DT Curriculum

Intent

At Manor Park Academy, the Design and Technology curriculum teaches children the knowledge and skills to enable them to tackle real life problems; it can improve analysis, problem solving, practical capability and evaluation skills. Our DT curriculum ensures full coverage of the National Curriculum and to ensure strong progress is made, we link learning in DT to learning in other subjects such as mathematics, science, computing and art to ensure children are deepening their understanding as they progress through the school.

The curriculum for design and technology ensures 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.

Implementation

Teachers are provided with support to plan their curriculum through our school's CPD offer, inset days and staff meetings. Design Technology is taught through projects linked to learning adventures. It is also linked to 11 before 11 (11 specific enrichment activities that all children in REAch2 schools participate in during their journey through primary school). The 11 before 11 promise 'seeds to supper' is linked to DT.

To ensure progression in knowledge and skills, teachers plan the following:

- A clear sequence of learning which develops progression of skills and knowledge
- A clear focus on technical vocabulary which progresses over time;
- The sequence of lessons for each subject, should have careful planning for progression and depth;
- A project-based approach with clear stages for enquiry, design, making and evaluating;
- A fantastic finish with means to display and celebrate the pupils' work and to share their learning with parents and the local community.

Impact

Our DT Curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be making good progress in line with age related expectations.

In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes;
- A celebration of learning for each term which demonstrates progression across the school;
- Pupil discussions about their learning - which includes discussion of their thoughts, ideas, processing and evaluations of work;
- Termly assessment again the progression document to assess if the child is working at age related expectations for DT.

National Curriculum

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum *Pupils should be taught:*	1. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. 2. Share their creations, explaining the process they have used.	*1. design purposeful, functional, appealing products for themselves and other users based on design criteria* *2. generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology* *3. select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]* *4. select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics* *5. explore and evaluate a range of existing products* *6. evaluate their ideas and products against design criteria* *7. build structures, exploring how they can be made stronger, stiffer and more stable* *8. explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.* *9. use the basic principles of a healthy and varied diet to prepare dishes* *1. understand where food comes from.*		*1. 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* *2. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design* *3. select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately* *4. select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities* *5. investigate and analyse a range of existing products* *6. evaluate their ideas and products against their own design criteria and consider the views of others to improve their work* *7. understand how key events and individuals in design and technology have helped shape the world* *8. apply their understanding of how to strengthen, stiffen and reinforce more complex structures* *9. understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]* *10. understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]* *11. apply their understanding of computing to program, monitor and control their products.* *12. understand and apply the principles of a healthy and varied diet* *13. prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques* *14. understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.*		

Skills Progression

DT

Skills	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Design	Explore different materials freely, in order to develop their ideas about how to use them and what to make. Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas,	Developing ideas within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds and the local community. State what products they are designing and making and why. Say whether their products are for themselves or other users. Generate some of their own ideas by drawing on their own experiences. Develop and communicate ideas by talking and drawing.	Developing ideas within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment. Describe what their products are for and how they will work. Use simple design criteria to help develop their ideas. Use knowledge of existing products to help come up with ideas and explain why their products are suitable for the intended users. Choose the best tools and materials	Work confidently within a range of contexts, such as the home, school and leisure. Show that their design meets a range of requirements? Begin to put together a step-by-step plan which shows the order and also what equipment and tools they need. Indicate the design features of their products that will appeal to intended users and how realistic their plans are?	Work confidently within a range of contexts, such as the home, school, leisure and culture. Explain how particular parts of their products work. Gather information about the needs and wants of particular individuals and groups and use these to inform their ideas. Produce a step-by step plan. Develop their own design criteria and use these to inform their ideas.	Work confidently within a range of contexts, such as the home, school, leisure, culture and enterprise. Describe the purpose of their products. Begin to carry out research, using surveys, interviews, questionnaires and web-based resources to come up with a range of ideas. Begin to identify the needs and wants of their intended audience. Produce a detailed step-by-step plan	Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment. Indicate the design features of their products that will appeal to intended users and how they will meet their needs. Begin to identify the needs, wants, preferences and values of particular individuals and groups. Carry out research, using surveys, interviews,

