

## **The Bramble Academy Progression Ladder for Design Technology**

Area / skill	Designing	Making	Evaluating	Technical Knowledge	Cooking and nutrition
	a.Understanding	a.Planning	a.Own ideas and products.	a.Making products work	a.Where food comes
	contexts, users and	b.Practical skills and	b.Existing products.		from
	purposes.	techniques	Key events and individuals.		b. Food preparation,
	b. Generating,				cooking and nutrition
	developing, modelling				
	and communicating				
	ideas				
EYFS Emerging	a.Work in some	a.Begin to use drawings	a.Begin to talk about ideas	Pupils begin to recognise	a.Begin to recognise the
	contexts such as story-	and key words to make	and products they have made.	that a range of technology is	types of food and where
	based and wider	products.		used in places such as	it comes from.
	environment	b. Begin to show fine	b.Begin to talk about and	homes and schools. They	b.Begin to understand
	b.Generate some	motor skills and logical	choose the most suitable	begin to show an interest in	that food needs to be
	original ideas from	problem solving.	products.	toys with buttons and flaps.	fresh and cooked
	existing examples.				properly.
EYFS Expected	a.Work within different	a.Shows some planning	a.Begin to talk about their	Pupils recognise that a	a.Begin to recognise that
Year 1 -	contexts such as story-	skills by suggesting what	design ideas and what they	range of technology is used	food comes from plants
emerging	based, home, school,	to do next.	are making. Think about how	in places such as homes and	or animals. Food is
	playground.	b. Begins to follow safety	to make their products better.	schools. They select and use	farmed, grown
	b.Generate ideas from	procedures. Selects from	b.Begin to explore what	technology for particular	elsewhere or caught.
	existing examples.	a range of materials and	products are, who they are	purposes. They show an	b.Begin to name and sort
	Begin to talk about their	components.	for, how they are used, where	interest in toys with buttons	foods into the five
	designs.		they are from.	and mechanisms. Begin to	groups in 'The Eatwell
				know about the simple	Plate.' Begin to
				working characteristics of	recognise that everyone
				materials and components.	should eat at least five
				Begin to understand the	portions of fruit and
				movement of simple	vegetables every day.
				mechanisms such as levers,	Start to prepare simple
				sliders and wheels. Know	dishes. Use techniques
				that food ingredients should	e.g. cutting and peeling.
				be combined according to	
				their sensory characteristics.	
EYFS Early	a.Work within a range	a.Plans by suggesting	a.Talk about their design ideas	Pupils recognise a range of	a.Recognise that food
Learning Goal	of contexts e.g. story-	what to do next. Selects	and what they are making.	technology is used in places	comes from plants or
Exceeded	based, playgrounds.	from a range of tools,	Talk about how to make their	such as homes and schools.	animals. Food is farmed,
Year1 Expected	State what products	materials and	products better.	They select and use	grown elsewhere or
	they are designing and	components.	b.Explore what products are,	technology for particular	caught.
	making. Say whether		what they are made from,	purposes. They know how	

	their products are for	b.Follows procedures for	who they are for, how they	to operate simple	b.Name and sort foods
	themselves or other	safety and hygiene. Uses	are used, where they are	equipment and show an	into the five groups in
	users. Describe what	a range of materials,	from. Talk about likes and	interest in toys with	'The Eatwell Plate.' Begin
	their products are for.	components,	dislikes of existing products.	buttons, flaps and simple	to recognise that
	b. Use existing	construction kits,		mechanisms and operate	everyone should eat at
	knowledge to generate	textiles, food ingredients		them successfully.	least five portions of
	their own original	and mechanical		Pupils understand the	fruit and vegetables
	designs. Begin to	products. Measures,		simple working	every day. Prepare some
	develop and	marks out, shapes and		characteristics of materials	simple dishes. Use
	communicate ideas by	cuts most materials.		and components. Know	techniques e.g. cutting,
	talking and drawing.			about the movement of	peeling and grating.
				simple mechanisms such as	
				levers, sliders, wheels and	
				axles. Recognise that food	
				ingredients should be	
				combined according to their	
				sensory characteristics.	
				Begin to use the correct	
				technical vocabulary for	
				projects.	
Year 1	a.Work confidently	a.Plans by suggesting	a.Talk about their design ideas	Pupils understand the	a.Know that food comes
Exceeded	within a range of	what to do next. Selects	and what they are making.	simple working	from plants or animals.
Year 2 -	contexts e.g. imaginary,	from a range of tools,	Make simple judgements	characteristics of materials	Food is farmed, grown
Emerging	wider environment.	materials and	about their products and	and components. They	elsewhere (e.g home) or
	State what products	components according	ideas against design criteria.	know about the movement	caught.
	they are designing and	to their characteristics.	Talk about how to make their	of simple mechanisms such	b.Name and sort foods
	making. Say whether	Explains their choices.	products better.	as levers, sliders, wheels	into the five groups in
	their products are for	b.Follows procedures for	b.Explore what products are,	and axles. Recognise that	'The Eatwell Plate.' Begin
	themselves or other	safety and hygiene. Uses	what they are made from,	food ingredients should be	to recognise that
	users. Describe what	a range of materials,	who they are for, how they	combined according to their	everyone should eat at
	their products are for.	components,	are used and where they	sensory characteristics.	least five portions of
	Say how their products	construction kits,	might be used. Talk about	Begin to understand how	fruit and vegetables
	will work.	textiles, food ingredients	likes and dislikes of existing	freestanding structures can	every day. Prepare some
	b.Generate ideas by	and mechanical	products.	be made stronger, stiffer	simple dishes. Use
	drawing on their own	products. Measures,		and more stable. Use the	techniques e.g. cutting,
	experiences. Develop	marks out, shapes and		correct technical vocabulary	peeling and grating.
	and communicate ideas	cuts a range of materials.		for projects.	
	by talking and drawing.	Begins to assemble, join			
	Begin to model ideas by				

