Limitless Dreams,
Endless Opportunities

Manor Park School & Nursery

Design and Technology Curriculum September 2022

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Design and Technology Curriculum Progression Skills and Knowledge – **Cycle A**

Overall Aims of the National Curriculum	The national curriculum for design and technology aims to ensure that all pupils: • develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world • build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users • critique, evaluate and test their ideas and products and the work of others • understand and apply the principles of nutrition and learn how to cook				
Subject	Reception	Year 1	Year 2	Year 3/4	Year 5/6
Making- planning practical skills and techniques		-generate ideas and recognise characteristics of familiar products -use pictures and words to describe what they want to do -show that, with help, ideas can be put into practice -use tools and materials with help, where needed -choose materials from a range independently or suggested by teacher.	-begin to generate ideas and plan what to do next, based on their experience of working with materials and components -use models, pictures and words to describe their designs -select appropriate tools, techniques and materials, explaining their choices -select and use tools from a range suggested by teacher -choose materials and techniques -use correct technical vocabulary for projects from a range selected by teacher -begin to assemble, join and combine	**Year 3** -generate ideas and begin to recognise that designs have to meet a range of different needs -clarify ideas when asked and begin to use words, labelled sketches and models to communicate the details of their designs -make realistic plan for achieving aims i.e. ordering the stages of making -begin to think ahead about the order of their work -begin to identify appropriate tools, equipment, materials, components and techniques -select appropriate tools -measure, mark out, cut and shape a range of materials with a fair degree of accuracy -join, assemble and combine materials with a fair degree of accuracy use simple finishing techniques to improve the appearance of the product -use a wider range of materials and components than KS1, including construction materials and kits, textiles and food ingredients. **Year 4** -generate ideas by collecting and using information, take users' views into account	**Year 5** -draw on and use various sources of information -use understanding of the characteristics of familiar products when developing own ideas -clarify ideas through discussion, drawing and modelling demonstrate an awareness of constraints -work from their own detailed plans, modifying where appropriate -select appropriate tools and techniques to make product -explain the sensory qualities of different materials cut and shape a range of materials with increasing precision -join, assemble and combine components with increasing precision -use a range of finishing techniques to strengthen and improve the appearance of the product -formulate step-by step plans as a guide to making. **Year 6** draw on and use a range of sources of information including those of others -show understanding of form and function of familiar products

			materials and components in a variety of ways.	-begin to produce step-by-step plans -communicate alternative ideas using words, labelled sketches and models -begin to demonstrate an awareness of constraints -select appropriate tools, equipment, materials, components and techniques - select appropriate techniques to make product -measure, mark out, cut and shape a range of materials accurately -join, assemble and combine materials accurately -use finishing techniques to strengthen and improve appearance of the product – demonstrate safe and careful procedures for handling food.	-develop criteria for designs and use these to explore design proposals -produce plans that outline alternative methods of progressing -make models and drawings to explore and test their design thinking, discussing their ideas -produce step-by step plans as a guide for making -select and use appropriate tools and techniques and explain why they have been chosen -explain how different materials and processes might be used -measure, mark out, cut and shape a range of materials with increasing precision -join, assemble and combine components with increasing precision -use appropriate finishing techniques to strengthen and improve the appearance of the product
Food preparation, cooking and nutrition.	-know the importance for good health of physical exercise and a healthy diet	-how to name and sort foods into the five groups in the eat-well plate -that everyone should eat at least five portions of fruit and vegetables every day -how to prepare simple dishes safely and hygienically, without using a heat source -how to use techniques such as cutting.	-how to name and sort foods into the five groups in the eat-well plate -that everyone should eat at least five portions of fruit and vegetables every day -how to prepare simple dishes safely and hygienically, without using a heat source -how to use techniques such as cutting and peeling.	-that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the eat-well plate -that to be active and healthy, food and drink are needed to provide energy for the body -how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source -how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	-that recipes can be adapted to change the appearance, taste, texture and aroma -that different food and drink contain different substances – nutrients, water and fibre – that are needed for health -how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source -how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
Technical Knowledge	-explore and evaluate food using senses	-that food ingredients should be combined according to their	-that food ingredients should be combined according to their	-that food ingredients can be fresh, precooked and processed -how to use learning from science to help design and make products that work	-that a recipe can be adapted by adding or substituting one or more ingredients -how to use learning from science to help design and make products that work

