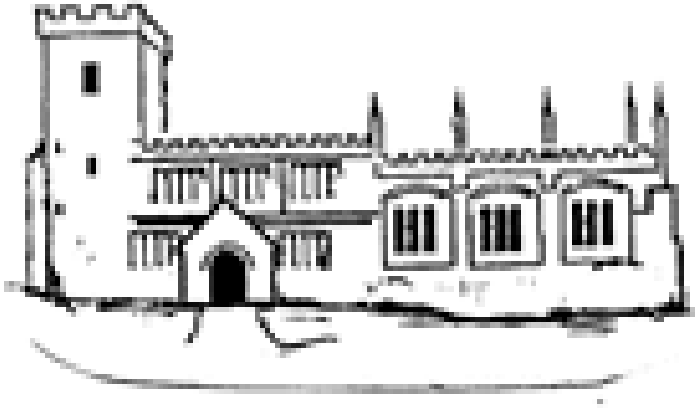
North Marston C of E School



Design Technology Assessment Progression

June 2019

Area / skills	Designing	Making	Evaluating	Technical Knowledge	Cooking and nutrition
Early Years	Work is very much based around stories and the children's interests. Children are to say what they are making and how they will make it. Children talk about who it is for and why. Children use what they know to create their designs, learning to use a ruler and hold a pencil in the tripod grip. Children may develop their ideas further by writing simple labels and captions.	Children are learning how to follow their design and how to copy what they have designed to then replicate using equipment. Children select from the range of tools, materials and components available with a big focus on using scissors safely and correctly. At the beginning of Reception, it will be important to focus on learning the skills on how to use the equipment such as a stapler, a hole punch, scissors, glue or selotape. Children may also use other construction resources to make their project. In Reception, it is about exploring a variety of construction resources to learn how to stack, join and build.	In Reception, exploration is very important. The children need to evaluate as they are learning, if something is working well they can comment and then if something isn't working well it's important the children think about how they can adapt it based on the trial and error method. Children make simple observations about their products/ projects and talk about what they like about their work and how they can make their product better next time.	Children know about movements in simple mechanisms such as flaps in a book, levers, sliders, wheels and pulleys. Children begin to understand how freestanding structures can be made stronger, stiffer and more stable by exploring through play and the characteristics of effective learning.	Understand that food gives us energy and that some food is very healthy and some food can only be eaten in moderation. Children recognise which foods are healthy and why and which foods can only be eaten now and again as part of a healthy lifestyle. Children practise stirring in different directions to increase their gross motor skills, learn to chop and cut safely, and peel/ grate with support and the skill of pouring. Children learn the names of equipment that is being used and can explain how something has changed once we heat it up or cool it down.
Year 1	Work within a range of contexts e.g. story-based, playgrounds. State what products they are designing and making. Say whether their products are for themselves or other users. Describe what their products are for. Use existing knowledge to generate their own original designs. Begin to develop and communicate ideas by talking and drawing.	Plans by suggesting what to do next. Selects from a range of tools, materials and components. Follows procedures for safety and hygiene. Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. Measures, marks out, shapes and cuts most materials.	Talk about their design ideas and what they are making. Make simple judgements about their products and ideas against design criteria. Talk about how to make their products better. Explore what products are, what they are made from, who they are for, how they are used and where they might be used. Talk about likes and dislikes of existing products.	Pupils understand the simple working characteristics of materials and components. They know about the movement of simple mechanisms such as levers, sliders, wheels and axles. Recognise that food ingredients should be combined according to their sensory characteristics. Begin to understand how freestanding structures can be made stronger, stiffer and more stable. Use the correct technical vocabulary for projects.	Know that food comes from plants or animals. Food is farmed, grown elsewhere (e.g. home) or caught. Name and sort foods into the five groups. Begin to recognise that everyone should eat at least five portions of fruit and vegetables every day. Prepare some simple dishes. Use techniques e.g. cutting, peeling and grating.
Year 2	Work confidently within a range of contexts e.g. imaginary, local community, industry and wider environment. State what products they are designing and	Plans by suggesting what to do next. Selects from a range of tools, materials and components according to their characteristics. Explains their	Talk about their design ideas and what they are making. Make simple judgements about their products and ideas against design criteria. Talk and write	Pupils understand the working characteristics of materials and components. They know about the movement of simple mechanisms such as levers, sliders, wheels	Know that food comes from plants or animals. Food is farmed, grown elsewhere (e.g. home), imported or caught. Name and sort foods into the five groups.