	exploring materials, components and mock- ups.	and combine materials and components.			
Year 2 Expected	a.Work confidently within a range of contexts e.g. imaginary, local community, industry and wider environment. State what products they are designing and making. Say whether their products are for themselves or other users. Describe what their products are for. Say how their products will work and how they're suitable for intended users. Use simple design criteria to help develop their ideas. b.Generate ideas by drawing on their own experiences. Use knowledge of existing products to help come up with ideas. Develop and communicate ideas by talking and drawing. Model ideas by exploring materials, components, constructions kits and by making templates and mock-ups. Use information and communication	a.Plans by suggesting what to do next. Selects from a range of tools, materials and components according to their characteristics. Explains their choices. b.Follows procedures for safety and hygiene. Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. Measures, marks out, cuts and shapes a range of materials and components. Assembles, joins and combines materials and components. Begins to use finishing techniques, including those from art and design sessions.	a.Talk about their design ideas and what they are making.  Make simple judgements about their products and ideas against design criteria.  Talk and write about how to make their products better.  b.Explore what products are, what they are made from, who they are for, how they are used and where they might be used. Talk about likes and dislikes of existing products. Give reasons.	Pupils understand the working characteristics of materials and components. They know about the movement of simple mechanisms such as levers, sliders, wheels and axles. Recognise that food ingredients should be combined according to their sensory characteristics. Understand how freestanding structures can be made stronger, stiffer and more stable. Recognise that 3D textiles products can be assembled from two identical fabric shapes. Use the correct technical vocabulary for projects.	a.Know that food come from plants or animals Food is farmed, grown elsewhere (e.g home), imported or caught. b.Name and sort foods into the five groups in 'The Eatwell Plate.' Beg to recognise that everyone should eat at least five portions of fruit and vegetables every day. Know how to prepare simples dishes safely and hygienically, without using a heat source. Prepare a rang of simple dishes. Use techniques e.g. cutting chopping, peeling and grating.

	technology, where appropriate, to develop				
	and communicate their				
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Year 2	a.Work confidently and	a.Plans by suggesting	a.Talk about their design ideas	Pupils understand the	a.Know that food comes
Exceeded	imaginatively within a	what to do next. Selects	and what they are making.	working characteristics of	from plants or animals.
End of Key	range of contexts e.g	from a range of tools,	Make simple judgements	materials and components.	Food is farmed, grown
stage	fiction and non-fiction.	materials and	about their products and	They know about the	elsewhere (e.g home),
	State what products	components according	ideas against design criteria.	movement of simple	imported or caught
	they are designing and	to their characteristics.	Talk and write about how to	mechanisms such as levers,	locally, regionally and
	making. Say whether	Explains their choices.	make their products better.	sliders, wheels and axles.	internationally.
	their products are for themselves or other	b.Confidently follows	Begin to refer to their design	Recognise that food	b.Name and sort foods
		procedures for safety	criteria as they design and	ingredients should be	into the five groups in
	users. Describe what	and hygiene and explains reasons for this. Uses a	make.	combined according to their	'The Eatwell Plate.' Begin
	their products are for		b.Explore what products are,	sensory characteristics.	to recognise that
	and their purpose. Say	range of materials,	what they are made from,	Understand how	everyone should eat at
	how their products will work and how they're	components, construction kits.	who they are for, how they are used and where they	freestanding structures can	least five portions of
	suitable for intended	textiles, food ingredients	might be used. Think about	be made stronger, stiffer and more stable. Recognise	fruit and vegetables every day. Know how to
	users. Use simple	and mechanical	whether products can be	that 3D textiles products can	prepare simples dishes
	design criteria to help	products. Accurately	recycled. Talk about likes and	be assembled from two	safely and hygienically,
	design criteria to neip develop their ideas.	measures, marks out,	dislikes of existing products.	identical fabric shapes.	without using a heat
	b.Generate ideas by	cuts and shapes a range	Give reasons.	Use the correct technical	source. Prepare a range
	drawing on their own	of materials and	Give reasons.	vocabulary for projects.	of dishes. Use
	experiences. Use	components. Accurately		Begin to understand and use	techniques e.g. cutting,
	knowledge of existing	assembles, joins and		a wider range of materials	chopping, peeling and
	products to help come	combines materials and		and components e.g.	grating.
	up with ideas. Develop	components. Begins to		electrical circuits and	Begin to know that a
	and communicate ideas	use finishing techniques,		programming computer	healthy diet is made up
	by talking and drawing.	including those from art		systems.	from a variety and
	Model ideas by	and design sessions.		Systems.	balance of different
	exploring materials,	and design sessions.			foods and drinks. That
	components,				food is needed to
	constructions kits and				provide energy for the
	by making templates				body.
	and mock-ups. Use				
	information and				
	communication				
	technology confidently				
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	(where appropriate) to				
	develop and				
	communicate their				
	ideas. Begin to share				
	ideas through				
	discussion. Generate				
	realistic ideas, focusing				
	on the needs of the				
	user.				
Year 3 (KS2)	a.Work within contexts,	a.Begin to select tools	a.Begin to identify the	Pupils begin to know how to	a.Know that food is
Emerging	such as the home and	and equipment suitable	strengths and areas for	use learning from science	farmed, reared, grown
	school. Describe the	to the task. Begin to	development in their ideas	and mathematics to help	elsewhere (e.g home),
	purpose of their	explain their choices.	and products. Start to	design and make products	imported or caught
	products. Indicate some	Selects some materials	consider the views of others.	that work. Begin to	locally, regionally and
	design features of their	and components	Begin to refer to their design	understand that materials	internationally.
	products. Gather	suitable to the task.	criteria as they design and	have functional and	b.Begin to know: how to
	information about the	Begin to order the main	make.	aesthetic qualities.	prepare and cook a
	needs and wants of	stages of making.	b.Begin to investigate and	Recognise that materials can	variety of predominantly
	particular individuals or	b.Begin to follow	analyse: how well products	be combined and mixed to	savoury dishes safely
	groups.	procedures for safety	have been designed and	create more useful	and hygienically,
	b.Begin to share and	and hygiene. Begin to	made; which materials and	characteristics. Begin to	including the use of a
	clarify ideas through	use a wider range of	methods were successful;	know how mechanical	heat source. Begin to
	discussion. Begin to	materials and	how well the products	systems such as levers and	know how to use a range
	model their ideas using	components e.g. textiles.	worked. Start to recognise	linkages create movement.	of techniques such as
	prototypes. Begin to	Measures, marks out,	some successful inventors,	Begin to know that simple	peeling, chopping,
	generate realistic ideas,	cuts and shapes	designers and engineers.	electrical circuits and	slicing, grating, mixing,
	focusing on the needs	materials and		components can be used to	spreading, kneading and
	of the user.	components with some		create functional products.	baking. Begin to know
		accuracy.		Start to program a	that a healthy diet is
				computer to control their	made up of a variety and
				products. Begin to make	balance of different
				strong, stiff shell structures.	foods and drinks, as
				Recognise fresh, pre-cooked	depicted on 'The Eatwell
				and processed foods.	Plate.' Know that to be
					active and healthy, food
					is needed to provide energy for the body.
					energy for the body.
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Year 3	a.Work confidently	a.Select tools and	a.Identify the strengths and	Pupils know how to use	a.Know that food is
Expected	within a range of	equipment suitable to	areas for development in their	learning from science and	farmed, reared, grown
	contexts, such as the	the task. Explain their	ideas and products. Consider	mathematics to help design	elsewhere (e.g home),
	home, school, leisure	choices. Selects some	the views of others. Refer to	and make products that	imported or caught
	and industry. Describe	materials and	their design criteria as they	work. They understand that	locally, regionally and
	the purpose of their	components suitable to	design and make. Use their	materials have functional	internationally.
	products. Indicate	the task. Order the main	design criteria to evaluate	and aesthetic qualities.	b.Know how to prepare
	design features of their	stages of making.	their completed products.	Recognise that materials can	and cook a variety of
	products. Gather	b.Follow procedures for	b.Investigate and analyse:	be combined and mixed to	predominantly savoury
	information about the	safety and hygiene. Use	how well products have been	create more useful	dishes safely and
	needs and wants of	a wide range of	designed and made; which	characteristics. Know how	hygienically, including
	individuals or groups.	materials and	materials and methods were	mechanical systems such as	the use of a heat source.
	Develop their own	components e.g. textiles,	used and which were	levers and linkages create	Know how to use a
	design criteria.	mechanical, construction	successful; how well the	movement. Know that	range of techniques such
	b.Share and clarify ideas	kits, electrical and food	products worked; whether	simple electrical circuits and	as peeling, chopping,
	through discussion.	ingredients. Measures,	they achieved their purpose	components can be used to	slicing, grating, mixing,
	Model ideas using	marks out, cuts and	and the needs/wants of the	create functional products.	spreading, kneading and
	prototypes. Use	shapes materials and	users. Recognise successful	Program a computer to	baking. Recognise that a
	annotated diagrams	components with some	inventors, designers, chefs	control their products.	healthy diet is made up
	and some computer-	accuracy. Assembles,	and engineers, who have	Make strong, stiff shell	of a variety and balance
	aided design packages,	joins and combines	been influential in the design	structures. Know that a	of different foods and
	to develop and	many materials with	and technology industries.	single fabric shape can be	drinks, as depicted on
	communicate ideas.	some accuracy. Applies		used to make a 3D textile	'The Eatwell Plate.' Know
	Generate realistic ideas,	some finishing		product. Recognise several	that to be active and
	focusing on the needs	techniques.		fresh, pre-cooked and	healthy, food is needed
	of the user. Begin to			processed foods.	to provide energy for the
	take account of the				body.
	availability of resources.				
Year 3	a.Work confidently in a	a.Select tools and	a.Identify the strengths and	Pupils use learning from	a.Know that food is
Exceeded	range of contexts, such	equipment suitable to	areas for development in their	science and mathematics to	farmed, reared, grown
	as the home, school,	the task. Explain their	ideas and products. Consider	help design and make	elsewhere (e.g. home),
	leisure, culture and	choices, giving evidence.	the views of others, including	products that work. They	imported or caught
	industry. Describe the	Selects materials and	intended users, to improve	understand that materials	locally, regionally and
	purpose of their	components suitable to	their work. Refer to their	have functional and	internationally.
	products. Indicate	the task. Order the main	design criteria as they design	aesthetic qualities.	b.Know how to prepare
	design features of their	stages of making	and make. Use their design	Recognise that materials can	and cook a variety of
	products. Gather	logically.	criteria to evaluate their	be combined and mixed to	savoury and some sweet
	information about the	b.Follow procedures for	completed products.	create more useful	dishes safely and
	needs and wants of	safety and hygiene. Use		characteristics. Know how	hygienically, including

