DT Curriculum 2014

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

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.

Aims

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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Schools are not required by law to teach the example content in [square brackets].

Year 1 – Design and Technology Food, Textiles and Structures

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].

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
1a Generate ideas from their own and others' experience. ***1b*** *Design purposeful, functional appealing products for themselves and other users based on design criteria.* ***1c*** *Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and ICT.*	***2a*** *Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.* ***2b*** *Select from and use a range of tools and equipment to perform practical tasks (eg. Cutting, shaping, joining and finishing)* ***2c Use the basic principles of a healthy and varied diet to prepare dishes*** ***2d Understand where food comes from.*** **2e Follow safe procedures for food safety and hygiene.**	*3a Explore and evaluate a range of existing products.* *3b Evaluate their ideas and products against design criteria.* 3c Talk about ideas, saying what they like and dislike and how they could improve work in the future.	4a Learn about the working characteristics of materials, *build structures and explore how they can be made stronger, stiffer and more stable [e.g. folding paper, plaiting yarn].* *4b Explore and use mechanisms [e.g. levers, sliders, wheels and axles] in their products.*

Emerging (Level 1)	Developing (Level 2)	Consolidating (Level 3)
I think of ideas and with help, can put them into practice. I know the features of familiar products. I use pictures and words to describe what I want to do. I use knives safely to cut food (with help). I use a mixing bowl to prepare a mixture. I have made a food product. I know that I have to wash my hands and keep work surfaces clean when preparing food. I talk about my own and others' work. I describe how a product works I can describe textiles by the way they feel. I have made a product from textiles. I can measure, mark out and cut fabric. I can join fabrics using glue. I make sure my work is neat and tidy. I know how textiles can be used to make products. I have altered a textile to make it stronger. I have made a structure. I describe the materials I have used to make my structure. I measure and mark out the materials I need for my structure. I finish off my work so it looks neat and tidy. I have found out how to make materials for my structure stronger by folding, joining or rolling.	I think of ideas and plan what to do next, based on what I know about materials and components. I select the appropriate tools, techniques and materials, explaining my choices. I use models, pictures and words to describe my designs. I recognise what I have done well in my work. I suggest things I could do in the future. I prepare food safely and hygienically and can describe what this means. I describe the properties of the food ingredients: taste, smell, texture, and consistency. I weigh or measure my ingredients accurately. I describe my food product using its properties. I learn how to best store my product for long-life and hygiene. I use accurate measurements in cm. I use scissors precisely when cutting out. I join textiles using glue, staples, tying or a simple stitch. I have made a textile product that has a good finish and can do the job it was made for. I know that textiles have different properties: touch, insulation, texture and waterproof. I select the appropriate textile so that it does the job I want it to. My structures use materials that are strong. I measure and mark out materials with care and use safe ways of cutting it, including using a junior hacksaw. I use a range of joins. I know how to make structures stronger by folding, joining or by shape (columns, triangles).	I generate ideas and recognise that my designs have to meet a range of different needs. I make realistic plans to achieve my aims. I think ahead about the order of my work, choosing appropriate tools, equipment, materials, components and techniques. I clarify my ideas using labelled sketches and models to communicate the details of my designs. I identify where my evaluations have led to improvements in my products. I select ingredients for my food product. I work in a safe and hygienic way. I measure out my ingredients by weight or quantity, using scales where appropriate. My food product is presented to impress the intended user. I describe my food product in terms of taste, texture, flavour and relate this to the intended purpose of the food. My product has been cooked or chilled to change the nature of the raw ingredients. I select the appropriate textile(s) for my product. I use sharp scissors accurately to cut textiles. I know that the texture and other properties of materials affect my choice. My designs improve as I go along. I combine materials to add strength or visual appeal.

Year 2 – Design and Technology - Food, Mechanisms

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].

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
1a Generate ideas from their own and others' experience. ***1b*** *Design purposeful, functional appealing products for themselves and other users based on design criteria.* ***1c*** *Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and ICT*	***2a*** *Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.* ***2b*** *Select from and use a range of tools and equipment to perform practical tasks (eg. Cutting, shaping, joining and finishing)* ***2c Use the basic principles of a healthy and varied diet to prepare dishes*** ***2d Understand where food comes from.*** **2e Follow safe procedures for food safety and hygiene.**	*3a Explore and evaluate a range of existing products.* *3b Evaluate their ideas and products against design criteria.* 3c Talk about ideas, saying what they like and dislike and how they could improve work in the future.	4a Learn about the working characteristics of materials, *build structures and explore how they can be made stronger, stiffer and more stable [e.g. folding paper, plaiting yarn].* *4b Explore and use mechanisms [e.g. levers, sliders, wheels and axels] in their products.*

