6

Design
Design a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
Make
Use a range of materials to reinforce and add decoration to structures.
Evaluate
Identify what makes a successful structure.

5

Design
Design a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
Make
Build a range of play apparatus structures drawing upon new and prior knowledge of structures.
Measure, mark, and cut wood to create a range of structures.
Evaluate
Improve a design plan based on peer evaluation.
Test and adapt a design to improve it as it is developed.

4

Design
Design a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect.
Building frame structures designed to support weight.
Make
Makin a variety of free-standing frame structures of different shapes and sizes.
Select appropriate materials to build a strong structure and cladding.
Reinforce corners to strengthen a structure.
Create a design in accordance with a plan.
Learn to create different textural effects with materials.
Evaluate
Describe what characteristics of a design and construction made it the most effective.
Consider effective and ineffective designs.
Test the strength, stiffness, and stability of own structure.

3

Design
Design a castle with key features to appeal to a specific person/purpose.
Draw and labelling a castle design using 2D shapes, labelling the 3D shapes that will create the features, materials needed, and colours.
Design and/or decorating a castle tower on CAD software.
Make Construct a range of 3D geometric shapes using nets.
Create special features for individual designs.
Make facades from a range of recycled materials.
Create a range of different shaped frame structures.
Evaluate
Evaluate own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.
Suggest points for modification of the individual designs.
Evaluate structures made by the class.

C.C. P.S.

Design Technology

Structures

2

Design Learn about different types of structures, found in the natural world and in everyday objects.
Make Make functioning turbines and axles which are assembled into a main supporting structure.
Make a structure according to design criteria.
Create joints and structures from paper/card and tape.
Build a strong and stiff structure by folding paper.
Evaluate
Compare the stability of different shapes.
Test the strength of own structures.
Identify the weakest part of a structure.
Evaluate the strength, stiffness and stability of own structure.

1

Design
Learn the importance of a clear design criteria.
Include individual preferences and requirements in a design.
Generate and communicating ideas using sketching and modelling.
Make
Make stable structures from card.
Follow instructions to cut and assemble the supporting structure of a windmill.
Find the middle of an object.
Add weight to structures.
Create supporting structures.
Cut evenly and carefully.
Evaluate
Evaluate a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't.
Suggest points for improvements.
Explore the features of structures.

F2

Design Make simple verbal plans and choosing materials with guidance.
Explore and playing with different materials to create basic shapes and structures.
Draw simple designs or making marks to represent their ideas.
Make Develop basic fine motor skills, such as cutting with scissors and manipulating materials.
Experiment with joining materials using simple methods (e.g., tape, glue).
Describe their creations and explaining how they put them together.
Making simple models that can perform basic functions (e.g., a boat that can float).
Evaluate
Give a simple verbal evaluation of their own and others' creations with adult support.
Compare their model to their initial plan or idea.
Discuss what they liked and what they would change about their model.
Make basic predictions about how different materials will behave (e.g., whether they will float or sink).
Test their creations and reflecting on what worked well and what could be improved.

F1

Design
Talk about what they want to make and pick materials with help.
Play with different materials to make basic shapes and structures.
Draw simple pictures or make marks to show their ideas.
Make
Practice using scissors and handling materials (snipping scissors, spring scissors)
Try sticking things together with tape or glue.
Talk about what they made and how they made it.
Make basic models that can do simple things (e.g., a boat that can float).
Evaluate
Talk about their own and others' creations with help from an adults
Look at their model and see how it matches their idea.
Say what they like about their model and what they would change.
Guess how different materials will act (e.g., will they float or sink).
Try out their creations and think about what worked and what didn't.

C.C. P.S.

Design Technology

Structures

6

Design
Storyboard ideas for your book.
Make
Using layers and spaces to hide the working of mechanical parts for an aesthetically pleasing result.
Evaluate
Suggest points for improvement to peers.

5

Design Design a pop-up book which uses a mixture of structures and mechanisms.
Name each mechanism, input, and output accurately.
Make Follow a design brief to make a pop-up book, neatly and with focus on accuracy.
Make mechanisms and/or structures using sliders, pivots, and folds to produce movement.
Evaluate Evaluate the work of others and receive feedback on my own work which I then improve.

4

Design Choose shapes that increase or decrease speed as a result of air resistance.
Personalise a design.
Make Make a model based on a chosen design.
Evaluate Evaluate the speed of a final product based on the accuracy of workmanship on performance.
This should provide a balanced distribution of objectives between Year 3 and Year 4. Let me know if this works

3

Design Design a shape that reduces air resistance.
Draw a net to create a structure from.
Make Measure, mark, cut, and assemble with increasing accuracy.
Evaluate Evaluate the speed of a final product based on the effect of the shape on speed.