	individuals or groups. Develop their own design criteria. b.Confidently share and clarify ideas through discussion. Model ideas using prototypes. Use annotated sketches, diagrams and some computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Take account of the availability of resources.
Year 4 Emerging	a.Work confidently in a range of contexts, e.g. home, school, leisure, culture and wider environment. Describe the purpose of their products. Indicate design features of their products. Gather information about the needs and wants of individuals or groups. Develop their own design criteria and use

a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with some accuracy. Assembles, ioins and combines many materials with some accuracy. Apply several finishing techniques.

b.Investigate and analyse: how well products have been designed and made; why materials have been chosen: what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products; where products were designed and made: when products were designed and made; whether products can be recycled or re-used. Recognise successful inventors, designers, chefs and engineers, who have been influential in the design and technology industries.

mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Program a computer to control their products. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods.

the use of a heat source Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Recognise that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Fatwell Plate.' Know that to be active and healthy, food is needed to provide energy for the body.

this to inform their ideas b.Share and clarify ideas

through discussion.

a.Select tools and equipment suitable to the task. Explain their choices, giving evidence. Selects materials and components suitable to the task. Order the main stages of making logically. b.Follow procedures for safety and hygiene. Use an extensive range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures. marks out, cuts and

a.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. b.Investigate and analyse: how well products have been designed and made; why materials have been chosen: what methods of construction were used; how well the products worked: whether they achieved their purpose

Pupils use learning from science and mathematics to help design and make products that work. They understand that materials have functional and aesthetic qualities. Apply this thinking to their own products. Recognise that materials can be combined and mixed to create more useful characteristics. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be

a.Know that food is farmed, reared, grown elsewhere (e.g. home, allotments), exported, imported or caught. This can be on a local. regional and international scale. b.Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source. Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing,