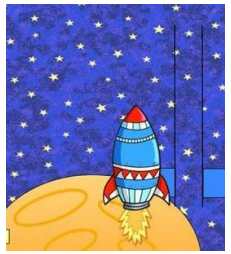
	-that products can have a function and have to work in some way to be successful - Play and explore construction kits with moving parts such as wheels, levers and hinges - play and explore a range of large and small construction kits that use different forms of joining. How can they stop structures falling over and make them stronger -use senses to explore and evaluate materials, fabrics and components - begin to use computing technology.	sensory characteristics - about the simple working characteristics of materials and components. -the correct vocabulary for the projects they are undertaking. -understand about the working characteristics of some materials -understand how mechanisms can be used in different ways -movements of simple mechanisms such as levers, sliders, wheels and axles.	sensory characteristics -about the simple working characteristics of materials and components. -the correct vocabulary for the projects they are undertaking. -explain about the working characteristics of common materials -explain how mechanisms can be used in different ways – Movements of simple mechanisms such as levers, sliders, wheels and axles. - How freestanding structures can be made stronger, stiffer and more stable.	-how to use learning from mathematics to help design and make products that work -that materials have both functional properties and aesthetic qualities -that materials can be combined and mixed to create more useful characteristics -that mechanical and electrical systems have an input, process and output -the correct technical vocabulary for the projects they are undertaking - How to make strong, stiff shell structures -How to reinforce and strengthen a 3D framework - That a single fabric shape can be used to make a textiles product.	-how to use learning from mathematics to help design and make products that work -that materials have both functional properties and aesthetic qualities -that materials can be combined and mixed to create more useful characteristics -that mechanical and electrical systems have an input, process and output -the correct technical vocabulary for the projects they are undertaking - That a 3D textiles product can be made from a combination of fabric shapes - How to reinforce and strengthen a framework.
Evaluating - own ideas and existing products	-think about the appearance, finish and texture of the product.	-talk about their own and other people's work in simple terms -begin to describe how a product works -think of things they could have improved -talk about what and who products are for.	-begin to recognise that they have done well as work progresses -begin to suggest things they could do better in the future -talk about how products are used and what materials are used.	-compare own work with that of others -Say what they think and feel about their own work -Why materials were chosen -reflect on their designs as they develop, bearing in mind the way the product will be used -begin to identify what is working well and what could be improved -discuss how real products have been designed and if they achieve their purpose.	-begin to test and evaluate their products -show an understanding of the situations in which their designs will have to function -evaluate their products and their use of information sources -how well products have been designed and if designs achieve their purpose -evaluate how effectively they have used information sources -reflect on the quality of design and quality of build as they work -recognise that the quality of the product depends on how well it meets its purpose

					-critically evaluate the quality of the design, manufacture, and fitness for purpose of their products as they design and make -evaluate their ideas and products against their original design specification.

Year One

Cup and ball game- Construction.
Design and make a purposeful old fashioned game using materials.

Moving picture- Mechanisms.
Design and create a moving picture using mechanisms.



Fruit salad- Food Technology
Design, make and evaluate a healthy snack.

Year Two

Fire engine- Mechanisms.
Design and create a moving fire engine using wheels, axles and chassis before evaluating.

Let's fly a kite! – Construction.
Design and construct a kite using different materials.

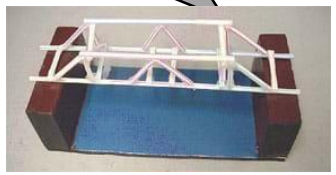
Potato salad- Food technology.
understand and apply the principles of a healthy and varied diet

In addition, all year groups will…use their imagination and creativity to design and make products. Take risks, become resourceful, work independent and collaboratively. Use knowledge and skills from other subject areas.

Year Three/ Four

Taziki and flat bread- Food Technology.
To understand and apply the principles of a healthy and varied diet

Building a straw bridge- Construction
Generate ideas and design a bridge through annotated sketches. Make the bridge and evaluate designs against others.



Roman purse- Sewing
Designing and making Roman purse using sewing skills.

Year Five/ six

Anderson shelters- Construction
Create an annotated sketch of a shelter. Choose materials and tools to make shelter. Test and evaluate design.

European tray bakes- Food Technology
To design and make a tray bake from an European country.

African sewing– Sewing
Select appropriate tools, materials, components and techniques Assemble components

Manor Park Primary School Curriculum Road Map- DT cycle A