



	Working Towards Curriculum Expectation	At Curriculum Expectation	Above Curriculum Expectation
Year 3			
Focus:			
Structures – Shell Struc	ctures		
Mechanical Systems –	Levers and Linkages		
Food – Healthy and Va	ried Diet		
1. Understanding contexts, users and purposes 2. Generating, developing, modelling and communicating ideas	 1.Use simple design criteria; state what their products are, who and what they are for and how they will work. 2.Generate ideas using their own experiences and existing products; use talk, drawing, templates, mock-ups and, where appropriate, computers. 	 Explain how a small event led to a larger significant event in Design and Technology. Analyse and test a range of existing products. Use research to create ideas and refine them to develop a design criteria. Develop a design aimed at a particular individual or group. 2.Generate ideas using their own experiences and existing products; 	 Evaluate and refine their own ideas against design criteria, considering the views of others. Work well with others to explain ideas in depth and why they would work well.





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		 use talk, drawing, templates, mock-ups, annotated drawings and, where appropriate, computers. Begin to explain ideas to others. 	
Making	1. Plan by suggesting what to do next; select from a range of tools,	1. Plan by deciding and analysing what to do next; select from a range	1. Apply detailed understanding for the use of certain tools, equipment,
1. Planning	equipment, materials and components.	of tools, equipment, materials and components. Understand and	materials and components to their final product.
2. Practical skills and techniques	2. Follow procedures for safety and hygiene; measure, mark out, cut, shape, assemble, join, combine and finish a range of materials and components with support.	explain why these have been chosen. 2. Follow procedures for safety and hygiene; measure, mark out, cut, shape, assemble, join, combine and finish a range of materials and components independently.	2. Able to give reasons for their choices.
Evaluating	1.Make simple judgements about their products and ideas against	1.Make judgements about their products and ideas against their	1.Make detailed judgements about their products and ideas against
1.Own ideas and products	design criteria.	own design criteria.	their own design criteria.
2.Existing products	2.Explore who and what products are for, how they work and are used, what materials they are made from and what they like and dislike about them.	2.Explore who and what products are for, how they work and are used, what materials they are made from and what they like and dislike about them. Give ideas about what they can do to improve their work next time.	2.Explore who and what products are for, how they work and are used, what materials they are made from and what they like and dislike about them. Give ideas about what they can do to improve their work next time. Give constructive feedback to their peers.
Technical Knowledge	Know about the simple working characteristics of materials and	Know about the working characteristics of materials and	Know about the working characteristics of complex materials





Making products work	components, the movement of	components, the movement of	and components, the movement of
	simple mechanisms, how	mechanisms, how freestanding	complex mechanisms, how
	freestanding structures can be	structures can be made stronger,	freestanding structures can be
	made stronger, stiffer and more	stiffer and more stable; use the	made stronger, stiffer and more
	stable; use the correct technical	correct technical vocabulary.	stable; use the correct technical
	vocabulary.	·	vocabulary.
	·	Develop and use knowledge of	·
		how to construct strong, stiff shell	
		structures.	
		Develop and use knowledge of	
		nets of cubes and cuboids and,	
		where appropriate, more complex	
		3D shapes.	
		Understand and use lever and	
		linkage mechanisms.	
		Distinguish between fixed and	
		loose pivots.	
		Know and use technical	
		vocabulary relevant to the project.	
Cooking and Nutrition	1.Know that food comes from plants	1.Know that food comes from plants	1.Know that food is grown, reared
1.Where food comes from	or animals and that it is farmed or	or animals and that it is farmed or	and caught in the UK, Europe and
,	caught.	caught.	the wider world.
2.Food preparation, cooking and			
nutrition	2. Know how to prepare simple	2.Know how to prepare simple	2. Know how to prepare a variety of
	dishes safely and hygienically, name	dishes safely and hygienically, name	dishes safely and hygienically; that a
	and sort foods into groups; know	and sort foods into groups;	healthy diet is made from a variety
	that everyone should eat at least	understand the correct proportions	and balance of different food and
	five portions of fruit and vegetables	of a balanced meal, with correct	drink; having an understanding that
	a day.	vocabulary such as carbohydrates	different food groups provide the
		linked with science knowledge.	body with different nutrients.