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	Model ideas using	shapes materials and	and the needs/wants of the	used to create functional	spreading, kneading and
	prototypes and some	components with	users. Investigate and	products.	baking. Know that a
	pattern pieces. Use	accuracy. Assembles,	analyse: who designed the	Program a computer to	healthy diet is made up
	annotated sketches,	joins and combines	products; where products	control their products.	of a variety and balance
	diagrams and some	many materials with	were designed and made;	Make strong, stiff shell	of different foods and
	computer-aided design	accuracy. Accurately	when products were designed	structures for a purpose.	drinks, as depicted on
	packages, to develop	apply several finishing	and made; whether products	Know that a single fabric	'The Eatwell Plate.' Know
	and communicate	techniques.	can be recycled or re-used.	shape can be used to make	that to be active and
	ideas. Generate realistic		Recognise several inventors,	a 3D textile product.	healthy, food is needed
	ideas, focusing on the		designers, chefs and	Recognise a range of fresh,	to provide energy for the
	needs of the user. Take		engineers, who have been	pre-cooked and processed	body.
	account of the		influential in the design and	foods.	
	availability of resources.		technology industries.		
Year 4	a.Work confidently in a	a.Confidently select tools	a. Identify the strengths and	Pupils use learning from	a.Know that food is
Expected	range of contexts, e.g.	and equipment suitable	areas for development in their	science, mathematics and	farmed, reared, grown
	home, school, leisure,	to the task. Explain their	ideas and products. Consider	other subjects to help	elsewhere (e.g. home,
	culture, industry and	choices, giving evidence.	the views of others, including	design and make products	allotments), exported,
	wider environment.	Selects materials and	intended users, to improve	that work. They understand	imported or caught. This
	Describe the purpose of	components suitable to	their work. Refer to their	that materials have	can be on a local,
	their products. Indicate	the task. Order the main	design criteria as they design	functional and aesthetic	regional and
	design features of their	stages of making in	and make. Use their design	qualities. Apply this thinking	international scale.
	products that will	logical steps.	criteria to evaluate and	successfully to their own	b.Know how to prepare
	appeal to intended	b.Follow procedures for	improve their completed	products. Recognise that	and cook a variety of
	users. Gather	safety and hygiene. Use	products.	materials can be combined	savoury and some sweet
	information about the	an extensive range of	b.Investigate and analyse:	and mixed to create more	dishes safely and
	needs and wants of	materials and	how well products have been	useful characteristics. Know	hygienically, including
	individuals or groups.	components e.g. textiles,	designed and made; why	that mechanical and	the use of a heat source.
	Develop their own	mechanical, construction	materials have been chosen;	electrical systems have an	Know how to use a wide
	design criteria and use	kits, electrical and food	what methods of construction	input, process and output.	range of techniques such
	this to inform their	ingredients. Measures,	were used; how well the	Know how mechanical	as peeling, chopping,
	ideas.	marks out, cuts and	products worked; whether	systems such as levers and	slicing, grating, mixing,
	b.Share and clarify ideas	shapes materials and	they achieved their purpose	linkages create movement.	spreading, kneading and
	confidently, through	components with	and the needs/wants of the	Know that simple electrical	baking. Know that a
	discussion. Model ideas	accuracy. Accurately	users. Investigate and	circuits and components can	healthy diet is made up
	using prototypes and	assembles, joins and	analyse: who designed the	be used to create functional	of a variety and balance
	pattern pieces. Use	combines most	products; where products	products.	of different foods and
	annotated sketches,	materials. Accurately	were designed and made;	Program a computer to	drinks, as depicted on
	some cross-sectional	apply several finishing	when products were designed	control their products.	'The Eatwell Plate.' Know
	drawings and	techniques.	and made; whether products		that to be active and

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	computer-aided design		can be recycled or re-used.	Make strong, stiff shell	healthy, food is needed
	packages, to develop		Recognise several inventors,	structures for a purpose.	to provide energy for the
	and communicate		designers, chefs,	Know that a single fabric	body.
	ideas. Generate realistic		manufacturers and engineers,	shape can be used to make	
	ideas, focusing on the		who have been influential in	a 3D textile product.	
	needs of the user. Make		the design and technology	Recognise a range of fresh,	
	design decisions that		industries.	pre-cooked and processed	
	take account of the			foods.	
	availability of resources.				
Year 4	a.Work confidently in a	a.Confidently select tools	a.Identify the strengths and	Pupils use learning from	a.Know that food is
Exceeded	wide range of contexts,	and equipment suitable	areas for development in their	science, mathematics and	farmed, reared, grown
	e.g. home, school,	to the task. Explain their	ideas and products. Consider	other subjects to help	elsewhere (e.g. home,
	leisure, culture,	choices, giving evidence.	the views of others, including	design and make products	allotments), exported,
	industry, enterprise and	Selects materials and	intended users, to improve	that work. They understand	imported or caught. This
	wider environment.	components suitable to	their work. Refer to their	that materials have	can be on a local,
	Describe in depth, the	the task. Order the	design criteria as they design	functional and aesthetic	regional and
	purpose of their	stages of the making	and make. Use their design	qualities. Apply this thinking	international scale. Begin
	products. Indicate	process, in logical steps.	criteria to evaluate and	successfully to their own	to know that seasons
	design features of their	b.Follow procedures for	improve their completed	products. Recognise that	and weather affect food
	products that will	safety and hygiene. Use	products.	materials can be combined	availability.
	appeal to intended	an extensive range of	b.Investigate and analyse:	and mixed to create more	b.Know how to prepare
	users. Gather	materials and	how well products have been	useful characteristics. Know	and cook a variety of
	information about the	components e.g. textiles,	designed and made; why	that mechanical and	savoury and some sweet
	needs and wants of	mechanical, construction	materials have been chosen;	electrical systems have an	dishes safely and
	individuals or groups.	kits, electrical and food	what methods of construction	input, process and output.	hygienically, including
	Develop their own	ingredients. Measures,	were used; how well the	Know how mechanical	the use of a heat source.
	design criteria and use	marks out, cuts and	products worked; whether	systems such as levers and	Know how to use a wide
	this to inform their	shapes materials and	they achieved their purpose	linkages create movement.	range of techniques such
	ideas. Begin to carry out	components with	and the needs/wants of the	Know that simple electrical	as peeling, chopping,
	research to identify	accuracy. Accurately	users. Investigate and	circuits and components can	slicing, grating, mixing,
	users' needs/wants.	assembles, joins and	analyse: who designed the	be used to create functional	spreading, kneading and
	b.Share and clarify ideas	combines most	products; where products	products.	baking. Know that a
	confidently, through	materials. Accurately	were designed and made;	Program a computer to	healthy diet is made up
	discussion. Model ideas	apply several finishing	when products were designed	control their products.	of a variety and balance
	using prototypes and	techniques. Explain	and made; whether products	Make strong, stiff shell	of different foods and
	pattern pieces. Use	reasons for applying	can be recycled or re-used.	structures for a purpose.	drinks, as depicted on
	annotated sketches,	these techniques.	Begin to consider cost and	Know that a single fabric	'The Eatwell Plate.' Know
	some cross-sectional		sustainability. Recognise	shape can be used to make	that to be active and
	drawings and		several inventors, designers,	a 3D textile product.	healthy, food is needed

