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| Intent | Children use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others’ needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. | | | | | |
|  | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Year 3 | Cooking and nutrition – Healthy living week  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Draw their plan and explain what materials it needs and why.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Children can roll pastry  Children can chop ingredients  Children can mix and season.  Understand and apply the principles of a healthy and varied diet.  Children know what ingredients is healthy  Children choose healthy ingredients  Understand seasonality and know where and how a variety of ingredients are grown  Children understand that ingredients is available at different times of the year and explain why.  Children can identify where different foods are grown.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Children can listen to others views.  Prepare and cook a savoury dish using a range of cooking techniques.  Children can roll pastry  Children can chop ingredients  Children can mix and season. |  | Sewing - Egyptians  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Decide what they want their product to be and what it must have.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Draw their plan and **use vocabulary** to explain what materials it needs and why.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Children can thread a needle,  Children can sew using a basic stitch. Children can create a basic pattern using an appropriate stitch.  Select from and use a wider range of materials and components according to their functional properties and desired look.  Use correct material for sewing.  Use correct needle and string size.  Investigate and analyse a range of existing products.  Have a look at existing book marks and what they look like.  Discuss what makes them good.  Discuss stiches and material.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children will recognise strengths and weaknesses.  Children can listen to others views. |  |  | Hydraulics – DT day  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary.  Decide what they want their product to be and what it must have.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Use scissors accurately to decorate.  Joining of their paper together so it moves easily.  Select from and use a wider range of materials and components according to their functional properties and desired look.  Choose an appropriate material for monsters head so it is strong but can move easily.  Have the correct component to make the hydraulics work effectively.  Investigate and analyse a range of existing products.  Look at other products that use hydraulics and investigate how they work.  Discuss how using hydraulics for their monsters would help make them move.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Children can listen to others views.  Understand and use mechanical systems in their product.  Understand how hydraulics works and how it would move their monster. Be able to explain using topic vocabulary. |
| Year 4 | DT day scuttle bugs - Electrical mechanism  Use research and develop a design criteria to design a functional and appealing product that fits a purpose and is aimed at a particular group  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have.  Generate and develop their ideas through discussion, annotated sketches, plans, prototypes and computer-aided designs.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Select from and use a wider range of materials and components according to their functional properties and desired look.  Children will be able to test varies materials and choose appropriate materials to help with strength and structure.  Evaluate their ideas and products against their own design criteria  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Apply their understanding of how to strengthen more complex structures.  Children will be able to make their structure more stable by adapting materials.  Understand and use electrical systems in their products (circuits and motors)  Children will be able to apply their understanding of electricity to create a working circuit within their product. |  | Cooking and nutrition – Healthy living week –  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have ensuring it fits a purpose.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what ingredients it needs and why.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Children can roll pastry  Children can weigh ingredients.  Children can peel.  Children can chop ingredients  Children can mix and season.  Understand and apply the principles of a healthy and varied diet  They understand what healthy means and what makes it healthy.  Children know what ingredients is healthy.  Children choose healthy ingredients for their product.  Understand seasonality and know where and how a variety of ingredients are grown.  Children understand that ingredients is available at different times of the year and explain why.  Children can identify where different foods are grown.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Children can listen to others views.  Prepare and cook a savoury dish using a range of cooking techniques.  Children can roll pastry  Children Can weigh ingredients.  Children can peel.  Children can chop ingredients  Children can mix and season. |  |  | Cooking and nutrition – DT week – survival granola bars  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have ensuring it fits a purpose.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what ingredients it needs and why.  Can reflect and edit their design if not fit for purpose.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Children can weigh ingredients.  Children can chop ingredients  Children can mix and season.  Children can pack ingredients so the consistency is correct.  Understand and apply the principles of a healthy and varied diet  They understand what healthy means and what makes it healthy.  Children know what ingredients is healthy.  Children choose healthy ingredients for their product.  Children will be able to explain why their final product is healthy and fits its purpose.  Understand seasonality  Children will know how to season their granola bars so they are tasty as well as healthy.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Children can listen to others views.  Children can explain what they would need to do next time to improve their product.  Prepare and cook a savoury dish using a range of cooking techniques.  Children Can weigh ingredients.  Children can chop ingredients  Children can mix and season.  Children can pack ingredients so the consistency is correct. |
