Design and Technology in EYFS

	Prime Areas of Learning/ Aspects	ELG'S	Skills taught	Learning Experiences provided by adults
Reception	**Communication and Language** Listening, Attention and Understanding Speaking	To make comments about what they have heard and ask questions to clarify understanding. Use recently introduced vocabulary. Offer explanations for why things happen. Express their ideas and feelings about their experiences .	Use of Key Vocabulary grid To begin to speak like an inventor Begin to understand cause and affect.	PSHE sessions Talk to children about what they have been doing and help them to reflect upon and explain events. Provide practical experiences that encourage children to ask and respond to questions. Display children's work. Decide on the key vocabulary linked to activities and ensure this is used/on show. Provide opportunities for talking for a wide range of purposes. Speaking and listening activities – such as show and tell/circle time.
	Personal, Social and Emotional Development Managing Self Building relationships	To show perseverance and resilience when faced with a new challenge. Manage own basic hygiene/making healthy food choices. Show sensitivity to others needs.	Hand-washing To distinguish between healthy and unhealthy foods. Early evaluating skills. To discuss about intentions	Opportunities to evaluate their own and friends ideas /products. Collaborative time Teach children to use and care for materials Make materials easily accessible Provide a role-play area resourced with materials reflecting children's family lives Turn-taking activities Encourage children to explore and talk about what they are learning Support children in linking openly and confidently with others, e.g. to seek help or check information.
	Physical development Gross-Motor Skills Fine Motor Skills	To demonstrate strength, balance and coordination. Hold a pencil effectively – use of Tripod grip Use a range of small tools Begin to show accuracy when drawing.	To handle tools and equipment effectively, ie pencils for writing.	Clever Fingers/Finger Gym Teach children the skills they need to use equipment safely. Provide large portable equipment that children can move about safely and cooperatively to create their own structures Teach children skills of how to use tools and materials effectively and safely and give them opportunities to practise them. Provide a range of construction toys.

	Aspects			
Reception	**Literacy** Comprehension Word Reading Writing	Anticipate what may happen Use and understand recently introduced vocabulary. Read words and simple sentences Write simple phrases and sentences	To begin to talk and discuss how to plan/ build/make something. Suggest what objects are used for. To use vocabulary to label pictures. To say what they like and do not like.	Help children to understand what a word is by using names and labels and by pointing out words in the environment Add pop-up books/non-fiction books to the book area e.g. a book with simple moving parts. Carry out activities using instructions. Model writing for a purpose Provide a range of opportunities to write for different purposes Ensure that role-play areas encourage writing of signs with a real purpose Provide word banks and resources for indoor and outdoor play
	Mathematics Number Numerical Patterns	Have a deep understanding of number Explore and represent patterns. Look at how quantities can be distributed equally	To use vocabulary to construct a model.	Have large and small blocks and boxes available for construction Encourage estimation Have areas where children can explore the properties of objects and where they can weigh and measure.
	Understanding the world Past and Present The Natural World	Talk about the lives of people Explore the natural world around them, making observations and drawing picture	To compare objects/drawings in the environment. To make observations and discuss these. Answer questions	Make visits to shops or a park/'real-life experiences' in the role play. Encourage children to express opinions on natural and built environments. Pose open-ended questions
	Expressive Arts and Design Creating with Materials Being Imaginative and Expressive	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture form and function. Share their creations, explain what process they have used. Make use of props and materials. To invent and adapt	Developing practical skills and techniques. Developing their knowledge and understanding in relation to mechanisms, structures, food and textiles. Explore, use and refine a variety of artistic effects to express their feelings and ideas. Return to and build on their previous learning and refine	Ensuring that they have experiences that stimulate their interest. Support children who are less confident. Offer a story stimulus by suggesting an imaginary event or set of circumstances. Make materials accessible. Provide children with opportunities to use their skills and explore concepts Provide opportunities indoors and outdoors Exploring the designed and made world through indoor and outdoor environment, and through role play.