	computer-aided design		chefs, manufacturers and	Recognise a range of fresh,	to provide energy for the
	packages, to develop		engineers, who have been	pre-cooked and processed	body. Begin to adapt
	and communicate		influential in the design and	foods.	recipes and know about
	ideas. Generate realistic		technology industries. Begin		substances that are
	ideas, focusing on the		to consider the impact and		needed for health e.g.
	needs of the user. Make		innovative qualities of their		water, fibre and
	design decisions that		products.		nutrients.
	take account of the				
	availability of resources.				
Year 5	a.Work confidently in a	a.Confidently select tools	a.Identify the strengths and	Pupils use learning from	a.Know that food is
Emerging	wide range of contexts,	and equipment suitable	areas for development in their	science, mathematics and	farmed, reared, grown
	e.g. home, school,	to the task. Explain their	ideas and products. Consider	other subjects to help	elsewhere (e.g. home,
	leisure, culture,	choices, giving evidence.	the views of others, including	design and make products	allotments), exported,
	industry, enterprise and	Selects materials and	intended users, to improve	that work. They understand	imported or caught. This
	wider environment.	components suitable to	their work. Refer to their	that materials have	can be on a local,
	Describe in detail, the	the task. Order the	design criteria as they design	functional and aesthetic	regional and
	purpose of their	stages of the making	and make. Use their design	qualities. Apply this thinking	international scale. Begin
	products. Indicate	process, in logical steps.	criteria to evaluate and	successfully to their own	to know that seasons
	design features of their	b.Follow procedures for	improve their completed	products. Recognise that	and weather affect food
	products that will	safety and hygiene. Use	products. Begin to critically	materials can be combined	availability. Begin to
	appeal to intended	an extensive range of	evaluate the quality of the	and mixed to create more	know how food is
	users. Gather	materials and	design, manufacture and	useful characteristics. Know	processed into
	information about the	components e.g. textiles,	fitness for purpose of their	that mechanical and	ingredients that can be
	needs and wants of	mechanical, construction	products. Begin to evaluate	electrical systems have an	eaten or used in cooking.
	individuals or groups.	kits, electrical and food	their ideas and products	input, process and output.	b.Know how to prepare
	Develop their own	ingredients. Measures,	against their original design	Know how mechanical	and cook a variety of
	design criteria and use	marks out, cuts and	specification.	systems such as levers and	savoury and some sweet
	this to inform their	shapes materials and	b.Investigate and analyse:	linkages create movement.	dishes safely and
	ideas. Carry out	components with	how well products have been	Know that simple electrical	hygienically, including
	research e.g. surveys, to	accuracy. Accurately	designed and made; why	circuits and components can	the use of a heat source.
	identify users' needs or	assembles, joins and	materials have been chosen;	be used to create functional	Know how to use a wide
	wants. Begin to develop	combines most	what methods of construction	products.	range of techniques such
	a simple design	materials. Accurately	were used; how well the	Program a computer to	as peeling, chopping,
	specification.	apply several finishing	products worked; whether	control their products.	slicing, grating, mixing,
	b.Share and clarify ideas	techniques. Explain	they achieved their purpose	Make strong, stiff shell	spreading, kneading and
	confidently, through	reasons for applying	and the needs/wants of the	structures for a purpose.	baking. Know that a
	discussion. Model ideas	these techniques.	users. Investigate and	Know that a single fabric	healthy diet is made up
	in a mankak man and		analyse: who designed the	shape can be used to make	of a variety and balance
	using prototypes and		analyse, who designed the	shape can be used to make	or a variety and balance

	annotated sketches,		were designed and made;	Recognise a range of fresh,	drinks, as depicted on
	some cross-sectional		when products were designed	pre-cooked and processed	'The Eatwell Plate.' Know
	drawings and		and made; whether products	foods. Begin to know that	that to be active and
	computer-aided design		can be recycled or re-used.	mechanical systems e.g.	healthy, food is needed
	packages, to develop		Consider cost and	cams, pulleys or gears	to provide energy for the
	and communicate		sustainability. Consider the	create movement. Explore	body. Begin to adapt
	ideas. Generate realistic		-	-	
			impact and innovative	more complex electrical	recipes to improve
	ideas, focusing on the		qualities of their products	circuits and components.	texture, aroma and
	needs of the user. Make		Recognise several inventors,	Start to program a	appearance. Know about
	design decisions that		designers, chefs,	computer to monitor	substances that are
	take account of the		manufacturers and engineers,	changes in the environment	needed for health e.g.
	availability of resources.		who have been influential in	and control their products.	water, fibre and
	Begin to generate		the design and technology	Begin to reinforce and	nutrients.
	innovative ideas. Begin		industries.	strengthen a 3D framework.	
	to make design			Begin to adapt recipes by	
	decisions based on time			adding or substituting one	
	and resources			or more ingredients.	
	constraints.				
Year 5	a.Work confidently in a	a.Confidently select tools	a.Identify the strengths and	Pupils use learning from	a.Know that food is
Expected	wide range of contexts,	and equipment suitable	areas for development in their	science, mathematics, other	farmed, reared, grown
	e.g. home, school,	to the task. Explain their	ideas and products. Consider	subjects and sources to help	elsewhere (e.g. home,
	leisure, culture,	choices, giving evidence.	the views of others, including	design and make products	allotments), exported,
	industry, enterprise and	Selects materials and	intended users, to improve	that work. They understand	imported or caught. This
	wider environment.	components suitable to	their work. Refer to their	that materials have	can be on a local,
	Describe in detail, the	the task. Produce	design criteria as they design	functional and aesthetic	regional and
	purpose of their	appropriate lists of tools,	and make. Use their design	qualities. Apply this thinking	international scale. Begin
	products. Indicate	equipment and materials	criteria to evaluate and	successfully to their own	to know that seasons
	design features of their	that they will need.	improve their completed	products. Recognise that	and weather affect food
	products that will	Order the stages of the	products. Critically evaluate	materials can be combined	availability. Begin to
	appeal to intended	making process, in	the quality of the design,	and mixed to create more	know how food is
	users. Gather	logical steps. Formulate	manufacture and fitness for	useful characteristics. Know	processed into
	information about the	step-by-step plans as	purpose of their products.	that mechanical and	ingredients that can be
	needs and wants of	guide to making.	Evaluate their ideas and	electrical systems have an	eaten or used in cooking.
	individuals or groups.	b.Follow procedures for	products against their original	input, process and output.	b.Know how to prepare
	Develop their own	safety and hygiene. Use	design specification.	Know how mechanical	and cook a variety of
	design criteria and use	an extensive range of	b.Investigate and analyse:	systems such as levers and	savoury and some sweet
	this to inform their	materials and	how well products have been	linkages create movement.	dishes safely and
	ideas. Carry out	components e.g. textiles,	designed and made; why	Know that simple electrical	hygienically, including
	1	to the state of th			, 8

