Edward Peake CofE Middle School
DT Curriculum Progression

Curriculum Intent:

The intention of the Design Technology curriculum is to provide opportunities for students to develop their knowledge of materials, food ingredients and manufacturing processes through practical tasks. Pupils work using an iterative design process focusing on research, design, development and realisation. The intention is to develop independent learning through problem solving and developing their work through informed decisions. The Design Technology curriculum has been specifically designed to meet the needs of all pupils regardless of their previous experiences or potential barriers to learning. We make use of subject specialist teaching across all four year groups, with a specialist food room, tech workshop, textiles room and resources.

Our main aims are to:

- **Live:** Ensure pupils know how to design and manufacture products using a range of materials so they are ready for their next stage of education
- **Love:** To help broaden pupils' access to a range of materials and manufacturing techniques and foster a love of designing, manufacturing and creative thinking.
- **Learn:** Develop pupils' as independent, confident and successful designers and manufacturers

There are five main concepts that run through the Design Technology curriculum at Edward Peake. These are:

- **Designing:** Pupils understand the needs of a range of contexts and users and are able to generate and model ideas for these.
- **Making:** Pupils master a range of practical skills and can plan which are suitable to use to make a range of products.
- **Evaluating:** Pupils can critically evaluate their work and the work of existing designers and use this knowledge in the development of their ideas.
- **Technical knowledge:** Pupils gain knowledge that can be used to make decisions about making products work.
- **Cooking and nutrition:** Pupils master a range of practical skills and develop their knowledge of nutrition and where foods come from.

Skills and Knowledge	Year 5	Year 6	Year 7	Year 8
Designing: Understanding contexts, users and purposes	Pupils know how to: ● Work to a design brief ● Describe the purpose of their	In addition to Year 5 pupils know how to: ● Explain how particular parts of their products work	Pupils know how to: ● Work confidently within a range of contexts ● Consider the	In addition to year 7 pupils know how to: ● Consider additional factors such as ergonomics,

	products ● Develop a simple specification to guide their thinking	● Indicate the design features of their products that will appeal to intended users ● Identify the needs, wants, preferences and values of particular individuals and groups	influence of a range of lifestyle factors and consumer choices when designing products ● Take creative risks when making design decisions ● Develop detailed design specifications to guide their thinking	anthropometrics or dietary needs ● Analyse where human values may conflict and compromise has to be achieved ● Use research including the study of different cultures, to identify and understand user needs
	Where in the curriculum this is taught: Autumn Term - DT lessons - Door sign project	Where in the curriculum this is taught: Autumn Term - Textiles lessons - Puppet project Summer Term - DT lessons - Animal automata project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate mould project Textile lessons - Under the Sea Bag project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Pencil box project Textile lessons - Cushion project Food lessons
Designing: Generating, developing, modelling and communicating ideas	Pupils know how to: ● Share and clarify ideas through discussion ● Model their ideas using prototypes and pattern pieces ● Use annotated sketches to communicate their ideas	In addition to year 5 pupils know how to: ● Use cross sectional and exploded diagrams to develop and communicate their ideas ● Use computer aided design to communicate their ideas ● Generate innovative ideas drawing on	Pupils know how to: ● Use specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations ● Combine ideas from a variety of sources ● Use a variety of approaches, for example	In addition to year 7 pupils know how to: ● Use a variety of approaches, for example biomimicry to generate creative ideas and avoid stereotypical responses ● Use 2D and begin to use 3D CAD packages to model their ideas

		research ● Make design decisions based on time, resources and cost	user-centred design, to generate creative ideas and avoid stereotypical responses ● Develop and communicate design ideas using annotated sketches ● Produce 3D models to develop and communicate ideas	● Produce models of their ideas using CAM to test out their ideas
	Where in the curriculum this is taught: Autumn Term - DT lessons - Door sign project, Push together torch project	Where in the curriculum this is taught: Autumn term - Textiles - Puppet project Summer Term - DT lessons - Automata project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate Mould project Textile lessons - Under the Sea BAg project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Pencil box project
Making: Planning	Pupils know how to: ● Select tools and equipment suitable for the task ● 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	ın addition to Year 5 pupils know how to: ● Explain their choice of tools and equipment in relation to the skills and techniques they will be using ● Demonstrate resourcefulness when tackling practical problems	Pupils know how to: ● Select appropriately from specialist tools, techniques, processes, equipment and machinery, including computer-aided manufacture ● Select appropriately from a wider, more complex range of materials, components and ingredients, taking into account their	Pupils know how to: ● Select appropriately from specialist tools, techniques, processes, equipment and machinery, including computer-aided manufacture ● Select appropriately from a wider, more complex range of materials, components and ingredients, taking into account their

