

Progression of skills and vocabulary across the curriculum at Tollgate: Design Technology

Key Skills: develop the creative, technical and practical expertise needed to perform everyday tasks confidently; participate successfully in an increasingly technological world; build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users; critique, evaluate and test their ideas and products; critique, evaluate and test the work of others; understand and apply the principles of nutrition; learn how to cook; work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

Year 3		Year 4		Year 5		Year 6	
Cutting, joining and strengthening materials (woodwork)		Cutting and joining materials (textiles)		Cutting/joining materials (woodwork) with mechanical systems (Pneumatics and CAMS)		Cutting and joining materials (textiles)	
<p>Key Skills and purpose</p> <p>Develop the creative, technical and practical expertise needed to perform every day.</p> <p>Work in a range of relevant contexts tasks confidently.</p> <p>Can I create a picture frame for me to display my artwork?</p>		<p>Key Skills and purpose</p> <p>Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p> <p>Critique and evaluate their ideas and products.</p> <p>Can I design and make an apron for myself to wear to protect myself whilst cooking?</p>		<p>Key Skills and purpose</p> <p>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently.</p> <p>Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p> <p>Critique, evaluate and test their ideas and products.</p> <p>Critique, evaluate and test the work of others.</p> <p>Can I design and make a toy for a child for to entertain them?</p>		<p>Key Skills and purpose</p> <p>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently.</p> <p>Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p> <p>Critique, evaluate and test their ideas and products.</p> <p>Critique, evaluate and test the work of others.</p> <p>Can I design and create a hanging winter decoration for a child / family member?</p>	
<p>Previous Vocab</p> <p>Measure</p> <p>Mark</p> <p>Cut</p> <p>Shape</p>	<p>Key New Vocab</p> <p>Functional</p> <p>Components</p> <p>Assemble</p> <p>Jinx corners</p>	<p>Previous Vocab</p> <p>Material</p> <p>Fabric</p>	<p>Key New Vocab</p> <p>Running stitch</p> <p>Back stitch</p> <p>Cutting</p> <p>Joining</p> <p>Sewing</p> <p>Thread</p> <p>Needle</p> <p>Natural</p> <p>Synthetic</p>	<p>Previous Vocab</p> <p>Jinx corners</p> <p>Functional</p> <p>Components</p> <p>Assemble</p> <p>Innovation</p> <p>Mechanism</p> <p>Levers</p> <p>Linkages</p> <p>score</p>	<p>Key New Vocab</p> <p>Pneumatic</p> <p>CAM</p> <p>Air pressure</p> <p>Compression</p> <p>Follower</p> <p>Slider</p> <p>Shaft</p> <p>Pivot point</p> <p>Linear movement</p> <p>Rotary movement</p>	<p>Previous Vocab</p> <p>Running stitch</p> <p>Back stitch</p> <p>Cutting</p> <p>Joining</p> <p>Sewing</p> <p>Thread</p> <p>Needle</p> <p>Natural</p> <p>Synthetic</p>	<p>Key New Vocab</p> <p>function</p> <p>innovative</p> <p>design specification</p> <p>design brief</p> <p>user</p> <p>purpose design brief</p> <p>design specification</p> <p>prototype</p> <p>annotated sketch</p> <p>research</p> <p>prototype</p> <p>template</p>
Food and Nutrition		Food and Nutrition		Reinforcing structures		Food and Nutrition	
<p>Key Skills and inquiry questions</p> <p>Learn how to cook.</p> <p>Critique and evaluate their ideas and products.</p> <p>Understand and apply the principles of nutrition.</p> <p>Work in a range of relevant contexts.</p> <p>Can I understand and make snacks for friends in my class to try a range of foods as part of a balanced diet?</p>		<p>Key Skills and inquiry questions</p> <p>Learn how to cook.</p> <p>Critique and evaluate their ideas and products.</p> <p>Understand and apply the principles of nutrition.</p> <p>Work in a range of relevant contexts.</p> <p>Can I understand and make dishes/snacks for friends in my class to try a range of foods as part of a balanced diet?</p>		<p>Key Skills and inquiry questions</p> <p>Develop the creative, technical and practical expertise needed to perform everyday tasks confidently.</p> <p>Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p> <p>Critique, evaluate and test their ideas and products.</p> <p>Work in a range of relevant contexts.</p> <p>Can I design and make a bridge for a car to safely travel over?</p>		<p>Key Skills and inquiry questions</p> <p>Learn how to cook.</p> <p>Critique and evaluate their ideas and products.</p> <p>Understand and apply the principles of nutrition.</p> <p>Work in a range of relevant contexts.</p> <p>Can I understand and make dishes/snacks for friends in my class to try a range of foods as part of a balanced diet?</p>	