Progression of skills and knowledge

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Focus:

Electrical systems - Simple circuits and switches Textiles - 2-D shape to 3-D product

Designing	1. Use detailed design criteria;	1.Gather information about user	1.Gather detailed information about
1.Understanding contexts, users and purposes 2.Generating, developing, modelling and communicating ideas	 Evaluate and refine their own ideas against design criteria, considering the views of others. Work well with others to explain ideas in depth and why they would work well. 	needs; develop their own design criteria; describe the user, purpose and design features of their products and explain how they will work. 2. Generate realistic ideas based on user needs; use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design.	user needs; develop their own design criteria; describe the user, purpose and design features of their products and explain how they will work. 2. Generate realistic ideas based on user needs; use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design. Discuss and explain detailed ideas to others.
Making	Apply detailed understanding for	Order the main stages of making;	Order the main stages of making;
<u>iviaking</u>	the use of certain tools, equipment,	select suitable tools, equipment,	select suitable tools, equipment,
1.Planning	materials and components to their	materials and components and	materials and components and
	final product.	explain their choices.	explain their choices with details
2.Practical skills and techniques	2. Able to give reasons for their	2. Follow procedures for safety and	about why they have chosen certain tools etc.
	choices.	hygiene; use a wider range of	





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		materials and components;	2. Follow procedures for safety and
		measure, mark out, cut, shape,	hygiene; use a wider range of
		assemble, join, combine and finish	materials and components;
		with some accuracy with support.	measure, mark out, cut, shape,
			assemble, join, combine and finish
			with accuracy.
Evaluating	1.Make detailed judgements about	1. Evaluate their ideas and products	1. Evaluate their ideas and products
	their products and ideas against	against their design criteria.	against their design criteria with
1.Own ideas and products	their own design criteria.		details positives and negatives of
, , , , , , , , , , , , , , , , , , ,	<u> </u>	2. Investigate how well products	their ideas and products.
2.Existing products	2.Explore who and what products	have been designed and made,	
	are for, how they work and are	whether they are fit for purpose and	2. Investigate how well products
	used, what materials they are made	meet user needs; why materials	have been designed and made,
	from and what they like and dislike	have been chosen, the methods of	whether they are fit for purpose and
	about them. Give ideas about what	construction used and how well	meet user needs; why materials
	they can do to improve their work	they work.	have been chosen, the methods of
	next time. Give constructive	,	construction used and how well
	feedback to their peers.		they work. Give explanations of how
	·		these products can be improved.
Technical Knowledge	Know about the working	Know that materials have functional	Know that materials have functional
Making products work	characteristics of complex materials	and aesthetic qualities; that systems	and aesthetic qualities; that systems
31	and components, the movement of	have an input, process and output;	have an input, process and output;
	complex mechanisms, how	how to program a computer to	how to program a computer to
	freestanding structures can be	control their products; how to make	control their products; how to make
	made stronger, stiffer and more	strong, stiff shell structures; use the	strong, stiff shell structures; use the
	stable; use the correct technical	correct technical vocabulary.	correct technical vocabulary. Use
	vocabulary.		tools and equipment which is
		Understand and use electrical	appropriate for the project.
		systems in their products, such as	
		series circuits incorporating	
		switches, bulbs and buzzers.	





