

DT



Know more, remember more



Know yourself, grow yourself



Use your learning, develop your skills



Curriculum overview

Year		Autumn	Spring	Summer
1	Strand	Cooking and Nutrition		
	Termly Focus	Nutrition and hygiene From field to fork- Healthy food and where it comes from.	Cooking and hygiene Our 5 a day! Eat more fruit and veg- fruit kebabs/salads	
2	Strand	Structures		
	Termly Focus	Structures- building rockets + science unit of materials	NA	Structures- building buildings + recap of science unit of materials
3	Strand	Pulleys/ Leavers		
	Termly Focus			
4	Strand	Cutting/Shaping/ Joining		
	Termly Focus			Photo frames
5	Strand	Cutting, Shaping and Joining		
	Termly Focus		Make do and Mend (Sewing)	Wooden cars (Tied in with Science)
6	Strand	Cooking and Nutrition		
	Termly Focus	Health, Hygiene and responsible sourcing	Using a range of cooking techniques (including skills)	

DT (Year 1): Strand of learning – IT Skills

Crucial Knowledge- nutrition and hygiene (term 1)	Expanded Knowledge	Apply/Prove
<ul style="list-style-type: none"> • Discuss positives and things to improve for existing products. • Be safe and hygienic while working with food. • Explore what ingredients products are made from and where they come from. • Know the different food groups and importance of a varied diet. • Use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures. • Combine and assemble ingredients. • Explore a range of tools (peelers, cutters, blunt knives, whisk, masher, graters etc). • With support, cut, peel and grate ingredients. • Design and make a healthy snack. • With support, follow a simple recipe. • Evaluate their products and ideas against their simple design criteria. 	<ul style="list-style-type: none"> • Measuring and weighing ingredients using measuring cups. • Use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. • Understand and explain about food safety and hygiene. 	<ul style="list-style-type: none"> • Name the different food groups. • Discuss the importance of a varied diet. • Group foods into different food groups. • Demonstrate good hygiene when working with food. • Demonstrate how to use different hand tools. • Follow a simple recipe.
Crucial Knowledge- cooking and hygiene (term 2)	Expanded Knowledge	Apply/Prove
<ul style="list-style-type: none"> • Explain positives and things to improve for existing products. • Be safe and hygienic while working with food. • Explore what ingredients products are made from and where they come from and suggest reasons for this. • Know the different food groups and explain the importance of a varied diet. 	<ul style="list-style-type: none"> • Measuring and weighing ingredients using measuring cups. • Use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. • Understand and explain about food safety and hygiene. 	<ul style="list-style-type: none"> • Name the different food groups. • Explain why it is important to have a varied diet. • Group foods into different food groups. • Explain positives and things to improve for existing products. • Demonstrate good hygiene when working with food.

<ul style="list-style-type: none"> • Use hand tools and kitchen equipment safely and appropriately and follow hygiene procedures. • Combine and assemble ingredients. • Use a range of tools (peelers, cutters, blunt knives, whisk, masher, graters etc). • Cut, peel and grate ingredients. • Design and make a healthy snack. • Follow a simple recipe. • Evaluate their products and ideas against their simple design criteria. 		<ul style="list-style-type: none"> • Demonstrate how to use different hand tools. • Follow a simple recipe.
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DT (Year 2): Strand of learning – Structures

Crucial Knowledge- Term 1 (Structures)	Expanded Knowledge	Apply/Prove
<ul style="list-style-type: none"> • Explore structures-look at photos of structures and recreate with different construction materials e.g lego, mobile, Knex etc. • Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups. • Identify positives and things to improve for existing products. • Know how to make stronger, stiffer and more stable structures. • Know that the triangle is the strongest shape. • Explore what materials products are made from. • Select from a range of materials, textiles and components according to their characteristics. • Learn to use a range of tools and equipment safely and appropriately. • Build structures using chosen materials with support. • Cut, shape and score materials with some accuracy. • With support, follow a simple plan. 	<ul style="list-style-type: none"> • Explore and evaluate a range of existing products. • Generate, develop, model and communicate their ideas through information and communication technology • Build structures using chosen materials without support. <p><u>Science aspect (Materials)</u></p> <ul style="list-style-type: none"> • Find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam. 	<ul style="list-style-type: none"> • Design and label a product for a use. • Identify what materials are made from. • Discuss what makes a triangle the strongest shape. • Explain and demonstrate how to make a structure stronger. • Demonstrate using equipment safety and with some accuracy. • With support, build a structure for a purpose. • Follow a simple plan. • Explain choices being made during the building process. • Use simple finishing techniques to improve the appearance of a product.

<ul style="list-style-type: none"> As they work, start to identify strengths and possible changes they might make to refine their existing design Begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. Evaluate their ideas and products against a design criteria. <p><u>Science aspect (Materials)</u></p> <ul style="list-style-type: none"> Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Describe the simple physical properties of a variety of everyday materials. Identify and compare the suitability of a variety of everyday materials for particular uses. Work scientifically to perform simple tests to explore questions, for example: 'What is the best material for an umbrella? ...for lining a dog basket?' 		
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Crucial Knowledge- Term 2 (Structures)	Expanded Knowledge	Apply/Prove
<ul style="list-style-type: none"> Explore structures-look at photos of structures and recreate with different construction materials e.g lego, mobile, Knex etc. Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups. Explain positives and things to improve for existing products. Demonstrate how to make stronger, stiffer and more stable structures. 	<ul style="list-style-type: none"> Explore and evaluate a range of existing products. Generate, develop, model and communicate their ideas through information and communication technology Build structures using chosen materials without support. 	<ul style="list-style-type: none"> Design and label a product for a use. Identify what materials are made from. Explain what makes a triangle the strongest shape. Explain and demonstrate how to make a structure stronger.