Design and Technology in KS1

Year 1 Design Technology Assessment Grid

Avondale Primary School

	Design	Make	Evaluating	Technical knowledge	Food and Nutrition
Unit 1 Structures/ Mechanisms	Draw on own experiences. Use knowledge of existing products to help come up with ideas Develop ideas through talking. Work in a range of contexts model ideas by exploring examples. Say why they are making the product and how it will work (intended user). GD – explain in detail - generate their own design criteria	Select from a limited range of tools and equipment, explaining their choices Select from a limited range of materials and components according to their characteristics. Assemble materials. Use finishing techniques. GD- plan by suggesting what to do next	Talk about their designs and final product. Make simple judgements about their products and ideas against design criteria. Talk about and discuss existing products. GD- suggest how their products could be improved.	Know different vehicles and their parts. Know about the movement of simple mechanisms such as wheels and axles. Know how a simple structure can be made stronger and stiffer. GD- use the correct technical vocabulary with fluency.	
Unit 2 Cooking and Nutrition	Draw on own experiences. Use knowledge of existing products to help come up with ideas Develop ideas through talking. Work in a range of contexts model ideas by exploring examples. Say why they are making the product and how it will work (intended user). GD – explain in detail - generate their own design criteria	Select from a limited range of tools and equipment, explaining their choices Select from a limited range of food ingredients and equipment according to their characteristics. Prepare and assemble ingredients. GD- plan by suggesting what to do next	Talk about their designs and final product. Make simple judgements about their products and ideas against design criteria. Talk about and discuss existing products. GD- suggest how their products could be improved.	To begin to know that all food comes from plants or animals. That food has to be farmed, grown elsewhere (e.g. home) or caught. How to name and sort foods into the five groups of the Eatwell plate. Five portions of fruit or vegetables should be eaten every day.	How to prepare simple dishes safely and hygienically. How to use techniques such as cutting, peeling and grating. GD -That food ingredients should be combined according to their sensory characteristics
Unit 3 Mechanisms	Draw on own experiences. Use knowledge of existing products to help come up with ideas Develop ideas through talking. Work in a range of contexts model ideas by exploring examples. Say why they are making the product and how it will work (intended user). GD – explain in detail - generate their own design criteria	Select from a limited range of tools and equipment, explaining their choices Select from a limited range of materials and components according to their characteristics. Assemble materials. Use finishing techniques. GD- plan by suggesting what to do next	Talk about their designs and final product. Make simple judgements about their products and ideas against design criteria. Talk about and discuss existing products. GD- suggest how their products could be improved.	About the simple working characteristics of materials and components ie sliders and levers. About the movement of simple mechanisms such as levers and sliders. GD- use the correct technical vocabulary with fluency.	

Year 2 Design Technology Assessment Grid

Avondale Primary School

	Design	Make	Evaluating	Technical knowledge	Food and Nutrition
Unit 1 Structures	Draw on own experiences. Use knowledge of existing products to help come up with ideas Develop and communicate ideas through . Work confidently in a range of contexts. Model ideas by exploring materials, components and construction kits and by making templates and mock-ups. Say why they are making the product and how it will work (intended user). Use ICT to develop ideas. GD – explain in detail - generate their own design criteria	Select from a range of tools and equipment, explaining their choices Select from a range of materials and components according to their characteristics. Use a range of materials and components, including construction materials and kits. Measure, mark out, cut and shape materials and components. Assemble materials and components. Use appropriate finishing techniques. GD- plan by suggesting what to do next	Discuss their designs and final product. Discuss their products and ideas against final design criteria. Discuss existing products. GD- say how and why their product could be improved.	Know about simple structures and building materials. Know how a simple structure can be made stronger and stiffer. GD- use the correct technical vocabulary with fluency.	
Unit 2 Cooking and Nutrition	Draw on own experiences. Use knowledge of existing products to help come up with ideas Develop ideas through talking. Work confidently in a range of contexts. Model ideas by exploring ingredients. Say why they are making the product and how it will work (intended user). GD – explain in detail - generate their own design criteria	Follow procedures for safety and hygiene. Use a range of food ingredients. Select from a range of tools and equipment, explaining their choices Prepare food produce safely and hygienically Use finishing techniques. GD- plan by suggesting what to do next	Discuss their designs and final product. Discuss their products and ideas against final design criteria. Discuss existing products. GD- say how and why their product could be improved.	To know that that all food comes from plants or animals. That food has to be farmed, grown elsewhere (e.g. home) or caught. Five portions of fruit or vegetables should be eaten every day.	To know about the history of bread making . How to prepare simple dishes safely and hygienically. How to use techniques such as kneading. GD -That food ingredients should be combined according to their sensory characteristics
Unit 3	Draw on own experiences.	Select from a range of tools	Discuss their designs and	About the simple working	

Questions to consider when evaluating (Years 1/2)

- What products are?
- Who products are for?
- What products are for?
- How products work?
- How products are used?
- Where products might be used?
- What materials products are made from?
- What they like and dislike about products?