| Year 5 | DT day – ANGLO SAXONS Wells    Use research and develop a design criteria to design an innovative, functional and appealing product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have, ensuring it fits the purpose.  Design a product that is unique for a desired group.  Investigate and analyse a range of existing products.  Children will look at existing products with the same mechanism and be able to explain how they work.  Generate and develop their ideas through discussion, annotated sketches, plans, cross-sectional diagrams and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Ensure their design is appropriate for the desired group.  Can evaluate between a few designs before [picking the final one.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Select from and use a wider range of materials and components according to their functional properties and desired look.  Children choose an appropriate material to complete their product effectively.  Children choose the correct components to be able to make their product work.  Understand how key events and individuals in design technology have helped shape the world.  Have an understanding of the history of the mechanism they are using and how it has developed over the years to help shape the world. What is the same and what has changed.  Understand and use mechanical systems in their product (gears, pulleys and levers).  How do they work.  How does it help their product  Be able to explain what is happening within the mechanism.  Know how to improve their structure to help their mechanism be effective.  Apply their understanding of how to strength, stiffen and reinforce more complex structures.  Be able to adapt and improve their design to help improve the strength and durability of their product. | Cooking and nutrition – Healthy living week  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have, ensuring it fits the purpose.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Can reflect and edit their design if not Ensure their design is appropriate for the desired group.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Make pastry from scratch.  Weigh ingredients  Kneed ingredients  Chop ingredients  Peel ingredients  Season  Boil.  Monitor cooking time.  Understand and apply the principles of a healthy and varied diet  Explain what healthy is  Explain what varied means  Know what foods are healthy and explain why.  Choose healthy ingredients for their product.  Understand seasonality and know where and how a variety of ingredients are grown  Children understand that ingredients is available at different times of the year and explain why.  Children know where healthy ingredients can be grown in this country.  Children know about the red tractor promise.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Children can listen to others views.  Children can explain what they would need to do next time to improve their product.  Prepare and cook a savoury dish using a range of cooking techniques.  Make pastry from scratch.  Weigh ingredients  Kneed ingredients  Chop ingredients  Peel ingredients  Season  Boil.  Monitor cooking time. |  | Sewing – mission patches – space  (TBC)  Use research and develop a design criteria to design an innovative, functional and appealing product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have, ensuring it fits the purpose.  Design a product that is unique for a desired group.  Investigate and analyse a range of existing products.  Have a look at existing products and what they look like.  Discuss what makes them good.  Discuss stiches and material.  Generate and develop their ideas through discussion, annotated sketches, plans, cross-sectional diagrams and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Can reflect and edit their design if not fit for purpose.  Ensure their design is appropriate for the desired group.  Can evaluate between a few designs before [picking the final one.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Select appropriate needle  Select appropriate sting  Select appropriate material.  Select appropriate stitch.  Children will be able to finish and join their product together with accuracy.  Understand how key events and individuals in design technology have helped shape the world.  Have an understanding of the history of sewing and how it has developed over the years to help shape the world. What is the same and what has changed. | Space Buggies –  New unit from STEM course  (TBC) |  |
| Year 6 | Cooking and nutrition – Healthy living week  Use research and develop a design criteria to design a product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have, ensuring it fits the purpose.  Design a product that is unique for a desired group.  Generate and develop their ideas through discussion, annotated sketches, plans and pattern pieces.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Can reflect and edit their design if not fit for purpose.  Ensure their design is appropriate for the desired group.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Make pastry from scratch.  Weigh ingredients  Kneed ingredients  Sive  Roll pastry  Chop ingredients  Peel ingredients  Season  Boil.  Can design the top for presentation  Monitor cooking time.  Check if inside is cooked thoroughly.  Understand and apply the principles of a healthy and varied diet  Explain what healthy is  Explain what varied means  Know what foods are healthy and explain why.  Choose healthy ingredients for their product.  Use topic vocabulary accurately to explain.  Understand seasonality and know where and how a variety of ingredients are grown  Children understand that ingredients is available at different times of the year and explain why.  Children know where healthy ingredients can be grown in this country.  Children know about the red tractor promise.  Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work.  Children can use topic vocabulary to evaluate and critique their own product.  Children will recognise strengths and weaknesses.  Children can listen to others views.  Children can explain what they would need to do next time to improve their product.  Children can independently make changes or adaptations to their product whilst in the making process if needed.  Prepare and cook a savoury dish using a range of cooking techniques.  Make pastry from scratch.  Weigh ingredients  Kneed ingredients  Sive  Roll pastry  Chop ingredients  Peel ingredients  Season  Boil.  Can design the top for presentation  Monitor cooking time.  Check if inside is cooked thoroughly. | Dt week - - Electrical mechanism  Use research and develop a design criteria to design an innovative, functional and appealing product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have, ensuring it fits the purpose.  Design a product that is unique for a desired group.  Generate and develop their ideas through discussion, annotated sketches and plans.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Can reflect and edit their design if not fit for purpose.  Ensure their design is appropriate for the desired group.  Can evaluate between a few designs before picking the final one.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Select from and use a wider range of materials and components according to their functional properties and desired look.  Use motors and electricity to make a boat move.  Use appropriate materials to make sure the boat is secure and able to float on water  Investigate and analyse a range of existing products.  Children will be able to evaluate different designs of boats and understand what makes them work, what parts are important and which are for design only.  Understand and use electrical systems in their products (circuits and motors).  Use motors and electricity to make a boat move.  The circuit will work.  Children will understand how the circuit works and explains how it can make the boat move.  Children will be able to identify and correct any electrical problems in their design. |  |  |  | DT day - TBC  Use research and develop a design criteria to design an innovative, functional and appealing product that fits a purpose and is aimed at a particular group.  Explain positives and negatives of existing products.  Use topic vocabulary to evaluate them.  Decide what they want their product to be and what it must have, ensuring it fits the purpose.  Design a product that is unique for a desired group.  Generate and develop their ideas through discussion, annotated sketches and plans.  Can identify what they like and explain why it is needed.  Draw their plan and use vocabulary to explain what materials it needs and why.  Can reflect and edit their design if not fit for purpose.  Ensure their design is appropriate for the desired group.  Can evaluate between a few designs before picking the final one.  Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.  Select from and use a wider range of materials and components according to their functional properties and desired look.  Investigate and analyse a range of existing products. |