	resources and skills.		and give reasons why these are best Describe their design by using pictures, diagrams, models and words.	Begin to describe their design using an accurately labelled sketch, cross-sectional drawing or exploded diagram	Model their ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings or exploded diagrams to develop and communicate their ideas. Suggest some improvements and say what was good and not so good about their original design Make design decisions that take account of the availability of resources.	Share and clarify ideas through discussion. Also suggest some alternative plans and say what the good points and drawbacks are about each Use annotated sketches, cross-sectional drawings or exploded diagrams to develop and communicate their ideas. Use computer-aided design to develop and communicate their ideas.	questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Model their ideas using prototypes and pattern pieces. Use computer-aided design to develop and communicate their ideas. Generate innovative ideas, drawing on research. Make design decisions, taking account of constraints such as time, resources and cost.
Skill	**EYFS**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
Make	Explore, use and refine a variety	With support, select from a range	Select from a range of tools and	Select tools and equipment suitable	Explain their choice of tools and	Select tools and equipment suitable	Select tools and equipment suitable

	of artistic effects to express their ideas and feelings. Create collaboratively, sharing ideas, resources and skills.	of tools and equipment, explaining their choices. With support, select from a range of materials and components according to their characteristics. Follow procedures for safety and hygiene. Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components. With support, measure, mark out, cut and shape materials and components. With support, assemble, join and combine materials and components.	equipment, explaining their choices. Select from a range of materials and components according to their characteristics. Follow procedures for safety and hygiene. Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components. Measure, mark out, cut and shape materials and components. Assemble, join and combine materials and components. Use finishing techniques, including those from art and design.	for the task. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components. Begin to measure, mark out, cut and shape materials and components with some accuracy. Begin to assemble, join and combine materials and components with some accuracy. Apply a range of finishing techniques, including those from art and design.	equipment in relation to the skills and techniques they will be using. Explain their choice of materials and components according to functional properties and aesthetic qualities. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components. Measure, mark out, cut and shape materials and components with some accuracy. Assemble, join and combine materials	for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Select materials and components suitable for the task. Produce appropriate lists of tools, equipment and materials that they need. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components. Accurately measure, mark out, cut and shape materials and components. Accurately assemble, join and combine materials and	for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Explain their choice of materials and components according to functional properties and aesthetic qualities. Produce appropriate lists of tools, equipment and materials that they need. Follow procedures for safety and hygiene. Use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and

		Prepare simple dishes safely and hygienically, without using a heat source. Use techniques such as cutting, peeling and grating.	Prepare simple dishes safely and hygienically, without using a heat source. Use techniques such as cutting, peeling and grating.	With support, prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. With support, use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	and components with some accuracy. Refer to their design criteria as they design and make. Apply a range of finishing techniques, including those from art and design, with some accuracy. Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	components and show perseverance and adaptability when mistakes are made Accurately apply a range of finishing techniques, including those from art and design. Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	electrical components. Accurately measure, mark out, cut and shape materials and components. Accurately assemble, join and combine materials and components. Change the way there are working if necessary Accurately apply a range of finishing techniques, including those from art and design. Use techniques that involve a number of steps. Demonstrate resourcefulness when tackling practical problems. Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.

							Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Skill	**EYFS**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
Evaluate	Return to and build on their previous learning, refining ideas and developing their ability to represent them.	Talk about their design ideas and what they are making as well as comment on things others have done Make simple judgements about their products and ideas against design criteria. Begin to suggest how their products could be improved. Begin to evaluate existing products considering: *what products are, *who products are for, *what products are for, *what materials	Talk about their design ideas and what they and others are making. Make judgements about theirs and other's products and ideas against design criteria. Explain what went well and suggest how their products could be improved if they did it again. Evaluate existing products considering: *what products are, *who products are for, *what products are for, *how products are	Identify the strengths and areas for development in their ideas and products Begin to consider the views of others, including intended users, to improve their work. With support, use their design criteria to evaluate their completed products. Begin to evaluate existing products considering: *how well products have been designed, *how well products have been made, *why materials	Identify the strengths and areas for development in their ideas and products evaluating whether their product it successful or not Consider the views of others, including intended users, to improve their work. Use their design criteria to evaluate their completed products. Evaluate existing products considering: *how well products have been designed, *how well products have been made,	Identify the strengths and areas for development in their ideas and products to ensure that it is the best it can be. Consider the views of others, including intended users, to improve their work. Begin to critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make. Begin to evaluate their ideas and products against their original design specification.	Identify the strengths and areas for development in their ideas and products throughout construction. Consider the views of others, including intended users, to improve their work. 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. Investigate and analyse existing