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		Apply their understanding of	
		computing to program and control	
		their products.	
		Know how to strengthen, stiffen	
		and reinforce existing fabrics.	
		Understand how to securely join	
		two pieces of fabric together.	
		Understand the need for patterns	
		and seam allowances.	
		Know and use technical	
		vocabulary relevant to the project.	
Cooking and Nutrition	1.Know that food is grown, reared	1. Know that food is grown, reared	1. Know that food is grown, reared
1.Where food comes from	and caught in the UK, Europe and	and caught in the UK, Europe and	and caught in the UK, Europe and
	the wider world.	the wider world.	the wider world.
2.Food preparation, cooking and			
nutrition	2. Know how to prepare a variety of	2. Know how to prepare a variety of	2. Know how to prepare a variety of
	dishes safely and hygienically; that a	dishes safely and hygienically; that a	dishes safely and hygienically; that a
	healthy diet is made from a variety	healthy diet is made from a variety	healthy diet is made from a variety
	and balance of different food and	and balance of different food and	and balance of different food and
	drink; having an understanding that	drink; that food and drink are	drink; that food and drink are
	different food groups provide the	needed to provide energy for the	needed to provide energy for the
	body with different nutrients.	body.	body. Have an understanding of
			different foods and how they can
			help make our bodies healthy.





Progression of skills and knowledge

Year 5

Focus:

Food - Celebrating culture and seasonality Structures - Frame structures

Mechanical Systems - Pulleys or Gears

Wicefiamical Systems	i dileys of dears		
Designing 1. Understanding contexts, users and purposes 2. Generating, developing, modelling and communicating ideas	 Carry out research with support; develop a design specification fit for purpose. Generate innovative ideas drawing on research with support; begin to demonstrate skills relating to drawing, discussion, prototypes, pattern pieces and computer-aided design. 	• develop a design specification considering; the user, purpose and design features of their products and explain how they will work. 2. Use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design.	1. Carry out research; develop a design specification; describe the user, purpose and design features of their products and explain how they will work. Taking into account constraints including time, resources and cost. 2. Able to created cross-sectional and exploded diagrams.
Making 1. Planning and selecting	1. Order the main stages of making; select suitable tools, equipment, materials and components and explain their choices with details	1.Select suitable tools, materials, equipment and components. Explain their choices and reasoning behind choosing these items.	1.Select suitable tools, materials, equipment and components. Explain their choices and reasoning





2.Using and applying practical skills	about why they have chosen certain		behind choosing these items with
and techniques	tools etc.	2. Follow procedures for safety and	details.
		hygiene; use a wider range and a	
	2. Follow procedures for safety and	variety of materials and	2. Follow procedures for safety and
	hygiene; use a wider range of	components; measure, mark out,	hygiene; use a wider range and a
	materials and components;	cut, shape, assemble, join, combine	variety of materials and
	measure, mark out, cut, shape,	and finish with accuracy.	components; measure, mark out,
	assemble, join, combine and finish		cut, shape, assemble, join, combine
	with accuracy.		and finish with accuracy. Able to
			show others how to use different
			tools with detailed explanations.
Evaluating	1. Evaluate their ideas and products	1.Evaluate their ideas and products	1.Evaluate their ideas and products
	against their design criteria with	against a design criterion, giving	against a design criterion, giving
1.Own ideas and products	details positives and negatives of	details of the things that have gone	details of the things that have gone
	their ideas and products.	well and not so well.	well and not so well. Consider the
2.Existing products			views of others.
	2. Investigate how well products	2. Investigate how well products	
	have been designed and made,	have been designed and made,	2. Investigate how well products
	whether they are fit for purpose and	whether they are fit for purpose and	have been designed and made,
	meet user needs; why materials	meet user needs; why materials	whether they are fit for purpose and
	have been chosen, the methods of	have been chosen, the methods of	meet user needs; why materials
	construction used and how well	construction used, how well they	have been chosen, the methods of
	they work. Give explanations of how	work.	construction used, how well they work.
	these products can be improved.	Know about inventors, designers,	
		engineers, chefs and manufacturers who have developed ground-	Know about inventors, designers, engineers, chefs and manufacturers
		breaking products.	who have developed ground-
		breaking products.	breaking products.
			breaking products.
Technical Knowledge	Know that materials have functional	Know that materials have functional	Know that materials have functional
Making products work	and aesthetic qualities; that systems	and aesthetic qualities; that systems	and aesthetic qualities; that systems
	have an input, process and output;	have an input, process and output;	have an input, process and output;