	making. Say whether their products are for themselves or other users. Describe what their products are for. Say how their products will work and how they are suitable for intended users. Use simple design criteria to help develop their ideas. Generate ideas by drawing on their own experiences. Use knowledge of existing products to help come up with ideas. Develop and communicate ideas by talking and drawing. Model ideas by exploring materials, components, constructions kits and by making templates and mock-ups. Use information and communication	choices. Follows procedures for safety and hygiene. Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. Measures, marks out, cuts and shapes a range of materials and components. Assembles, joins and combines materials and components. Begins to use finishing techniques, including those from art and design sessions.	about how to make their products better. Explore what products are, what they are made from, who they are for, how they are used and where they might be used. Talk about likes and dislikes of existing products. Give reasons.	and axles. Recognise that food ingredients should be combined according to their sensory characteristics. Understand how freestanding structures can be made stronger, stiffer and more stable. Recognise that 3D textiles products can be assembled from two identical fabric shapes. Use the correct technical vocabulary for projects.	Begin to recognise that everyone should eat at least five portions of fruit and vegetables every day. Know how to prepare simples dishes safely and hygienically, without using a heat source. Prepare a range of simple dishes. Use techniques e.g. cutting, chopping, peeling and grating.
Year 3	Work confidently within a range of contexts, such as the home, school, leisure and industry. Describe the purpose of their products. Indicate design features of their products. Gather information about the needs and wants of individuals or groups. Develop their own design criteria. Share and clarify ideas through discussion. Model ideas using prototypes. Use annotated diagrams and some computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Begin to take account of the availability of resources	Select tools and equipment suitable to the task. Explain their choices. Selects some materials and components suitable to the task. Order the main stages of making. Follow procedures for safety and hygiene. Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with some accuracy. Assembles, joins and combines many materials with some accuracy. Applies some finishing techniques.	Identify the strengths and areas for development in their ideas and products. Consider the views of others. Refer to their design criteria as they design and make. Use their design criteria to evaluate their completed products. Investigate and analyse: how well products have been designed and made; which materials and methods were used and which were successful; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Recognise successful inventors, designers, chefs and engineers, who have been influential in the design and technology industries.	Pupils know how to use learning from science and mathematics to help design and make products that work. They understand that materials have functional and aesthetic qualities. Recognise that materials can be combined and mixed to create more useful characteristics. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Program a computer to control their products. Make strong, stiff shell structures. Know that a single fabric shape can be used to make a 3D textile product. Recognise several fresh, pre-cooked and processed foods.	Know that food is farmed, reared, grown elsewhere (e.g home), imported or caught locally, regionally and internationally. Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including the use of a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Recognise that a healthy diet is made up of a variety and balance of different foods and drinks. Know that to be active and healthy, food is needed to provide energy for the body.

Year 4	Work confidently in a range of contexts, e.g. home, school, leisure, culture, industry and wider environment. Describe the purpose of their products. Indicate design features of their products that will appeal to intended users. Gather information about the needs and wants of individuals or groups. Develop their own design criteria and use this to inform their ideas. Share and clarify ideas confidently, through discussion. Model ideas using prototypes and pattern pieces. Use annotated sketches, some cross-sectional drawings and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources.	Confidently select tools and equipment suitable to the task. Explain their choices, giving evidence. Selects materials and components suitable to the task. Order the main stages of making in logical steps. b.Follow procedures for safety and hygiene. Use an extensive range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines most materials. Accurately apply several finishing techniques.	Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Refer to their design criteria as they design and make. Use their design criteria to evaluate and improve their completed products. Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products; where products were designed and made; when products were designed and made; whether products can be recycled or re-used. Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.	Pupils use learning from science, mathematics and other subjects to help design and make products that work. They understand that materials have functional and aesthetic qualities. Apply this thinking successfully to their own products. Recognise that materials can be combined and mixed to create more useful characteristics. Know that mechanical and electrical systems have an input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Program a computer to control their products. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods.	Know that food is farmed, reared, grown elsewhere (e.g. home, allotments), exported, imported or caught. This can be on a local, regional and international scale. Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source. Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up of a variety and balance of different foods and drinks. Know that to be active and healthy, food is needed to provide energy for the body.