		products are made from.	used, *where products might be used, *what materials products are made from.	have been chosen, *what methods of construction have been used, *how well products work, *how well products achieve their purposes, *who designed and made the products, *where products were designed and made, *when products were designed and made, *whether products can be recycled or reused.	*why materials have been chosen, *what methods of construction have been used, *how well products work, *how well products achieve their purposes, *who designed and made the products, *where products were designed and made, *when products were designed and made, *whether products can be recycled or reused.	Investigate and analyse existing products considering: *how well products have been designed, *how well products have been made, *why materials have been chosen, *what methods of construction have been used, *how well products work, *how well products achieve their purposes, *how well products meet user needs and wants, *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.	products considering: *how well products have been designed, *how well products have been made, *why materials have been chosen, *what methods of construction have been used, *how well products work, *how well products achieve their purposes, *how well products meet user needs and wants, *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.
Skill	**EYFS**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
Technical Skills	Develop their own ideas and then decide which materials	Recognise and describe the simple working characteristics of materials and	Recognise and describe the working characteristics of materials and	Use learning from science and maths to design and make products that work.	Use learning from science and maths to design and make products that work.	Use learning from science and maths to design and make products that work.	Use learning from science and maths to design and make products that work.

	to use to express them. Join different materials and explore different textures	components. Name simple mechanisms (such as levers and sliders). Use the correct technical vocabulary for the projects they are undertaking. Understand how to use simple tools effectively and safely. To understand that different tools are used for specific purposes. To understand the role of health and safety within design and technology.	components. Name the movements of simple mechanisms (such as levers, sliders, wheels and axles). Explain how freestanding structures can be made stronger, stiffer and more stable. Use the correct technical vocabulary for the projects they are undertaking. To understand that different tools are used for specific purposes. To understand the role of health and safety within design and technology.	Explain in simple terms that that materials have both functional properties and aesthetic qualities. Explain in simple terms that materials can be combined and mixed to create more useful characteristics. Understand how to create movement through the use of mechanical systems (such as levers and linkages or pneumatic systems to create movement). Explain in simple terms that mechanical and electrical systems have an input, process and output. Use the correct technical vocabulary for the projects they are undertaking.	Explain that materials have both functional properties and aesthetic qualities. Explain that materials can be combined and mixed to create more useful characteristics. Understand how to create movement through the use of mechanical systems (such as levers and linkages or pneumatic systems to create movement) Explain that mechanical and electrical systems have an input, process and output. Apply their understanding of computing to programme, monitor and control their products.	Explain that materials have both functional properties and aesthetic qualities and begin to use this knowledge when designing products. Begin to use their knowledge of how materials can be combined and mixed to create more useful characteristics when designing products. Use mechanical systems (such as cams or pulleys or gears to create movement.) Begin to use their knowledge of mechanical and electrical systems having an input, process and output when designing products. Use electrical circuits and components to create functional products. Apply their understanding of computing to	Explain that materials have both functional properties and aesthetic qualities and use this knowledge when designing products. Use their knowledge of how materials can be combined and mixed to create more useful characteristics when designing products. Use their knowledge of mechanical and electrical systems having an input, process and output when designing products. Use mechanical systems (such as cams or pulleys or gears to create desired movement.) Effectively use electrical circuits and components to create functional products. Apply their understanding of

				To understand that different tools are used for specific purposes. To understand the role of health and safety within design and technology.	Demonstrate how to make strong, stiff shell structures. Use the correct technical vocabulary for the projects they are undertaking. To understand that different tools are used for specific purposes. To understand the role of health and safety within design and technology.	programme, monitor and control their products to produce a desired effect. Demonstrate how to reinforce and strengthen a 3D framework. Use the correct technical vocabulary for the projects they are undertaking. To understand that different tools are used for specific purposes. To understand the role of health and safety within design and technology.	computing to programme, monitor and control their products to produce a desired effect. Demonstrate how to reinforce and strengthen a 3D framework effectively. Use the correct technical vocabulary for the projects they are undertaking. To understand that different tools are used for specific purposes. To understand the role of health and safety within design and technology.
Skill	**EYFS**	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
Food and cooking		Explain that all food comes from plants or animals. Know that everyone should eat at least five portions of fruit and vegetables every day.	Explain that food ingredients should be combined according to their sensory characteristics. Explain that food has to be farmed, grown elsewhere	Describe a healthy diet, identifying the importance of a variety and balance of different foods and drinks. Describe how food is needed to provide energy for the body.	Explain that a healthy diet is made up from a variety and balance of different foods and drinks and give examples. Explain that to be active and healthy, food is needed to	Explain that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK and Europe. Begin to adapt recipes to change the	Explain that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.