	how to program a computer to	how to program a computer to	how to program a computer to
	control their products; how to make	control and monitor their products;	control and monitor their products;
	strong, stiff shell structures; use the	know and use technical vocabulary	how to reinforce and strengthen a
	correct technical vocabulary. Use	relevant to the project.	framework; use vocabulary relevant
	tools and equipment which is		to the project.
	appropriate for the project.	Know how to use utensils and	
		equipment including heat sources to	
		prepare and cook food.	
		Understand about seasonality in	
		relation to food products and the	
		source of different food products.	
		 Understand how to strengthen, 	
		stiffen and reinforce 3-D	
		frameworks.	
		Understand that mechanical and	
		electrical systems have an input,	
		process and an output.	
		Understand how gears and pulleys	
		can be used to speed up, slow down	
		or change the direction of	
		movement.	
		Know and use relevant technical	
		and sensory vocabulary.	
Cooking and Nutrition	1. Know that food is grown, reared	1. Know that food is grown, reared	1. Know that food is grown, reared
1.Where food comes from	and caught in the UK, Europe and	and caught in the UK, Europe and	and caught in the UK, Europe and
	the wider world.	the wider world. Start to	the wider world; that seasons may
2.Food preparation, cooking and		understand seasonality.	affect the food available.
nutrition	2. Know how to prepare a variety of		
	dishes safely and hygienically; that a	2. Know how to prepare a variety of	2. Know how to prepare and cook a
	healthy diet is made from a variety	dishes safely and hygienically; that a	variety of dishes safely and
	and balance of different food and	healthy diet is made from a variety	hygienically using, where
	drink; that food and drink are	and balance of different food and	appropriate, a heat source; that





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needed to provide energy for the	drink; that food and drink are	different food and drink contain
body. Have an understanding of	needed to provide energy for the	nutrients that is needed for our
different foods and how they can	body. Have an understanding of	bodies. Use relevant technical and
help make our bodies healthy.	different foods and how they can	sensory vocabulary.
	help make our bodies healthy. Use	
	relevant technical and sensory	
	vocabulary.	





Progression of skills and knowledge

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Focus:

Textiles - Combining different fabric shapes Electrical systems - More complex switches and circuits

Designing	1. Carry out research; develop a	1. Carry out research; develop a	1. Carry out research; develop a
	design specification; describe the	design specification; describe the	simple design specification; describe
1.Understanding contexts, users and	user, purpose and design features of	user, purpose and design features of	the user, purpose and design
purposes	their products and explain how they	their products and explain how they	features of their products and
, ,	will work. Taking into account	will work.	explain how they will work. Develop
	constraints including time,		specifications to inform the design
2.Generating, developing, modelling	resources and cost.	2. Generate innovative ideas	of innovative, functional, appealing
and communicating ideas		drawing on research; use a range of	products that respond to needs in a
	2. Able to created cross-sectional	drawing skills, discussion,	variety of situations.
	and exploded diagrams.	prototypes, pattern pieces and	
		computer-aided design.	2. Generate and communicate
			innovative ideas drawing on
			research; use a range of drawing
			skills, discussion, prototypes,
			pattern pieces and computer-aided
			design, oral presentations.
Making	1.Select suitable tools, materials,	1.Formulate lists of resources and	1.Formulate lists of resources and
	equipment and components.	step-by-step plans; select suitable	step-by-step plans; select suitable
1.Planning	Explain their choices and reasoning	tools, equipment, materials and	more complex tools, equipment,
	behind choosing these items with	components and explain their	materials and components and
	details.	choices.	explain their choices.