materials have been chosen;

circuits and components can

the use of a heat source.

research e.g. surveys

mechanical, construction

Year 5 Exceeded	resources constraints.  a.Work confidently in a wide range of contexts, e.g. home, school, leisure, culture, industry, enterprise and wider environment.  Describe in detail, the purpose of their	a.Confidently select tools and equipment suitable to the task. Explain their choices, giving evidence. Selects materials and components suitable to the task. Produce appropriate lists of tools,	a.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	Pupils use learning from science, mathematics, other subjects and sources to help design and make products that work. They understand that materials have functional and aesthetic qualities. Apply this thinking	a.Know that food is farmed, reared, grown elsewhere (e.g. home, allotments), exported, imported or caught. This can be on a local, regional and international scale. Begin
	and interviews to identify users' needs, wants and preferences. Develop a simple design specification to guide their thinking.  b.Share and clarify ideas confidently, through discussion. Model ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources. Generate innovative ideas from prior research. Make design decisions based on time, cost and	kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines most materials. Accurately apply a range of finishing techniques, including those from art and design sessions. Use techniques that involve a number of steps Use resourcefulness when tackling practical problems.	what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products; where products were designed and made; when products were designed and made; whether products can be recycled or re-used. Consider cost and sustainability. Consider the impact and innovative qualities of their products Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.	be used to create functional products. Program a computer to control their products. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods. Know that mechanical systems e.g. cams, pulleys or gears create movement. Explore more complex electrical circuits and components. Program a computer to monitor changes in the environment and control their products. Reinforce and strengthen a 3D framework. Know that 3D textile products can be made from a combination of fabric shapes. Adapt recipes by adding or substituting one or more ingredients.	Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eatwell Plate.' Know that to be active and healthy, food is needed to provide energy for the body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, fibre, vitamins and nutrients.

equipment and materials | criteria to evaluate and

successfully to their own

to know that seasons

products. Indicate

design features of their products that will appeal to intended users. Gather information about the needs and wants of particular individuals and groups. Develop their own design criteria and use this to inform their ideas. Carry out research e.g. surveys, interviews, questionnaires and some web-based resources, to identify users' needs, wants and preferences. Develop a simple design specification to guide their thinking. b.Share and clarify ideas confidently, through discussion Model ideas using prototypes and pattern pieces. Use annotated sketches. cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources.

that they will need. Order the stages of the making process, in logical steps. Formulate step-by-step plans as guide to making. b.Follow procedures for safety and hygiene. Use an extensive range of materials and components e.g. textiles. mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines most materials. Accurately apply a range of finishing techniques, including those from art and design. Use techniques that involve a number of steps. Use resourcefulness and resilience when tackling practical problems.

improve their completed products. Critically evaluate the quality of the design. manufacture and fitness for purpose of their products. Evaluate their ideas and products against their original design specification. b.Investigate and analyse: how well products have been designed and made: why materials have been chosen: what methods of construction were used; how well the products worked: whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products: where products were designed and made; when products were designed and made: whether products can be recycled or re-used. Consider cost and sustainability of materials, designs and products. Explore and comment on the impact and innovative qualities of their products Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.

products. Recognise that materials can be combined and mixed to create more useful characteristics. Know that mechanical and electrical systems have an input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products.

Program a computer to control their products. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a wide range of fresh, pre-cooked and processed foods. Know that mechanical systems e.g. cams, pulleys or gears create movement. Explore more complex electrical circuits and components. Program computers and devices to monitor changes in the environment and control their products. Reinforce and strengthen a 3D framework. Know that 3D textile products can be made from a combination of fabric shapes. Adapt recipes

and weather affect food availability. Begin to know how food is processed into ingredients that can be eaten or used in cooking. b.Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source. Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eatwell Plate.' Know that to be active and healthy, food is needed to provide energy for the body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, fibre, vitamins, minerals and nutrients.