			(e.g. home) or caught. Name and sort foods into the five groups. Know that everyone should eat at least five portions of fruit and vegetables every day.	Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish).	provide energy for the body. Explain that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK. Know that food ingredients can be fresh, pre-cooked and processed.	appearance, taste, texture and aroma. Know that different foods contain different substances - nutrients, water and fibre - that are needed for health. Explain that seasons may affect the food available. Know that food is processed into ingredients that can be eaten or used in cooking. Know that a recipe can be adapted a by adding or substituting one or more ingredients.	Adapt recipes to change the appearance, taste, texture and aroma. Explain that different foods contain different substances - nutrients, water and fibre - that are needed for health. Explain that seasons may affect the food available and give examples. Know that a recipe can be adapted a by adding or substituting one or more ingredients and discuss the effect on the final product.

DT Whole School Knowledge Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
N	**Who am I?**	**What changes can we see?** **Make biscuits** I know what a biscuit is. I know the key ingredients of a biscuit. I know how to cook hygienically. I know that I need to be careful of hot objects when I am cooking. I know that more sugar will make it sweeter. I know that changing the ingredients will change the taste. I know what order to do things in.	**How does that building stay up?** **Building a tower** I know what a tower is. I know which materials are suitable for making a tower I know what I can use to hold my tower together. I know how to change the length of the materials.	**Is it shiny?**	**How many colours are in a rainbow?** **Fruit salad** I know what fruits are. I know how to cut fruit safely I know that we must wash our hands I know what equipment I will need. I know which order to do things in	**How many pebbles are on the beach?**

R	**Who are we?**	**Who are the people that help us?** **Make gingerbread men/teddies**, etc. (for visitors and family as a thank you) I know what a biscuit is. I know the key ingredients of a biscuit. I know how to cook hygienically. I know that I need to be careful of hot objects when I am cooking. I know that more sugar will make it sweeter. I know that changing the ingredients will change the taste. I know what order to do things in.	**How can we care for our world?** **Making musical instruments** using recyclable materials I know that I can reuse everyday objects to make a musical instrument. I know how to choose the appropriate material to close my maraca. I know which joining materials will be the most appropriate.	**Where do we live?**	**How do we move around?**	**Why do we love water?** **Finger puppets** (Rainbow fish) I know what materials finger puppets can be made from. I know which joining materials will be the most appropriate. I know how to cut different shapes.
Y1	**Superheroes**	**London's burning!** **Moving Pictures**	**Twinkle, twinkle little star**	**Dinosaurs: Dangerous or Delicate?** **Sock Puppets**	**What's in the woods?** **Fairy Treats**	**Fur, Feathers, Scales and Skin**

		I know what a moving picture is. I know what materials can be used to make a moving picture.		I know what materials sock puppets can be made from. I know how sock puppets are made.	I know food comes from animals or plants. I know what healthy eating is. I know some foods that are healthy. I know some foods that are unhealthy. I know I need to wash my hands before I cook or eat.	
Y2	**Once Upon a Castle** **Trebuchets** I know why trebuchets were invented. I know what materials were used to make trebuchets. I know how trebuchets were used. I know how trebuchets fired objects at an enemy.	**Victorians: Victorious or Vile?** **Victoria Sponge Cake** I know how the Victoria sponge cake got its name. I know the key ingredients in a cake. I know how to cook hygienically. I know that I need to be careful of hot objects when I am cooking.	**Land Ahoy** **Textiles – see art**	**Awesome Aston**	**Bloomin' Marvellous**	**Wriggle, Crawl, Fly!** **Minibeast Hotels** I know what materials are used to make minibeast hotels. I know why certain materials are chosen for minibeast hotels. I know the purpose of minibeast hotels.
Y3	**Rock and Roll**	**Crunch! Crack! Clang!** **Moving Robots**	**Greeks: Groovy or Gruesome?** **Greek Food**	**Tudors: Tame or Terrifying?** **Tudor Houses**	**Remarkable Rainforest**	**Zootopia**