<u>Previous Vocab</u> Ingredients Recipe	<u>Key New Vocab</u> Nutrition (nutrients) Hygiene Seasonal Allergies Dietary needs Cutting Mixing Measure Layer Decorate Garnish Spread Slice Shred Eatwell Guide Bridge hold Claw grip Grating Peeling Utensils	<u>Previous Vocab</u> Eatwell Guide Bridge hold Claw grip Grating Peeling Ingredients Recipe Measure Utensils	<u>Key New Vocab</u> Prepare Sift Knead Portion Prove Bake Snip Chop Drain Rub in Roll out Form Shape Fat Sugar Carbohydrate Protein Dairy	<u>Previous Vocab</u>	<u>Key New Vocab</u> Structure Supports strengthen Tension Compression Stress Beam/truss/ pier/span/ suspension Abutment Pressure Load Anchorage stable	<u>Previous Vocab</u> ingredients vitamins nutrients nutrition mix roll out shape utensils Fat Sugar Carbohydrate Protein Dairy Knead Measure Sift Form/shape Bake Whisk Chop Eatwell Guide	<u>Key New Vocab</u> yeast wholemeal unleavened baking soda herbs gluten allergy intolerance savoury source seasonality fold grill
Using mechanical systems		Using electrical systems		Using mechanical systems (Gears and Pulleys)		Using computing to program products.	
<u>Key Skills and purpose</u> Develop the creative, technical and practical expertise needed to perform every day. Work in a range of relevant contexts tasks confidently. Participate successfully in an increasingly technological world. Can I create a moving pages book for a KS1 child to learn about the environment?		<u>Key Skills and purpose</u> Develop the creative, technical and practical expertise needed to perform everyday tasks confidently. Participate successfully in an increasingly technological world. Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. Critique, evaluate and test their ideas and products. Can I design and make a light box for a vlogger to motivate and inspire their viewers?		<u>Key Skills and purpose</u> Develop the creative, technical and practical expertise needed to perform everyday tasks confidently. Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. Critique, evaluate and test their ideas and products. Critique, evaluate and test the work of others. Can I apply my knowledge of mechanical systems to help construction workers move materials?		<u>Key Skills and purpose</u> Develop the creative, technical and practical expertise needed to perform everyday tasks confidently. Participate successfully in an increasingly technological world. Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. Critique, evaluate and test their ideas and products. Critique, evaluate and test the work of others. Can I understand and programme a lightshow for my class to illuminate our party?	
<u>Previous Vocab</u> Spring Slide Functional Components Assemble	<u>Key New Vocab</u> Innovation Mechanism Levers Linkages Score Computer aided design	<u>Previous Vocab</u> Circuit Bulb Batteries Buzzer Wires Switch Light	<u>Key New Vocab</u> Software Programming Crumble	<u>Previous Vocab</u> Structure Supports Pressure	<u>Key New Vocab</u> Lever Fulcrum Load Pulley	<u>Previous Vocab</u> Circuit Bulb Batteries Buzzer Wires Switch Light Software Programming Crumble Computer aided design	<u>Key New Vocab</u> Tinkercad

Progression of key knowledge at Tollgate: DT

Year 3	Year 4	Year 5	Year 6
Cutting and joining materials (woodwork)	Cutting and joining materials (textiles)	Cutting and joining materials (woodwork) Mechanical systems (Pneumatics and CAMS)	Cutting and joining materials (textiles)
<p>Materials should be measured to the nearest millimetre for accuracy.</p> <p>Different methods can be used for cutting different materials.</p> <p>Materials can be strengthened using jinx corners.</p> <p>Engineers use a range of different techniques to strengthen their designs.</p>	<p>Different fabrics can be used to create clothes.</p> <p>Fabrics can be donated, up-cycled, re-cycled or thrown away.</p> <p>Different stitches can be used to join materials together.</p> <p>Products need to be continually refined to ensure they are suitable for use.</p> <p>Designers use a range of different techniques to join and decorate materials.</p>	<p>Different methods can be used to create products, e.g. sawing, sanding drilling.</p> <p>Products can be developed through cross-sectional diagrams.</p> <p style="text-align: center;">Motion can be transferred from rotary to linear.</p> <p>Compression of air can cause movement from the built up air pressure.</p>	<p>Textiles have different properties, textures and durability which determine their use.</p> <p>Different stitches can be used to join materials together.</p> <p>Designers use a range of different techniques to join and decorate materials.</p>
Food and Nutrition	Food and Nutrition	Reinforcing structures	Food and Nutrition
<p>People choose to eat food for different reasons.</p> <p>In the UK, the "Eatwell Guide" is used to present a healthy and well-balanced diet.</p> <p style="text-align: center;">Food gives people energy.</p> <p>Basic food skills can keep you safe while cooking.</p>	<p>Food around the world consists of similar ingredients.</p> <p>The "Eatwell Guide" tells you how much of each food group you should eat for a well-balanced diet.</p> <p>Basic food skills can be used to prepare dishes/snacks.</p>	<p>Products need to be continually refined to ensure they are suitable for use.</p> <p>Different materials and techniques are needed to create strong products.</p> <p>Engineers use a range of different techniques to strengthen their designs.</p>	<p>We need energy to live and be active.</p> <p>Some activities require more energy than other types.</p> <p>The energy we use, through being active, is also measured in kilojoules (kJ).</p> <p>Food can spoil/decay and should be stored safely.</p> <p>Basic food skills can be used to prepare dishes.</p>
Using mechanical systems	Using electrical systems	Using mechanical systems (Gears and Pulleys)	Using computing to program products
<p>Prototypes can be used to help designers and engineers make effective products.</p> <p>Levers and linkages can make different parts move.</p> <p>Transference of forces make levers and linkages work efficiently.</p> <p>Products can be developed through computer aided design.</p>	<p>A simple circuit can be used to light up a product.</p> <p>Programming can be used to create an alarm system.</p> <p>Products can be developed through computer aided design.</p> <p>Engineers use a range of different styles and sizes for different uses.</p>	<p>Prototypes can be used to help designers and engineers make effective products.</p> <p>Innovation can help improve upon existing products.</p> <p>Existing products can help to design further projects.</p>	<p>Programming can be used to design a light show.</p> <p>Programming can be used to create a light that flashes different colours.</p> <p>Innovation can help improve upon existing products.</p> <p>Products can be developed through computer aided design.</p>