	• Formulate step-by-step plans as a guide to making		properties such as water resistance and stiffness • Produce ordered sequences and schedules for manufacturing products they design, detailing resources required	properties such as water resistance and stiffness • Produce ordered sequences and schedules for manufacturing products they design, detailing resources required
	Where in the curriculum this is taught: Autumn Term - DT lessons - Door sign project, Push together torch project	Where in the curriculum this is taught: Autumn Term - Textile Lessons - Puppet project Summer Term - DT lessons - Automata project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate Mould project, Twisty Fish project Textile lessons - Under the Sea Bag project Food lessons	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate Mould project Textile lessons - Under the Sea Bag project, Twisty Fish project Food lessons
Making: Practical skills and techniques	Pupils know how to: • Follow procedures for safety and hygiene • Use textiles, food, and electrical components • Accurately measure, mark out, cut and shape materials and components • Accurately assemble, join and combine materials and components • Accurately apply a	In addition to year 5 pupils know how to: • Use mechanical components	Pupils know how to: • Follow procedures for safety and hygiene and understand the process of risk assessment • Use a wider, more complex range of materials, components and ingredients, taking into account their properties • Use a broad range of manufacturing	In addition to year 7 pupils know how to: • Adapt their methods of manufacture to changing circumstances • Recognise when it is necessary to develop a new skill or technique • Exploit the use of CAD/CAM equipment to manufacture products, increasing standards of quality,

	range of finishing techniques ● Use techniques that involve a number of steps ● Demonstrate resourcefulness when tackling practical problems		techniques including handcraft skills and machinery to manufacture products precisely ● Apply a range of finishing techniques, including those from art and design, to a broad range of materials including textiles, polymers and woods ● Make use of specialist equipment to mark out materials ● Use a broad range of material joining techniques including stitching, mechanical fastenings and adhesives ● Investigate and develop skills in modifying the appearance of materials including textiles and other manufactured materials e.g. dying and applique	scale of production and precision
	Where in the curriculum this is taught: Autumn Term - DT lessons - Door sign project , Push together torch project Spring Term - Food lessons Summer Term - Textiles	Where in the curriculum this is taught: Summer term - DT lessons - Automata project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate mould project, Twisty fish	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Pencil Box project

	lessons - Stitched Card project		project Textile lessons - Under the Sea Bag project Food lessons	Textile lessons - Under the Sea Bag project
Evaluating: Own ideas and products	Pupils know how 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	In addition to year 5 pupils know how to: ● 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	Pupils know how to: ● Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups ● Evaluate their products against their original specification and identify ways of improving them ● Actively involve others in the testing of their products	In addition year 7 pupils know how to: ● Select appropriate methods to evaluate their products in use and modify them to improve performance ● Produce short reports, making suggestions for improvements
	Where in the curriculum this is taught: Autumn Term - DT lessons - Door sign project, Push together torch project Spring Term - Textiles lessons - Stitched Card project Summer Term - Food lessons	Where in the curriculum this is taught: Autumn Term - Textile lessons - Puppet project Summer Term - DT lessons - Automata project Spring Term - Food lessons	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate Mould project, Twisty Fish project Food lessons	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Pencil Box project Textile lessons - Cushion project

Evaluating: Existing products	Pupils know how to: ● Investigate and analyse: 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	In addition to year 5 pupils know how to: ● Investigate and analyse: how innovative products are; how sustainable the materials in products are; what impact products have beyond their intended purpose	Pupils know how to: ● Investigate and analyse the positive and negative impact that products can have in the wider world	Pupils know how to: ● Investigate and analyse the positive and negative impact that products can have in the wider world
	Where in the curriculum this is taught: Autumn Term - Door Sign project	Where in the curriculum this is taught: Autumn term - Textiles lessons - Puppet project Summer term - DT lessons - Automata project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate mould project, Twisty Fish project Textile lessons - Under the Sea Bag project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate mould project, Twisty Fish project Textile lessons - Under the Sea Bag project
Technical knowledge: Making products work	Pupils know how to: ● 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	In addition to year 5 pupils know how to: ● how mechanical systems such as cams or pulleys or gears create movement ● That a 3D textiles product can be made from a combination	Pupils know how to: ● Use learning from science to help design and make products that work ● Use learning from mathematics to help design and make products that work ● Understand the	Pupils know how to: ● Use learning from science to help design and make products that work ● Use learning from mathematics to help design and make products that work ● Understand the