	Generate innovative			by adding or substituting	
	ideas drawing on			one or more ingredients.	
	research. Make design			one of more ingredients.	
	decisions based on				
	time, cost and				
	resources constraints.				
Year 6	a.Work confidently in a	a.Confidently select tools	a.Identify the strengths and	Pupils use learning from	a.Know that food is
Emerging	wide range of contexts,	and equipment suitable	areas for development in their	science, mathematics and	farmed, reared, grown
End of key		to the task. Explain their	ideas and products. Consider	from several subjects and	
	e.g. home, school,			_	elsewhere (e.g. home,
phase	leisure, culture,	choices, giving evidence.	the views of others, including	sources to help design and	allotments), exported,
	industry, enterprise and	Selects materials and	intended users, to improve	make products that work.	imported or caught. This
	wider environment.	components suitable to	their work. Refer to their	They understand that	can be on a local,
	Describe in detail, the	the task. Produce	design criteria as they design	materials have functional	regional and
	purpose of their	appropriate lists of tools,	and make. Use their design	and aesthetic qualities.	international scale. Begin
	products. Indicate	equipment and materials	criteria to evaluate and	Apply this thinking	to know that seasons
	design features of their	that they will need.	improve their completed	successfully to their own	and weather affect food
	products that will	Order the stages of the	products. Critically evaluate	products. Recognise that	availability. Begin to
	appeal to intended	making process, in	the quality of the design,	materials can be combined	know how food is
	users. Gather	logical steps. Formulate	manufacture and fitness for	and mixed to create more	processed into
	information about the	step-by-step plans as	purpose of their products.	useful characteristics. Know	ingredients that can be
	needs and wants of	guide to making.	Evaluate their ideas and	that mechanical and	eaten or used in cooking.
	particular individuals	b.Follow procedures for	products against their original	electrical systems have an	b.Know how to prepare
	and groups. Develop	safety and hygiene. Use	design specification.	input, process and output.	and cook a variety of
	their own design	an extensive range of	b.Investigate and analyse:	Know how mechanical	savoury and some sweet
	criteria and use this to	materials and	how well products have been	systems such as levers and	dishes safely and
	inform their ideas. Carry	components e.g. textiles,	designed and made; why	linkages create movement.	hygienically, including
	out research e.g.	mechanical, construction	materials have been chosen;	Know that simple electrical	the use of a heat source.
	surveys, interviews,	kits, electrical and food	what methods of construction	circuits and components can	Know how to use a wide
	questionnaires and	ingredients. Measures,	were used: how well the	be used to create functional	range of techniques such
	web-based resources,	marks out, cuts and	products worked; whether	products.	as peeling, chopping,
	to identify users' needs,	shapes materials and	they achieved their purpose	Program computer systems	slicing, grating, mixing,
	wants and preferences.	components with	and the needs/wants of the	and devices to control their	spreading, kneading and
	Develop a simple design	accuracy. Accurately	users. Investigate and	products.	baking. Know that a
	specification to guide	assembles, joins and	analyse: who designed the	Make strong, stiff shell	healthy diet is made up
	their thinking.	combines materials.	products; where products	structures for a purpose.	of a variety and balance
	b.Share and clarify ideas	Accurately apply a range	were designed and made;	Know that a single fabric	of different foods and
	confidently, through	of finishing techniques,	when products were designed	shape can be used to make	drinks, as depicted on
	discussion. Model ideas	including those from art	_		'The Eatwell Plate.' Know
		_	and made; whether products	a 3D textile product.	that to be active and
	using prototypes and	and design. Use	can be recycled or re-used.	Recognise a wide range of	triat to be active and

	pattern pieces. Use	techniques that involve a	Investigate and analyse: how	fresh, pre-cooked and	healthy, food is needed
	annotated sketches,	number of steps. Use	much products cost to make;	processed foods. Know that	to provide energy for the
	cross-sectional	resourcefulness and	how innovative products are;	mechanical systems e.g.	body. Know that recipes
	drawings, exploded	resilience when tackling	how sustainable the materials	cams, pulleys or gears	can be adapted to
	diagrams and	practical problems.	in products are; what impact	create movement. Explore	change the taste,
	computer-aided design	,	products have beyond their	more complex electrical	texture, aroma and
	packages, to develop		intended purpose.	circuits and components.	appearance. Know that
	and communicate		Recognise several inventors,	Program computers and	different foods contain
	ideas. Generate realistic		designers, chefs,	devices to monitor changes	substances that are
	ideas, focusing on the		manufacturers and engineers,	in the environment and	needed for health e.g.
	needs of the user. Make		who have been influential in	control their products.	water, fibre, vitamins,
	design decisions that		the design and technology	Reinforce and strengthen a	minerals and nutrients.
	take account of the		industries.	3D framework. Know that	Understand that healthy
	availability of resources.			3D textile products can be	diets must incorporate
	Generate innovative			made from a combination of	the correct amounts of
	ideas drawing on			fabric shapes. Recreate and	food types and
	research. Make design			adapt existing and new	substances.
	decisions based on			recipes by adding or	
	time, cost and			substituting different	
	resources constraints.			ingredients.	
Year 6	a.Work confidently in a	a.Confidently select tools	a.Confidently identify the	Pupils use learning from	a.Know that food is
Expected	wide range of contexts,	and equipment suitable	strengths and areas for	science, mathematics and	farmed, reared, grown
	e.g. home, school,	to the task. Explain their	development in their ideas	from several subjects and	elsewhere (e.g. home,
	leisure, culture,	choices, giving evidence.	and products. Consider the	sources to help design,	allotments), exported,
	industry, enterprise and	Selects materials and	views of others, including	make and evaluate products	imported or caught. This
	wider environment.	components suitable to	intended users, to improve	that work. They understand	can be on a local,
	Describe in detail, the	the task. Produce	their work. Refer to their	that materials have	regional and
	purpose of their	appropriate lists of tools,	design criteria as they design	functional and aesthetic	international scale. Begin
	products. Indicate	equipment and materials	and make. Use their design	qualities. Apply this thinking	to know that seasons
	design features of their	that they will need.	criteria to evaluate and	successfully to their own	and weather affect food
	products that will	Order the stages of the	improve their completed	products. Recognise that	availability. Begin to
	appeal to intended	making process, in	products. Critically evaluate	materials can be combined	know how food is
	users. Gather	logical steps. Formulate	the quality of the design,	and mixed to create more	processed into
	information about the	step-by-step plans as	manufacture and fitness for	useful characteristics. Know	ingredients that can be
	needs and wants of	guide to making.	purpose of their products.	that mechanical and	eaten or used in cooking.
	particular individuals	b.Follow procedures for	Evaluate their ideas and	electrical systems have an	b.Know how to prepare
	and groups. Develop	safety and hygiene. Use	products against their original	input, process and output.	and cook a variety of
	1	_			
	their own design	an extensive range of	design specification.	Know how mechanical	savoury and some sweet