2.Practical skills and techniques		no arra mio mio ago	
,	2. Follow procedures for safety and	2. Follow procedures for safety and	2. Follow procedures for safety and
	hygiene; use a wider range and a	hygiene; use a wider range of	hygiene; use a wider range of
	variety of materials and	materials and components;	materials and components;
	components; measure, mark out,	measure, mark out, cut, shape,	measure, mark out, cut, shape,
	cut, shape, assemble, join, combine	assemble, join, combine and finish	assemble, join, combine and finish
	and finish with accuracy. Able to	with accuracy.	with precision.
	show others how to use different		
	tools with detailed explanations.		
<u>Evaluating</u>	1.Evaluate their ideas and products	1. Identify strengths and areas to	1. Identify strengths and areas to
	against a design criteria, giving	develop in their ideas and products	develop in their ideas and products
1.Own ideas and products	details of the things that have gone	against their design specification;	against their design specification;
	well and not so well. Consider the	consider the views of others to	consider the views of others to
2.Existing products	views of others.	make improvements.	make improvements. Take into
			account the user and wider
	2. Investigate how well products	2. Investigate how well products	community when evaluating
	have been designed and made,	have been designed and made,	products and own products.
	whether they are fit for purpose and	whether they are fit for purpose and	
	meet user needs; why materials	meet user needs; why materials	2. Investigate how well products
	have been chosen, the methods of	have been chosen, the methods of	have been designed and made,
	construction used, how well they	construction used, how well they	whether they are fit for purpose and
	work.	work, and how innovative and	meet user needs; why materials
	Know about inventors, designers,	sustainable they are.	have been chosen, the methods of
	engineers, chefs and manufacturers		construction used, how well they
	who have developed ground-	Know about inventors, designers,	work, and how innovative and
	breaking products.	engineers, chefs and manufacturers	sustainable they are. Investigate
		who have developed ground-	new and emerging technologies.
		breaking products.	Manual haut inventors decire
			Know about inventors, designers,
			engineers, chefs and manufacturers
			who have developed ground-
			breaking products.





Technical Knowledge	Know that materials have functional	Know and understand that materials	Know that materials have functional
Making products work	and aesthetic qualities; that systems	have functional and aesthetic	and aesthetic qualities; that systems
	have an input, process and output;	qualities; that systems have an	have an input, process and output;
	how to program a computer to	input, process and output; how to	how to program a computer to
	control and monitor their products;	program a computer to control and	control and monitor their products;
	how to reinforce and strengthen a	monitor their products; how to	how to reinforce and strengthen a
	framework; use vocabulary relevant	reinforce and strengthen a	framework; use the correct
	to the project.	framework; use the correct	technical vocabulary. Understand
		technical vocabulary. Communicate	and use the properties of materials
		their understanding to others.	and the performance of structural
			elements to achieve functioning
		• A 3-D textile product can be made	solutions.
		from a combination of accurately	
		made pattern pieces, fabric shapes	
		and different fabrics.	
		Fabrics can be strengthened,	
		stiffened and reinforced where	
		appropriate	
		Understand and use electrical	
		systems in their products.	
		Apply their understanding of	
		computing to program, monitor and	
		control their products.	
		Know and use technical	
		vocabulary relevant to the project.	
Cooking and Nutrition	1. Know that food is grown, reared	1. Know that food is grown, reared	1. Know that food is grown, reared
1.Where food comes from	and caught in the UK, Europe and	and caught in the UK, Europe and	and caught in the UK, Europe and
	the wider world; that seasons may	the wider world; that seasons may	the wider world; that seasons may
2.Food preparation, cooking and	affect the food available.	affect the food available; how food	affect the food available; how food
nutrition		is processed into ingredients.	is processed into ingredients.





Progression of skills and knowledge

2. Know how to prepare and cook a variety of dishes safely and hygienically using, where appropriate, a heat source; that different food and drink contain nutrients, water and fibre that are needed for health.

2. Know how to prepare and cook a variety of dishes safely and hygienically using, where appropriate, a heat source in different ways; that different food and drink contain nutrients, water and fibre that are needed for health. Using awareness of taste, texture and smell to decide how to season dishes and combine ingredients.