	• That materials have both functional properties and aesthetic qualities • That materials can be combined and mixed to create more useful characteristics • That mechanical and electrical systems have an input, process and output • The correct technical vocabulary for the projects they are undertaking • That a recipe can be adapted by adding or substituting one or more ingredient	of fabric shapes • How to reinforce and strengthen a 3D framework	properties of materials, and how they can be used to advantage • How to competently use a range of cooking techniques for example, selecting and preparing ingredients; using utensils and electrical equipment • How to classify materials by structure e.g. hard words, soft woods, ferrous and non-ferrous, thermoplastic and thermosetting plastics • About the physical properties of materials e.g. grain, brittleness, flexibility, elasticity, malleability and thermal • About textile fibre sources e.g. natural and synthetic and fabrics e.g. plain and woven • How to select and modify patterns and use in textile construction	properties of materials, and how they can be used to advantage • How to competently use a range of cooking techniques for example, selecting and preparing ingredients; using utensils and electrical equipment • How to classify materials by structure e.g. hard words, soft woods, ferrous and non-ferrous, thermoplastic and thermosetting plastics • About the physical properties of materials e.g. grain, brittleness, flexibility, elasticity, malleability and thermal • About textile fibre sources e.g. natural and synthetic and fabrics e.g. plain and woven • How to select and modify patterns and use in textile construction

	Where in the curriculum this is taught: Autumn Term - DT lessons - Door sign project, Push together torch project Spring Term - Textiles lessons - Stitched Card project Summer Term - Food lessons	Where in the curriculum this is taught: Autumn Term - Textile lessons - Puppet project Summer Term - DT lessons - Automata project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Chocolate Mould project, Twisty Fish project Textile lessons - Under the Sea Bag project	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term DT lessons - Pencil Box project Textile lessons - Cushion project
Cooking and nutrition: Where food comes from	Pupils know how to: ● That a recipe can be adapted a by adding or substituting one or more ingredients ● 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	In addition to year 5 pupils know how to: ● That seasons may affect the food available ● How food is processed into ingredients that can be eaten or used in cooking	Pupils know how to: ● That food is produced, processed and sold in different ways, e.g. conventional and organic farming, fair trade ● That people choose different types of food and that this may be influenced by availability, season, need, cost, where the food is produced, culture and religion	In addition to year 7 pupils know how to: ● About the influence of food marketing, advertising and promotion
	Where in the curriculum this is taught: Spring Term - Food lessons	Where in the curriculum this is taught: Summer Term - Food lessons	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term Food lessons	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term Food lessons
Cooking and nutrition: Food preparation, cooking and nutrition	Pupils know how to: ● How to prepare and cook a variety of	In addition to year 5 pupils know how to: ● To know how to use	Pupils know how to: ● How to store, prepare and cook	In addition to year 7 pupils know how to: ● The importance of a

	predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source ● How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, and baking ● that recipes can be adapted to change the appearance, taste, texture and aroma	kneading ● that different food and drink contain different substances – nutrients, water and fibre –that are needed for health	food safely and hygienically ● How to use date-mark and storage instructions when storing and using food and drinks ● How to select and prepare ingredients ● How to use utensils and electrical equipment ● How to apply heat in different ways ● How to use taste, texture and smell to decide how to season dishes and combine ingredients ● How to adapt and use their own recipes ● How to cook a repertoire of predominantly savoury dishes to feed themselves and others a healthy and varied diet ● How to taste and cook a broader range of ingredients and healthy recipes, accounting for a range of needs, wants and values ● How to actively minimise food waste	healthy and varied diet as depicted in The eatwell plate and Eight tips for healthy eating ● That food provides energy and nutrients in different amounts; that they have important functions in the body; and that people require different amounts during their life

			such as composting fruit and vegetable peelings and recycling food packaging	
	Where in the curriculum this is taught: Spring Term - Food lessons	Where in the curriculum this is taught: Summer Term - Food lessons	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term Food lessons -	Where in the curriculum this is taught: As part of the creativity rota, could be Autumn, Spring or Summer Term Food lessons -

Curriculum Impact:
Pupils in DT achieve academically, are ready for their next steps in education and have high aspirations for their future.

- **Live:** Ensure pupils know how to design and manufacture products using a range of materials so they are ready for their next stage of education-
  - Pupils show excellent attitudes to learning.
  - Pupils are confident in what they have learnt and how to apply the knowledge and skills they have gained.
  - Pupils are able to share their knowledge with their peers.
- **Love:** To help broaden pupils' access to a range of materials and manufacturing techniques and foster a love of designing, manufacturing and creative thinking.
  - Pupils have high aspirations for their future.
  - Pupils have an understanding of the work of designers from around the world and how others live.
  - Pupils have knowledge of a wide range of dishes and traditions from around the world.
- **Learn:** Develop pupils' as independent, confident and successful designers and manufacturers
  - Pupils make good progress and are able to achieve academic success.
  - Disadvantaged pupils are supported in order to close the gap between themselves and their peers.
  - Pupils' progress across their Design technology lessons is evident over the four years at Edward Peake.