Emerging (Level 1)	Developing (Level 2)	Consolidating (Level 3)
I think of ideas and with help, can put them into practice. I know the features of familiar products. I use pictures and words to describe what I want to do. I use knives safely to cut food (with help). I use a mixing bowl to prepare a mixture. I have made a food product. I know that I have to wash my hands and keep work surfaces clean when preparing food. I talk about my own and others' work. I describe how a product works I can describe textiles by the way they feel. I have made a product from textiles. I can measure, mark out and cut fabric. I can join fabrics using glue. I make sure my work is neat and tidy. I know how textiles can be used to make products. I have altered a textile to make it stronger. I have made a structure. I describe the materials I have used to make my structure. I measure and mark out the materials I need for my structure. I finish off my work so it looks neat and tidy. I have found out how to make materials for my structure stronger by folding, joining or rolling.	I think of ideas and plan what to do next, based on what I know about materials and components. I select the appropriate tools, techniques and materials, explaining my choices. I use models, pictures and words to describe my designs. I recognise what I have done well in my work. I suggest things I could do in the future. I prepare food safely and hygienically and can describe what this means. I describe the properties of the food ingredients: taste, smell, texture, and consistency. I weigh or measure my ingredients accurately. I describe my food product using its properties. I learn how to best store my product for long-life and hygiene. I use accurate measurements in cm. I use scissors precisely when cutting out. I join textiles using glue, staples, tying or a simple stitch. I have made a textile product that has a good finish and can do the job it was made for. I know that textiles have different properties: touch, insulation, texture and waterproof. I select the appropriate textile so that it does the job I want it to. My structures use materials that are strong. I measure and mark out materials with care and use safe ways of cutting it, including using a junior hacksaw. I use a range of joins and know how to make structures stronger by folding, joining or by shape.	I generate ideas and recognise that my designs have to meet a range of different needs. I make realistic plans to achieve my aims. I think ahead about the order of my work, choosing appropriate tools, equipment, materials, components and techniques. I clarify my ideas using labelled sketches and models to communicate the details of my designs. I identify where my evaluations have led to improvements in my products. I select ingredients for my food product. I work in a safe and hygienic way. I measure out my ingredients by weight or quantity, using scales where appropriate. My food product is presented to impress the intended user. I describe my food product in terms of taste, texture, flavour and relate this to the intended purpose of the food. My product has been cooked or chilled to change the nature of the raw ingredients. I select the appropriate textile(s) for my product. I use sharp scissors accurately to cut textiles. I know that the texture and other properties of materials affect my choice. My designs improve as I go along. I combine materials to add strength or visual appeal.

Year 3 – Design and Technology - Food, Stiff and Flexible Sheet Materials, and Textiles

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].

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
1a *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.* ***1b*** *Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.*	***2a*** *Select from and use a wider range of tools and equipment to perform practical tasks [e.g. Cutting, shaping, joining and finishing], accurately.* ***2b*** *Select from and use a wider range of materials and components, including constructional materials, textiles and ingredients according to their functional properties and aesthetic qualities.* **2c Follow safe procedures and safety to *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.*** ***2d Understand and apply the principles of a healthy and varied diet.***	***3a*** *Investigate and analyse a range of existing products.* ***3b*** *Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.* ***3c*** *Understand how key events and individuals in design and technology have helped shaped the world.* **3d** Recognise quality depends on how something is made and if it meets its intended use and suggest alternative ways of making a product if the first attempt fails.	***4a*** *Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.* ***4b*** *Understand and use mechanical systems in their products [e.g. Gears, pulleys, cams, levers and linkages]* ***4c*** *Understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors]* ***4d*** *Apply their understanding of computing to program, monitor and control their products.* ***4e*** *Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.*