		I know how to make a robot move. I know things can move in different ways.	I know some key ingredients in Greek cooking. I know some traditional Greek dishes.	I know what materials Tudor houses were made from. I know why Tudor houses had overhangs. I know why fire spread quickly between Tudor houses.		
Y4	**Smashing Saxons, Vicious Vikings**	**Inside your insides** **A Balanced Meal** I know what a balanced meal is. I know the components of a balanced meal. I know how to create a balanced meal.	**Dive into the deep**	**Islamic Intrigue** **Islamic Textiles** I know why textiles are an important part of Islamic culture. I know some characteristics of Islamic textiles. I know what textiles can be used for.	**Natural Rhythm** **Musical Instruments** I know some natural materials that have been used to make musical instruments in Africa. I know some ways that everyday objects can be used as musical instruments.	**Route 66**
Y5	**Egyptians: Eccentric or Eerie?**	**To infinity and beyond** **Orrery** I know what an orrery is. I know how an orrery works. I know how an orrery	**Romans: Rampaging or Resplendent?** **Catapults** I know some similarities and differences between trebuchets and other types of catapults. I know why the Romans built catapults.	**King Coal**	**Metamorphosis**	**Feel the Force!** **Electrical Games** I know how electrical circuits can be used in games. I know some examples of simple games that use electrical circuits.

		shows the movements of planets.	I know some ways to make a catapult more effective.			I know how conductors and insulators can be used as part of a game. I know how series and parallel circuits can be used differently.
Y6	**Making an impression**	**WW2: What, where, who?** **Make Do and Mend** I know what the 'make do and mend' movement was. I know why people needed to 'make do and mend'. I know some examples of ways people made do and mended different items.	**Origins**	**Brilliant Blood**	**Culture and Community** **Local Cuisine** I know some examples of local cuisine. I know different cultures have different types of cuisine. I know why different cultures have different cuisines. I know how some people grow their own food in the UK.	**Sun, Sombreros and Skulls** **Mexican Food** I know some features of Mexican food. I know why Mexican cuisine uses certain ingredients. I know how food is used in Mexican celebrations.
Assessment is ongoing but evaluated at the end of each topic. All classes complete an observational drawing at the end of the year to show development & progression of skills/techniques.						

MANOR PARK ACADEMY

DT Vocabulary Progression

*Some vocabulary reoccurs in more than one year-group and all vocabulary is revisited to ensure secure vocabulary acquisition.

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Adjectives (materials and products)	Hard Soft	Hard Soft Shiny Smooth Flexible Rigid Stable Waterproof	Hard Soft Shiny Smooth Flexible Rigid Stable Waterproof Natural Man made	Hard Soft Shiny Smooth Flexible Rigid Stable Waterproof Natural Man made Synthetic Dry Rough	Hard Soft Shiny Smooth Flexible Rigid Stable Waterproof Natural Man made Synthetic Dry Rough Malleable Conductive Non-conductive	Hard Soft Shiny Smooth Flexible Rigid Stable Waterproof Natural Man made Synthetic Dry Rough Malleable Conductive Non-conductive Mobile	Hard Soft Shiny Smooth Flexible Rigid Stable Waterproof Natural Man made Synthetic Dry Rough Malleable Conductive Non-conductive Mobile Reflective Abrasive Brittle Opaque Rigid Synthetic Translucent Transparent
Design	Idea Draw	Idea Draw Sketch Design Choices	Idea Draw Sketch Design Choices	Idea Draw Sketch Design Choices	Idea Draw Sketch Design Choices	Idea Draw Sketch Design Choices	Idea Draw Sketch Design Choices

		Explore Purpose Research Survey	Explore Purpose Research Survey Structure Arch Truss Strength	Explore Purpose Research Survey Structure Arch Truss Strength Specification Market Research Mock up Pattern Diagram Annotated diagram Design brief Final design Function Intended Inform Plan Scale	Explore Purpose Research Survey Structure Arch Truss Strength Specification Market Research Mock up Pattern Diagram Annotated diagram Design brief Final design Function Intended Inform Plan Scale Exploded drawing Flow chart Horizontal Vertical Perpendicular Technique Trends Fashion	Explore Purpose Research Survey Structure Arch Truss Strength Specification Market Research Mock up Pattern Diagram Annotated diagram Design brief Final design Function Intended Inform Plan Scale Exploded drawing Flow chart Horizontal Vertical Perpendicular Technique Trends Fashion Parts drawing Parts list Three dimensional Assembly Disassembly Enlarged view Perspective Proportion Working drawing	Explore Purpose Research Survey Structure Arch Truss Strength Specification Market Research Mock up Pattern Diagram Annotated diagram Design brief Final design Function Intended Inform Plan Scale Exploded drawing Flow chart Horizontal Vertical Perpendicular Technique Trends Fashion Parts drawing Parts list Three dimensional Assembly Disassembly Enlarged view Perspective Proportion Working drawing