systems such as levers and

dishes safely and

criteria and use this to

materials and

hygienically, including components e.g. textiles, inform their ideas. Carry b.Investigate and analyse: linkages create movement. out research e.g. mechanical, construction how well products have been Know that simple electrical the use of a heat source. kits, electrical and food Know how to use a wide surveys, interviews, designed and made; why circuits and components can questionnaires and ingredients. Measures, materials have been chosen: be used to create functional range of techniques such web-based resources. what methods of construction products. as peeling, chopping, marks out, cuts and to identify users' needs, shapes materials and were used: how well the Program computer systems slicing, grating, mixing, wants and preferences. products worked; whether spreading, kneading and components with and devices to control their baking. Know that a Develop detailed design accuracy. Accurately they achieved their purpose products. specifications to guide assembles, joins and healthy diet is made up and the needs/wants of the Make strong, stiff shell their thinking and structures for a purpose. combines materials. users. Investigate and of a variety and balance Accurately apply a range analyse: who designed the Know that a single fabric of different foods and planning. b.Share and clarify ideas of finishing techniques, products; where products shape can be used to make drinks, as depicted on confidently, through including those from art were designed and made; 'The Eatwell Plate.' Know a 3D textile product. discussion. Model ideas and design. Use when products were designed Recognise a wide range of that to be active and healthy, food is needed using prototypes and techniques that involve a and made: whether products fresh, pre-cooked and pattern pieces. Use number of steps. Use can be recycled or re-used. processed foods. Know that to provide energy for the annotated sketches. resourcefulness. Investigate and analyse: how mechanical systems e.g. body. Know that recipes resilience and cams, pulleys or gears cross-sectional much products cost to make: can be adapted to drawings, exploded innovation, when how innovative products are: create movement. Explore change the taste. how sustainable the materials texture, aroma and diagrams and tackling practical more complex electrical computer-aided design problems. Explains next in products are; what impact circuits and components. appearance. Know that different foods contain packages, to develop steps in learning, products have beyond their Program computers and and communicate drawing from prior intended purpose. devices to monitor changes substances that are Recognise several inventors, ideas. Generate realistic experience. in the environment and needed for health e.g. ideas, focusing on the designers, chefs. control their products. water, fibre, vitamins, needs of the user. Make Reinforce and strengthen a manufacturers and engineers. minerals and nutrients. design decisions that who have been influential in 3D framework. Know that Understand that healthy the design and technology take account of the 3D textile products can be diets must incorporate availability of resources. industries. made from a combination of the correct amounts of Generate innovative fabric shapes. Recreate and food types and substances. Understand ideas drawing on adapt existing and new research. Make recipes by adding or that exercise is also substituting a range of informed design important for our ingredients. decisions based on wellbeing and fitness. time, cost and resources constraints. Year 6 a.Work confidently in a a.Confidently select tools a.Confidently identify the Pupils use learning from a.Know that food is Exceeded strengths and areas for science, mathematics and farmed, reared, grown wide range of contexts, and equipment suitable development in their ideas elsewhere (e.g. home, e.g. home, school, to the task. Explain their from several subjects and

Flements of KS3 skills

leisure, culture, industry, enterprise and wider environment. Describe in detail, the purpose of their products. Begin to consider the influence of a range of lifestyle factors and consumer choices when designing products. Indicate design features of their products that will appeal to intended users. Gather information about the needs and wants of particular individuals and groups. Develop their own design criteria and use this to inform their ideas. Carry out research e.g. surveys, interviews, questionnaires and web-based resources. to identify users' needs. wants and preferences. Develop detailed design specifications to guide their thinking and planning. Begin to identify and solve their own design problems. b.Share and clarify ideas confidently, through discussion. Model ideas using prototypes and pattern pieces. Use

choices, giving evidence. Selects materials and components suitable to the task. Produce appropriate lists of tools. equipment and materials that they will need. Produces ordered sequences and schedules for products they design. Formulate step-by-step plans as guide to making. Begin to make costings by using spreadsheet software packages. b.Follow procedures for safety and hygiene. Begin to understand risk assessments. Use an extensive range of more complex materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines materials. Accurately apply a range of finishing techniques, including those from art and design. Use techniques that involve a number of steps. Use

resourcefulness.

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 and improve their completed products. Critically evaluate the quality of the design, manufacture and fitness for purpose of their products. Evaluate their ideas and products against their original design specification. Begin to identify ways of improving their products. Actively involve others in the testing of their products. b.Investigate and analyse: how well products have been designed and made; why materials have been chosen: what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Investigate and analyse: who designed the products; where products were designed and made: when products were designed and made; whether products can be recycled or re-used. Investigate and analyse: how much products cost to make; how innovative products are;

how sustainable the materials

sources to help design. make and evaluate products that work. They understand that materials have functional and aesthetic qualities. Apply this thinking successfully to their own products. Recognise that materials can be combined and mixed to create more useful characteristics. Know that mechanical and electrical systems have an input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Program computer systems

and devices to control their products.

Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a wide range of fresh, pre-cooked and processed foods. Know that mechanical systems e.g. cams, pulleys or gears create movement. Explore more complex electrical circuits and components. Program computers and devices to monitor changes

allotments), exported, imported or caught. This can be on a local. regional and international scale. Begin to know that seasons and weather affect food availability. Begin to know how food is processed into ingredients that can be eaten or used in cooking. Begin to understand where food is produced and sold. That advertising and cost affects the choice of food eaten. Use food labels to store food. b.Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eatwell Plate.' Know that to be active and healthy, food is needed to provide energy for the annotated sketches. cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources. Generate innovative ideas drawing on research. Make informed design decisions based on time, cost and resources constraints. Begin to combine ideas from a variety of sources. Begin to use a variety of approaches to generate creative ideas.

resilience and innovation, when tackling practical problems. Explains next steps in learning, drawing from prior experience. in products are; what impact products have beyond their intended purpose. Begin to investigate new and emerging technologies. Consider the positive and negative impact that products can have in the wider world. Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries.

in the environment and control their products. Reinforce and strengthen a 3D framework. Know that 3D textile products can be made from a combination of fabric shapes. Recreate and adapt existing and new recipes by adding or substituting a range of ingredients. Begin to know: the physical properties and how to classify materials by structure. Simple electronic components. Textile fibre sources

body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, fibre, vitamins, minerals and nutrients. Understand that healthy diets must incorporate the correct amounts of food types and substances. Understand that exercise is also important for our wellbeing and fitness. Begin to know the importance of balanced diets and how to store, prepare and cook food safely and hygienically. How to minimise food waste and litter.