Emerging (Level 2)	Developing (Level 3)	Consolidating (Level 4)
I think of ideas and plan what to do next, based on what I know about materials and components. I select the appropriate tools, techniques and materials, explaining my choices. I use models, pictures and words to describe my designs. I recognise what I have done well in my work. I suggest things I could do in the future. I prepare food safely and hygienically and can describe what this means. I describe the properties of the food ingredients: taste, smell, texture, and consistency. I weigh or measure my ingredients accurately. I describe my food product using its properties. I learn how to best store my product for long-life and hygiene. I use accurate measurements in cm. I use scissors precisely when cutting out. I join textiles using glue, staples, tying or a simple stitch. I have made a textile product that has a good finish and can do the job it was made for. I know that textiles have different properties: touch, insulation, texture and waterproof. I select the appropriate textile so that it does the job I want it to. My structures use materials that are strong. I measure and mark out materials with care and use safe ways of cutting it, including using a junior hacksaw. I use a range of joins and know how to make structures stronger by folding, joining or by shape.	I generate ideas and recognise that my designs have to meet a range of different needs. I make realistic plans to achieve my aims. I think ahead about the order of my work, choosing appropriate tools, equipment, materials, components and techniques. I clarify my ideas using labelled sketches and models to communicate the details of my designs. I identify where my evaluations have led to improvements in my products. I select ingredients for my food product. I work in a safe and hygienic way. I measure out my ingredients by weight or quantity, using scales where appropriate. My food product is presented to impress the intended user. I describe my food product in terms of taste, texture, flavour and relate this to the intended purpose of the food. My product has been cooked or chilled to change the nature of the raw ingredients. I select the appropriate textile(s) for my product. I use sharp scissors accurately to cut textiles. I know that the texture and other properties of materials affect my choice. My designs improve as I go along. I combine materials to add strength or visual appeal.	I generate ideas by collecting and using information. I take the views of users' into account when designing my products. I produce step-by-step plans. I communicate alternative ideas using words, labelled sketches and models showing that I am aware of the constraints of my design. I reflect on my designs and develop them bearing in mind the way they will be used. I identify what is working well and what can be improved. I measure using mm and then use scoring, and folding to shape materials accurately with a focus on precision. I make cuts (scissors, snips, saw) accurately and reject pieces that are not accurate and improve my technique. I make holes (punch, drill) accurately. My methods of working are precise so that products have a high quality finish. My joins are strong and stable, giving extra strength to my products. Some joins are flexible to allow for dismantling or folding. My textile work incorporates the views of intended users' and for the purpose. I use my art textiles skills such as stitching to help create a product that is sturdy and fit for purpose. My textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.

Year 4 – Design and Technology - Food, Mouldable Materials, Electrical and Mechanical Components

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].

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
1a *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.* ***1b*** *Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design*.	***2a*** *Select from and use a wider range of tools and equipment to perform practical tasks [e.g. Cutting, shaping, joining and finishing], accurately.* ***2b*** *Select from and use a wider range of materials and components, including constructional materials, textiles and ingredients according to their functional properties and aesthetic qualities.* **2c Follow safe procedures and safety to *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.*** ***2d Understand and apply the principles of a healthy and varied diet.***	***3a*** *Investigate and analyse a range of existing products.* ***3b*** *Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.* ***3c*** *Understand how key events and individuals in design and technology have helped shaped the world.* **3d** Recognise quality depends on how something is made and if it meets its intended use and suggest alternative ways of making a product if the first attempt fails.	***4a*** *Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.* ***4b*** *Understand and use mechanical systems in their products [e.g. Gears, pulleys, cams, levers and linkages]* ***4c*** *Understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors]* ***4d*** *Apply their understanding of computing to program, monitor and control their products.* ***4e*** *Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.*

Emerging (Level 2)	Developing (Level 3)	Consolidating (Level 4)
I think of ideas and plan what to do next, based on what I know about materials and components. I select the appropriate tools, techniques and materials, explaining my choices. I use models, pictures and words to describe my designs. I recognise what I have done well in my work. I suggest things I could do in the future. I prepare food safely and hygienically and can describe what this means. I describe the properties of the food ingredients: taste, smell, texture, and consistency. I weigh or measure my ingredients accurately. I describe my food product using its properties. I learn how to best store my product for long-life and hygiene. I use accurate measurements in cm. I use scissors precisely when cutting out. I join textiles using glue, staples, tying or a simple stitch. I have made a textile product that has a good finish and can do the job it was made for. I know that textiles have different properties: touch, insulation, texture and waterproof. I select the appropriate textile so that it does the job I want it to. My structures use materials that are strong. I measure and mark out materials with care and use safe ways of cutting it, including using a junior hacksaw. I use a range of joins. I know how to make structures stronger by folding, joining or by shape (columns, triangles).	I generate ideas and recognise that my designs have to meet a range of different needs. I make realistic plans to achieve my aims. I think ahead about the order of my work, choosing appropriate tools, equipment, materials, components and techniques. I clarify my ideas using labelled sketches and models to communicate the details of my designs. I identify where my evaluations have led to improvements in my products. I select ingredients for my food product. I work in a safe and hygienic way. I measure out my ingredients by weight or quantity, using scales where appropriate. My food product is presented to impress the intended user. I describe my food product in terms of taste, texture, flavour and relate this to the intended purpose of the food. My product has been cooked or chilled to change the nature of the raw ingredients. I select the appropriate textile(s) for my product. I use sharp scissors accurately to cut textiles. I know that the texture and other properties of materials affect my choice. My designs improve as I go along. I combine materials to add strength or visual appeal.	I generate ideas by collecting and using information. I take the views of users' into account when designing my products. I produce step-by-step plans. I communicate alternative ideas using words, labelled sketches and models showing that I am aware of the constraints of my design. I reflect on my designs and develop them bearing in mind the way they will be used. I identify what is working well and what can be improved. I measure using mm and then use scoring, and folding to shape materials accurately with a focus on precision. I make cuts (scissors, snips, saw) accurately and reject pieces that are not accurate and improve my technique. I make holes (punch, drill) accurately. My methods of working are precise so that products have a high quality finish. My joins are strong and stable, giving extra strength to my products. Some joins are flexible to allow for dismantling or folding. My textile work incorporates the views of intended users' and for the purpose. I use my art textiles skills such as stitching to help create a product that is sturdy and fit for purpose. My textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.