Design and Technology in KS2

Year 3 Design Technology Assessment Grid

	Design	Make	Evaluating	Technical knowledge	Food and Nutrition
Unit 1 Cooking and Nutrition	Work confidently within a range of contexts. Describe the purpose of their products and how their products work. Indicate the design features of their products that will appeal to intended users Gather information for particular groups. Develop a design criteria based on research. Use annotated sketches to develop ideas. Develop and use prototypes. GD- Make design decisions that take account of the availability of resources.	Select suitable tools, equipment and materials for the task. Explain their choice of materials and components according to functional properties and aesthetic qualities. Use a wider range than KS! Of ingredients and equipment. GD- Order the main stages of making Explain their choice of tools and equipment in relation to the skills and techniques they will be using	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 their completed products.	How to use learning from Science to help design and make products that work That food ingredients can be fresh, pre-cooked and processed GD-That materials can be combined and mixed to create more useful characteristics The correct technical vocabulary for the projects they are undertaking.	That food is grown (such as tom wheat and potatoes), reared (s pigs, chickens and cattle) and c (such as fish) in the UK, Europe the wider world. That a healthy diet is made up f variety and balance of different and drink, as depicted from The Eatwell Plate. That to be active and healthy, f and drink are needed to provid energy for the body.
Unit 2 Structures	Work confidently within a range of contexts. Describe the purpose of their products and how their products work. Indicate the design features of their products that will appeal to intended users Gather information for particular groups. Develop a design criteria based on research. Use annotated sketches to develop ideas. Develop and use prototypes. GD- Make design decisions that take account of the availability of resources.	Select suitable tools, equipment and materials for the task and explain their choices. Use a wide range of construction materials. Measure, mark out, cut and shape materials and components with some accuracy. Assemble, join and combine materials and components with some accuracy. Apply a range of finishing techniques, including those from art and design, with some accuracy. GD- Order the main stages of making Explain their choice of tools and equipment in relation to the skills and techniques they will be using.	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 their completed products.	How to use learning from Science to help design and make products that work That food ingredients can be fresh, pre-cooked and processed. How to make strong, stiff shell structures. GD-That materials can be combined and mixed to create more useful characteristics The correct technical vocabulary for the projects they are undertaking.	
Unit 3	Work confidently within a range of		Identify the strengths and areas	How to use learning from Science to help	

Year 4 Design Technology Assessment Grid

	Design	Make	Evaluating	Technical knowledge	Food and Nutrition
Unit 1 Textiles	Work confidently within a range of contexts. Describe the purpose of their products and how their products work. Indicate the design features of their products that will appeal to intended users Gather information for particular groups. Develop a design criteria based on research. Use annotated sketches to develop ideas. Develop and use prototypes. Generate realistic ideas, focusing on the needs of the user GD- Make design decisions that take account of the availability of resources GD- Make design decisions that take account of the availability of resources.	Select suitable tools, equipment and materials for the task. Explain their choice of materials and components according to functional properties and aesthetic qualities. Use a wider range than KS1 of materials and equipment. Measure, mark out, cut and shape materials and components with some accuracy Assemble, join and combine materials and components with some accuracy Apply a range of finishing techniques, including those from art and design, with some accuracy GD- Order the main stages of making Explain their choice of tools and equipment in relation to the skills and techniques they will be using.	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 their completed products GD- begin to critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.	How to use learning from Mathematics to help design and make products that work. That materials have both functional properties and aesthetic qualities. That materials can be combined and mixed to create more useful characteristics. The correct technical vocabulary for the projects they are undertaking. That a single fabric shape can be used to make a 3D textiles product.	
Unit 2 Electrical Systems	Work confidently within a range of contexts . Describe the purpose of their products Indicate the design features of their products that will appeal to intended users. Explain how particular parts of their products work Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources	Measure, mark out, cut and shape materials and components with some accuracy Assemble, join and combine materials and components with some accuracy Apply a range of finishing techniques, including those from art and design, with some accuracy. Select suitable tools, equipment and materials for the task. Explain their choice of materials and components according to	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 their completed products GD- begin to critically evaluate the quality of the design, manufacture and	How to use learning from Science to help design and make products that work. How to use learning from Mathematics to help design and make products that work. That materials have both functional properties and aesthetic qualities. That mechanical and electrical systems have an input, process and output. How simple electrical circuits	

Questions to consider when evaluating (Years 3/4)

- 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?
- 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?
- 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?

