account: time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification	Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make a chosen piece of textile design. Use finishing and decorative techniques suitable for the product incl: applique, some decorative stitches and possibly dye Adjust the design if any problems arise during making.	Investigate and evaluate against a range of existing relevant textiles. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development. Carry out appropriate tests. Seek an evaluative from others.	glue, design, make, evaluate, ideas, materials, , cutting, joining, shaping, finishing, purpose, fastening, user, template, mark out, decorate, finish, scissors, pins, thread, sew, button, seam, pattern, running stitch, over stitch, knitted, woven, felted, applique, blanket stitch, back stitch, chain stitch, mock up, pattern, seam allowance, tacking, embroidery, dye, tie dye, dip dye, zip, toggle, press stud, Velcro, shears Acquired skills: A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Develop their knowledge and use of different more complex stitches.

DT – RISK ASSESSMENT

NAME OF ESTABLISHMENT: St Mary's Fields Primary School
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AREA: DT…… DATE OF ASSESSMENT: April 2021 …...…….....

HAZARD/ITEM	WHO MAY BE HARMED AND HOW	LIKELIHOOD OF HAZARD OCCURING LOW (L) MEDIUM (M) HIGH (H)	CONSEQUENCE OF HAZARD OCCURRING LOW (L) MEDIUM (M) HIGH (H)	RISK RATING	CONTROL MEASURES
Sharp implements such as fabric scissors, saws, nails, screws, drills, needles and pins	Staff and pupils puncture injuries and cuts.	H	M		Staff and pupils have clear instructions on how to handle equipment. They use the equipment for its intended purpose and correctly. There will be clear routines and high expectations by all, staff and pupils, to ensure the safe use of the apparatus. All equipment should be used under the close supervision of adults,

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					with the adult being in close proximity to monitor safety. All sharp equipment is counted out and counted in at the beginning and end of each session. Equipment to be checked each session and any defects reported to the DT coordinator. All tools should be stored appropriately.
Clothing and possessions being spoiled.	Staff and pupils	H	L		Staff and pupils to wear aprons when appropriate and the children will be closely supervised at all times.
Ingested paint, glue, clay and general hygiene.	Pupils by ingesting or inhaling glue, paint, clay and varnish	L	M		Children will be supervised closely. No oil based paint and glues will be used; only water based glues and paint. Rooms will be adequately ventilated.
Burns from glue guns	Staff and pupils from touching hot glue guns.	M	M-H		Pupils informed of dangers, and routines and

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					procedures. Hot glue gun is managed by the adult in charge and the pupil to use it under direct supervision. Children should be made aware that glue guns are hot to the touch and will cause injury if touched while switched on.
Slipping on wet floors	Staff and pupils from paint, clay and varnish spillages	M	M		Children to report any spillages immediately. Adult to supervise children closely. Adequate cleaning/ drying equipment at hand.
Allergic reaction to paints, glues, varnish and clay.	Staff and pupils	L	M		Staff to supervise children closely. All staff to be aware of any medical conditions and specific reactions to products. Areas to be cleaned after the use of products. Only water based products to be used.

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REVIEW DATE: April 2022…….. SIGNATURE: Clare Drew……..

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