Year 5	Work confidently in a wide range of contexts, e.g. home, school, leisure, culture, industry, enterprise and wider environment. Describe in detail, the purpose of their products. Indicate design features of their products that will appeal to intended users. Gather information about the needs and wants of individuals or groups. Develop their own design criteria and use this to inform their ideas. Carry out research e.g. surveys and interviews to identify users' needs, wants and preferences. Develop a simple design specification to guide their thinking. Share and clarify ideas confidently, through discussion. Model ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources. Generate innovative ideas from prior research. Make design decisions based on time, cost and resources constraints.	Confidently select tools and equipment suitable to the task. Explain their choices, giving evidence. Selects materials and components suitable to the task. Produce appropriate lists of tools, equipment and materials that they will need. Order the stages of the making process, in logical steps. Formulate step-by-step plans as guide to making. Follow procedures for safety and hygiene. Use an extensive range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines most materials. Accurately apply a range of finishing techniques, including those from art and design sessions. Use techniques that involve a number of steps Use resourcefulness when tackling practical problems.	Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Refer to their design criteria as they design and make. Use their design criteria to evaluate and improve their completed products. Critically evaluate the quality of the design, manufacture and fitness for purpose of their products. Evaluate their ideas and products against their original design specification. Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products; where products were designed and made; when products were designed and made; whether products can be recycled or re-used. Consider cost and sustainability. Consider the impact and innovative qualities of their products Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.	Pupils use learning from science, mathematics, other subjects and sources to help design and make products that work. They understand that materials have functional and aesthetic qualities. Apply this thinking successfully to their own products. Recognise that materials can be combined and mixed to create more useful characteristics. Know that mechanical and electrical systems have an input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Program a computer to control their products. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods. Know that mechanical systems e.g. cams, pulleys or gears create movement. Explore more complex electrical circuits and components. Program a computer to monitor changes in the environment and control their products. Reinforce and strengthen a 3D framework. Know that 3D textile products can be made from a combination of fabric shapes. Adapt recipes by adding or substituting one or more ingredients.	Know that food is farmed, reared, grown elsewhere (e.g. home, allotments), exported, imported or caught. This can be on a local, regional and international scale. Begin to know that seasons and weather affect food availability. Begin to know how food is processed into ingredients that can be eaten or used in cooking. Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source. Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up of a variety and balance of different foods and drinks. Know that to be active and healthy, food is needed to provide energy for the body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, fibre, vitamins and nutrients.

Year 6	Work confidently in a wide range of contexts, e.g. home, school, leisure, culture, industry, enterprise and wider environment. Describe in detail, the purpose of their products. Indicate design features of their products that will appeal to intended users. Gather information about the needs and wants of particular individuals and groups. Develop their own design criteria and use this to inform their ideas. Carry out research e.g. surveys, interviews, questionnaires and web-based resources, to identify users' needs, wants and preferences. Develop detailed design specifications to guide their thinking and planning. Share and clarify ideas confidently, through discussion. Model ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources. Generate innovative ideas drawing on research. Make informed design decisions based on time, cost and resources constraints.	Confidently select tools and equipment suitable to the task. Explain their choices, giving evidence. Selects materials and components suitable to the task. Produce appropriate lists of tools, equipment and materials that they will need. Order the stages of the making process, in logical steps. Formulate step-by-step plans as guide to making. Follow procedures for safety and hygiene. Use an extensive range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines materials. Accurately apply a range of finishing techniques, including those from art and design. Use techniques that involve a number of steps. Use resourcefulness, resilience and innovation, when tackling practical problems. Explains next steps in learning, drawing from prior experience.	Confidently identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Refer to their design criteria as they design and make. Use their design criteria to evaluate and improve their completed products. Critically evaluate the quality of the design, manufacture and fitness for purpose of their products. Evaluate their ideas and products against their original design specification. Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products; where products were designed and made; when products were designed and made; whether products can be recycled or re-used. Investigate and analyse: how much products cost to make; how innovative products are; how sustainable the materials in products are; what impact products have beyond their intended purpose. Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.	Pupils use learning from science, mathematics and from several subjects and sources to help design, make and evaluate products that work. They understand that materials have functional and aesthetic qualities. Apply this thinking successfully to their own products. Recognise that materials can be combined and mixed to create more useful characteristics. Know that mechanical and electrical systems have an input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Program computer systems and devices to control their products. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a wide range of fresh, pre-cooked and processed foods. Know that mechanical systems e.g. cams, pulleys or gears create movement. Explore more complex electrical circuits and components. Program computers and devices to monitor changes in the environment and control their products. Reinforce and strengthen a 3D framework. Know that 3D textile products can be made from a combination of fabric shapes. Recreate and adapt existing and new recipes by adding or substituting a range of ingredients.	Know that food is farmed, reared, grown elsewhere (e.g. home, allotments), exported, imported or caught. This can be on a local, regional and international scale. Begin to know that seasons and weather affect food availability. Begin to know how food is processed into ingredients that can be eaten or used in cooking. Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source. Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up of a variety and balance of different foods and drinks. Know that to be active and healthy, food is needed to provide energy for the body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, fibre, vitamins, minerals and nutrients. Understand that healthy diets must incorporate the correct amounts of food types and substances. Understand that exercise is also important for our wellbeing and fitness.