Year 5 – Design and Technology Food, Stiff and Flexible Sheet Materials, and Textiles

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].

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
1a *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.* ***1b*** *Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.*	***2a*** *Select from and use a wider range of tools and equipment to perform practical tasks [e.g. Cutting, shaping, joining and finishing], accurately.* ***2b*** *Select from and use a wider range of materials and components, including constructional materials, textiles and ingredients according to their functional properties and aesthetic qualities.* **2c Follow safe procedures and safety to *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.*** ***2d Understand and apply the principles of a healthy and varied diet.***	***3a*** *Investigate and analyse a range of existing products.* ***3b*** *Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.* ***3c*** *Understand how key events and individuals in design and technology have helped shaped the world.* **3d** Recognise quality depends on how something is made and if it meets its intended use and suggest alternative ways of making a product if the first attempt fails.	***4a*** *Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.* ***4b*** *Understand and use mechanical systems in their products [e.g. Gears, pulleys, cams, levers and linkages]* ***4c*** *Understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors]* ***4d*** *Apply their understanding of computing to program, monitor and control their products.* ***4e*** *Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.*

Emerging (Level 3)	Developing (Level 4)	Consolidating (Level 5)
I generate ideas and recognise that my designs have to meet a range of different needs. I make realistic plans to achieve my aims. I think ahead about the order of my work, choosing appropriate tools, equipment, materials, components and techniques. I clarify my ideas using labelled sketches and models to communicate the details of my designs. I identify where my evaluations have led to improvements in my products. I select ingredients for my food product. I work in a safe and hygienic way. I measure out my ingredients by weight or quantity, using scales where appropriate. My food product is presented to impress the intended user. I describe my food product in terms of taste, texture, flavour and relate this to the intended purpose of the food. My product has been cooked or chilled to change the nature of the raw ingredients. I select the appropriate textile(s) for my product. I use sharp scissors accurately to cut textiles. I know that the texture and other properties of materials affect my choice. My designs improve as I go along. I combine materials to add strength or visual appeal.	I generate ideas by collecting and using information. I take the views of users' into account when designing my products. I produce step-by-step plans. I communicate alternative ideas using words, labelled sketches and models showing that I am aware of the constraints of my design. I reflect on my designs and develop them bearing in mind the way they will be used. I identify what is working well and what can be improved. I measure using mm and then use scoring, and folding to shape materials accurately with a focus on precision. I make cuts (scissors, snips, saw) accurately and reject pieces that are not accurate and improve my technique. I make holes (punch, drill) accurately. My methods of working are precise so that products have a high quality finish. My joins are strong and stable, giving extra strength to my products. Some joins are flexible to allow for dismantling or folding. My textile work incorporates the views of intended users' and for the purpose. I use my art textiles skills such as stitching to help create a product that is sturdy and fit for purpose. My textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.	I draw on and use various sources of information. I use my understanding of familiar products to help develop my own ideas. I work from my own detailed plans, modifying them where appropriate. I clarify my ideas through discussion, drawing and modelling. I communicate my ideas. I use my science knowledge of micro-organisms to store and prepare food properly. I use my science knowledge of irreversible changes to create food products that combine to make a new material, that I can then describe using its sensory qualities. I use proportions and ratio to produce recipes of my food product, scaling up and down for different quantities. I reflect on my designs and develop them bearing in mind the way they will be used. I test and evaluate my products, showing that I understand the situations my products will have to work. I am aware that resources may be limited (budget, time, availability). I evaluate my products and how I used information sources to inform my design. I measure and select materials with cost and workability in mind. I make very careful and precise measurements so that joins, holes and openings are in exactly the right place. I ensure that edges are finished by sometimes adding other materials. (e.g. edging strips). My product is well received by intended users. I hide some joints for aesthetic effect. My products have an awareness of commercial appeal. I experiment with a range of materials until I find the right mix of affordability, appeal and appropriateness for the job. I combine art skills to add colour and texture to my work. I mark out using my own patterns and templates. I join textiles using art skills of stitching, embroidering and plaiting to make a durable and desirable product.