Year 5 Design Technology Assessment Grid

	Design	Make	Evaluating	Technical knowledge	Food and Nutrition
Unit 1 Computing	Identify the needs, wants, preferences and values of particular individuals Develop a design specification to guide their thinking Work confidently within a range of contexts. Describe the purpose of their products and how they work. Generate realistic ideas. Share and clarify ideas through discussion. Model their ideas using prototypes. Use annotated sketches, cross sectional drawings and exploded diagrams to develop and communicate their ideas. Use computer-aided design to develop and communicate their ideas Make design decisions, taking account of constraints such as time, resources and cost.	Select tools and equipment suitable for the task. Explain their choice of equipment and components according to functional properties and aesthetic qualities. Use a wide range of materials and components. Accurately assemble, join and combine materials and components Accurately apply a range of finishing techniques, including those from art and design Use techniques that involve a number of steps Produce a appropriate list of equipment and materials that they need. Explain their choice of equipment and components in relation to the skills and techniques they will be using.	Identify the strengths and areas for development in their ideas and products 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	How to use learning from Science and Maths to help design and make products that work. That materials have both functional properties and aesthetic qualities. That mechanical and electrical systems have an input, process and output. How more complex electrical circuits and components can be used to create functional products. That materials can be combined and mixed to create more useful characteristics. Use and apply the correct technical vocabulary for the projects they are undertaking.	
Unit 2 Mechanisms	Identify the needs, wants, preferences and values of particular individuals Develop a design specification to guide their thinking Work confidently within a range of contexts. Carry out research, using surveys, interviews, questionnaires and web-based resources. Work confidently within a range of contexts. Describe the purpose of their products and how they work. Generate realistic ideas.	Select tools and equipment suitable 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 Use a wide range of equipment and tools. Explain their choice of materials and components according to functional properties and aesthetic qualities. Accurately measure, mark out, cut and shape materials and	Identify the strengths and areas for development in their ideas and products 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	How to use learning from Science and Maths to help design and make products that work. That materials have both functional properties and aesthetic qualities. How mechanical systems such as cams or pulleys or gears create movement. Use and apply the correct technical vocabulary for the projects they are undertaking.	

Year 6 Design Technology Assessment Grid

	Design	Make	Evaluating	Technical knowledge	Food and Nutrition
Unit 1 Textiles	Work confidently within a range of contexts. Describe the purpose of their products. Indicate the design features of their products that will appeal to intended users. Explain how particular parts of their products work. Carry out research, using interviews, questionnaires and web-based resources. Identify the needs, wants, preferences and values of particular individuals. Develop a design specification to guide their thinking. Share and clarify ideas through discussion. Model their ideas using prototypes and pattern pieces Use annotated sketches to develop and communicate their ideas. Generate realistic ideas, focusing on the needs of the user Make design decisions, taking account of constraints such as time, resources and cost.	Select tools and equipment suitable 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 Explain their choice of materials and components according to functional properties and aesthetic qualities. Produce appropriate list of tools, equipment and materials that they needs Formulate step-by-step plans as a guide to making. Accurately measure, mark out, cut and shape materials and components Accurately assemble, join and combine materials and components 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 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. 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.	How to use learning from Science and Maths to help design and make products that work. That materials have both functional properties and aesthetic qualities. That materials can be combined and mixed to create more useful characteristics. That a 3D textiles product can be made from a combination of fabric shapes bout inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. Use and apply the correct technical vocabulary for the projects they are undertaking.	
Unit 2 Food and Nutrition	Work confidently within a range of contexts such as home, school, leisure, culture, enterprise, industry and the wide environment. Describe the purpose of their products work. Indicate the design features of their products that will appeal to intended users	Select tools and equipment suitable for the task and explain their reasons for these choices. Select materials and components suitable for the task and explain their reasons for these choices. Produce a appropriate list of equipment and ingredients that	Identify the strengths and areas for development in their ideas and products Consider the views of others, including intended users, to	How to use learning from Science and Maths to help design and make products that work. That food ingredients can be combined and mixed to create more useful characteristics. That a recipe can be adapted by adding or substituting one or more ingredients.	How to prepare and cook a variety of dominantly savoury dishes safely and hygienically. How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

Questions to consider when evaluating (Years 5/6)

- 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?
- About inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products