							Cross section Customer Ergonomics Sustainability Sequential
Make	Build Balance	Build Balance Shaping Construct Stick Glue	Build Balance Shaping Construct Stick Glue Spinning Knot Dye Strength Attach Cut	Build Balance Shaping Construct Stick Glue Spinning Knot Dye Strength Attach Cut Free standing Shape Apply Assemble Saw	Build Balance Shaping Construct Stick Glue Spinning Knot Dye Strength Attach Cut Free standing Shape Apply Assemble Saw Tesselate Dimensions Pattern Join Accuracy	Build Balance Shaping Construct Stick Glue Spinning Knot Dye Strength Attach Cut Free standing Shape Apply Assemble Saw Tesselate Dimensions Pattern Join Accuracy Appropriate Refine Competent Manipulate	Build Balance Shaping Construct Stick Glue Spinning Knot Dye Strength Attach Cut Free standing Shape Apply Assemble Saw Tesselate Dimensions Pattern Join Accuracy Appropriate Refine Competent Manipulate Deliberate Scoring Process
Evaluate	Same Different	Same Different Similarities	Same Different Similarities	Same Different Similarities	Same Different Similarities	Same Different Similarities	Same Different Similarities

		Differences Compare Evaluate Successful Unsuccessful	Differences Compare Evaluate Successful Unsuccessful Improve Function Strength Freestanding Durability Likes/dislike Feedback	Differences Compare Evaluate Successful Unsuccessful Improve Function Strength Freestanding Durability Likes/dislike Feedback Review Effective Ineffective Satisfied Unsatisfied	Differences Compare Evaluate Successful Unsuccessful Improve Function Strength Freestanding Durability Likes/dislike Feedback Review Effective Ineffective Satisfied Unsatisfied Improve Accuracy Finish	Differences Compare Evaluate Successful Unsuccessful Improve Function Strength Freestanding Durability Likes/dislike Feedback Review Effective Ineffective Satisfied Unsatisfied Improve Accuracy Finish Performance Qualities Viability	Differences Compare Evaluate Successful Unsuccessful Improve Function Strength Freestanding Durability Likes/dislike Feedback Review Effective Ineffective Satisfied Unsatisfied Improve Accuracy Finish Performance Qualities Viability Effects Outcomes Revisit
Cooking and Nutrition	Food Eat Cook	Food Eat Cook Chopping board Knife Grate Ingredient Healthy Hygiene Hygienic Recipe Peel	Food Eat Cook Chopping board Knife Grate Ingredient Healthy Hygiene Hygienic Recipe Peel	Food Eat Cook Chopping board Knife Grate Ingredient Healthy Hygiene Hygienic Recipe Peel	Food Eat Cook Chopping board Knife Grate Ingredient Healthy Hygiene Hygienic Recipe Peel	Food Eat Cook Chopping board Knife Grate Ingredient Healthy Hygiene Hygienic Recipe Peel	Food Eat Cook Chopping board Knife Grate Ingredient Healthy Hygiene Hygienic Recipe Peel

		Combine Blend Sweet Tangy	Combine Blend Sweet Tangy Measure Measuring bowl Measuring jug Scales Mix	Combine Blend Sweet Tangy Measure Measuring bowl Measuring jug Scales Mix Flavour Texture Taste	Combine Blend Sweet Tangy Measure Measuring bowl Measuring jug Scales Mix Flavour Texture Taste Digestion Balanced	Combine Blend Sweet Tangy Measure Measuring bowl Measuring jug Scales Mix Flavour Texture Taste Digestion Balanced	Combine Blend Sweet Tangy Measure Measuring bowl Measuring jug Scales Mix Flavour Texture Taste Digestion Balanced Cuisine Culture
Mechanisms		Slider	Slider Lift Weight Mechanism Lever Raise Lower	Slider Lift Weight Mechanism Lever Raise Lower Load Friction Pulley	Slider Lift Weight Mechanism Lever Raise Lower Load Friction Pulley Axle Electricity Energy Battery Circuit Current Buzzer Light Switch Lightbulb Bulb holder	Slider Lift Weight Mechanism Lever Raise Lower Load Friction Pulley Axle Electricity Energy Battery Circuit Current Buzzer Light Switch Lightbulb Bulb holder	Slider Lift Weight Mechanism Lever Raise Lower Load Friction Pulley Axle Electricity Energy Battery Circuit Current Buzzer Light Switch Lightbulb Bulb holder

						Force Motion	Force Motion Series circuit Parallel circuit