Year 6 – Design and Technology Food, Mouldable Materials, Electrical and Mechanical Components

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].

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE
1a *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.* ***1b*** *Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.*	***2a*** *Select from and use a wider range of tools and equipment to perform practical tasks [e.g. Cutting, shaping, joining and finishing], accurately.* ***2b*** *Select from and use a wider range of materials and components, including constructional materials, textiles and ingredients according to their functional properties and aesthetic qualities.* **2c Follow safe procedures and safety to *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.*** ***2d Understand and apply the principles of a healthy and varied diet.***	***3a*** *Investigate and analyse a range of existing products.* ***3b*** *Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.* ***3c*** *Understand how key events and individuals in design and technology have helped shaped the world.* **3d** Recognise quality depends on how something is made and if it meets its intended use and suggest alternative ways of making a product if the first attempt fails.	***4a*** *Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.* ***4b*** *Understand and use mechanical systems in their products [e.g. Gears, pulleys, cams, levers and linkages]* ***4c*** *Understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors]* ***4d*** *Apply their understanding of computing to program, monitor and control their products.* ***4e*** *Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.*

Emerging (Level 3)	Developing (Level 4)	Consolidating (Level 5)
I generate ideas and recognise that my designs have to meet a range of different needs. I make realistic plans to achieve my aims. I think ahead about the order of my work, choosing appropriate tools, equipment, materials, components and techniques. I clarify my ideas using labelled sketches and models to communicate the details of my designs. I identify where my evaluations have led to improvements in my products. I select ingredients for my food product. I work in a safe and hygienic way. I measure out my ingredients by weight or quantity, using scales where appropriate. My food product is presented to impress the intended user. I describe my food product in terms of taste, texture, flavour and relate this to the intended purpose of the food. My product has been cooked or chilled to change the nature of the raw ingredients. I select the appropriate textile(s) for my product. I use sharp scissors accurately to cut textiles. I know that the texture and other properties of materials affect my choice. My designs improve as I go along. I combine materials to add strength or visual appeal.	I generate ideas by collecting and using information. I take the views of users' into account when designing my products. I produce step-by-step plans. I communicate alternative ideas using words, labelled sketches and models showing that I am aware of the constraints of my design. I reflect on my designs and develop them bearing in mind the way they will be used. I identify what is working well and what can be improved. I measure using mm and then use scoring, and folding to shape materials accurately with a focus on precision. I make cuts (scissors, snips, saw) accurately and reject pieces that are not accurate and improve my technique. I make holes (punch, drill) accurately. My methods of working are precise so that products have a high quality finish. My joins are strong and stable, giving extra strength to my products. Some joins are flexible to allow for dismantling or folding. My textile work incorporates the views of intended users' and for the purpose. I use my art textiles skills such as stitching to help create a product that is sturdy and fit for purpose. My textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.	I draw on and use various sources of information. I use my understanding of familiar products to help develop my own ideas. I work from my own detailed plans, modifying them where appropriate. I clarify my ideas through discussion, drawing and modelling. I communicate my ideas. I use my science knowledge of micro-organisms to store and prepare food properly. I use my science knowledge of irreversible changes to create food products that combine to make a new material, that I can then describe using its sensory qualities. I use proportions and ratio to produce recipes of my food product, scaling up and down for different quantities. I reflect on my designs and develop them bearing in mind the way they will be used. I test and evaluate my products, showing that I understand the situations my products will have to work. I am aware that resources may be limited (budget, time, availability). I evaluate my products and how I used information sources to inform my design. I measure and select materials with cost and workability in mind. I make very careful and precise measurements so that joins, holes and openings are in exactly the right place. I ensure that edges are finished by sometimes adding other materials. (e.g. edging strips). My product is well received by intended users. I hide some joints for aesthetic effect. My products have an awareness of commercial appeal. I experiment with a range of materials until I find the right mix of affordability, appeal and appropriateness for the job. I combine art skills to add colour and texture to my work. I mark out using my own patterns and templates. I join textiles using art skills of stitching, embroidering and plaiting to make a durable and desirable product.