<ul style="list-style-type: none"> • Explain that the triangle is the strongest shape. • Identify what materials products are made from. • Select from a range of materials, textiles and components according to their characteristics. • Use a range of tools and equipment safely and appropriately. • Build structures using chosen materials with support. • Cut, shape and score materials with some accuracy. • With support, follow a simple plan. • As they work, identify strengths and possible changes they might make to refine their existing design. • Use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. • Evaluate their ideas and products against a design criteria. 		<ul style="list-style-type: none"> • Demonstrate using equipment safety and with some accuracy. • With support, build a structure for a purpose. • Follow a simple plan. • Explain choices being made during the building process. • Use simple finishing techniques to improve the appearance of a product.
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DT (Year 3/4): Strand of learning – Pulleys and leavers (Cycle B 2021-22)

Crucial Knowledge – Forces (Spring)	Expanded Knowledge	Intent/Prove
<p>* A lever is a simple machine which helps us lift objects, it is made up of a long arm, a pivot joint (fulcrum) and then the load (whatever you are lifting). It uses a small force.</p> <p>* Know that the force applied to move the load is called the effort.</p> <p>*There are three kinds of levers. A Class 1 lever has the pivot between the effort and the load, for example a hammer claw removing a nail. A Class 2 lever has the load between the pivot and the effort, for example a wheel barrow. Finally, a Class 3 lever has the pivot at one end and is a</p>	<p>*Link to Science (Forces)- what type of force is being applied to the mechanisms?</p> <p>*How do we know this force is being applied to the mechanisms?</p>	<p>* Applying understanding of the theory behind levers and pulley's to create pupil's own lever and pulley systems. For example, Lollipop stick Roman catapults for levers and water bottle pulley systems.</p> <p>*Pupils should be able to use their knowledge to select and use a wide range of tools to help them create either a pulley, gear or lever.</p> <p>* Using their knowledge of how mechanisms work, they should now be able to evaluate their creation.</p>



<p>squeezing effort to hold the load, for example tweezers or tongs.</p> <p>* A pulley can lift a heavier load using a small force. The more wheels in a pulley, the less force is needed to lift the weight.</p> <p>*A gear can be used to change the speed, force or direction of a motion. When two gears are connected, they always turn in the opposite direction to each other.</p>		<p>How successful was it? Why? What could you improve?</p>
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<p>Crucial Knowledge – Shadow Puppets (Summer)</p>	<p>Expanded Knowledge</p>	<p>Intent/Prove</p>
<p>*Shadows are made by an object blocking the light.</p> <p>*Shadows are a similar shape to the objects blocking them.</p> <p>*Shadows although the same shape, they can change in size based on the use of light. The closer to the light source, the larger the shadow.</p> <p>*Shadows change in length and position due to the sun's/light sources position.</p> <p>*Although shadows can change in size based on the use of light, they are always the same shape as the object that casts it. This is because it is opaque objects that block the path of the light, while the rest of the light travels around the object.</p> <p><u>Information pupils will need to choose a material for the puppet</u></p> <p>*Opaque means you cannot see through it.</p> <p>*Translucent means that a small amount of light is allowed through it but you cannot see detailed shapes.</p>	<p>*Shadow puppets are thought to have originated from Central Asia – China. It is an ancient form of storytelling and entertainment which was for everyone, not just children.</p>	<p>*Pupils will demonstrate their understanding of the theory behind this unit by applying their knowledge and creating their own shadow puppet show.</p> <p>*They will use what they learnt in Science to choose the correct material to make the best shadow puppets and put on their own show. Their show will tell a story of their choice.</p>



<p>*Transparent means completely see through. You can see distinct shapes, clearly through it.</p> <p>*Shadows are not colourful, they are an absence of light, therefore the shadow puppets pupils create do not need to be ornately decorated. Instead the decoration is demonstrated through the outline of the shape as this is the part viewers can enjoy.</p>		
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DT (Year 5/6): Strand of learning – Cutting, shaping, joining (Cycle B 2021-22)

Crucial Knowledge - debugging	Expanded Knowledge	Intent/Prove
<ul style="list-style-type: none"> • How to cut materials with precision. • How to refine the finish with appropriate tools (e.g. sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). • How to measure and mark out to the nearest millimetre. • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape. (such as the nature of fabric may require sharper scissors than would be used to cut paper). 	<ul style="list-style-type: none"> • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Different types of stitching when sewing. • Identify a range of fastening devices when sewing. • Use an electric circuit to create a motor for a moving vehicle. 	<ul style="list-style-type: none"> • Thread a needle, tie off when sewing completed. • Make a puppet using recycling materials (links to history: WW2). • Use saws, vices, glasspaper, dowelling, glue and hand drills. • Make a wooden vehicle (possible links to science – electric circuits).



Bursley Academy Curriculum document



<ul style="list-style-type: none">• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.		
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