2

Design Refer to specific parts of existing products when generating ideas.
Create a class design criteria for a moving product.
Design a moving product for a specific audience in accordance with a design criteria.
Use labels to explain parts of a design, label materials, etc.
Know that drawings can help explain how something works.
Know that a label explains part of a drawing.
Make Begin to shape objects to improve how they work.
Consider balance in their finishing, like evenly spaced decoration.
Make linkages using card for levers and split pins for pivots.
Experiment with linkages, adjusting the widths, lengths and thicknesses of card used.
Cut and assemble components neatly.
Evaluate Evaluate own designs against design criteria.
Use peer feedback to modify a final design.
Suggest improvements to their peers' designs and products.
Know that improve means to make something better.

1

Design Knowing that a survey is used to find out what people like.
Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria.
Knowing that a design brief helps to decide what to make.
Knowing that design criteria are the steps for making a product successful.
Creating ideas with design criteria in mind.
Knowing that the design criteria help when thinking of ideas.
Make Choosing materials, ingredients, or components from a wider range
Explain their choices based on the properties of materials and components.
Knowing some properties of materials like hard, soft, flexible, waterproof, strong, etc.
Follow and recall simple safety instructions.
Know that some tools are sharp like scissors and knives.
Choose known geometric shapes when making.
Know the names of some geometric shapes: triangle, pyramid, square, cube, circle, sphere.
Evaluate Discuss a range of existing products and saying what they like and dislike about them.
Evaluate existing products and their ideas against design criteria.
Know that design criteria help to decide if their product is a success.

C.C. P.S.

Design Technology

Mechanisms/Mechanical systems

6

Design
Storyboard ideas for the Doodler, detailing each step of the construction process.
Personalize the Doodler design to meet specific criteria or preferences.
Make
Use layers and spaces to hide the working parts of the Doodler for an aesthetically pleasing result.
Ensure the Doodler functions correctly and meets the design criteria.
Evaluate
Test and evaluate the success of the final Doodler product.
Suggest points for improvement to peers and incorporate feedback into future designs.

5

Design
Research and develop unique Doodler designs based on design criteria.
Name each mechanism, input, and output accurately.
Create initial sketches and diagrams to plan the Doodler.
Make
Follow a design brief to construct a Doodler, focusing on neatness and accuracy.
Make mechanisms and structures using sliders, pivots, and folds to produce movement.
Use appropriate tools and materials to assemble the Doodler.
Evaluate
Evaluate the work of others and provide constructive feedback.
Receive feedback on their own work and make improvements based on suggestions.

4

Make
Make a torch with working electrical circuits and switch.
Understand the components needed for a working circuit (e.g., battery, bulb, wires, switch).
Safely connect and test the electrical circuit before assembling it into the torch.
Evaluate
Test and evaluate the success of a final product.
Check if the torch meets the design and success criteria.
Assess the durability and functionality of the torch.
Gather feedback from peers and make improvements if necessary.

3

Design

Design a torch, consider the target audience and create focusing on features of individual design ideas.

Make

Use appropriate equipment to cut and attach the materials.

Assemble a torch according to the design and success criteria.

Evaluate

Evaluate electrical products.

C.C. P.S.

Design Technology

Electrical Systems (KS2)

6

Design
Further refine the design brief based on client feedback.
Enhance design criteria to meet more complex client requests.
Suggest and incorporate advanced functions for the navigation tool.
Develop detailed product ideas through annotated sketches.
Make
Demonstrate advanced skills in placing and maneuvering 3D objects using CAD.
Combine multiple 3D objects and change their properties using advanced CAD techniques.
Select materials based on their functional properties and sustainability, providing detailed explanations for choices.
Program a more complex N, E, S, W cardinal compass with additional features.
Evaluate
Conduct a comprehensive evaluation of how the program meets the design criteria and its usefulness as part of a navigation tool.
Explain the key functions in the program, including any additions.
Describe how the product concept fits the client's request and how it will benefit the customers.
Explain the key functions and features of the navigation tool to the client as part of a product concept pitch.
Demonstrate a functional program as part of a product concept.

5

Design
Write a design brief from information submitted by a client.
Develop design criteria to fulfill the client's request.
Consider and suggest additional functions for the navigation tool.
Develop a product idea through annotated sketches.
Make
Place and maneuver 3D objects using CAD.
Change the properties of, or combine one or more 3D objects using CAD.
Consider materials and their functional properties, especially those that are sustainable and recyclable (e.g., cork and bamboo).
Explain material choices and why they are chosen as part of a product concept.
Program an N, E, S, W cardinal compass.
Evaluate
Explain how the program fits the design criteria and how it would be useful as part of a navigation tool.
Develop an awareness of sustainable design.
Identify key industries that utilize 3D CAD modeling and explain why.

4

Design
Problem solve by suggesting which features on a micro:bit might be useful and justifying my ideas.
Develop more detailed design ideas through annotated sketches to create a refined product concept.
Enhance design criteria to respond to a more complex design brief.
Make
Draw and manipulating more complex 2D shapes, using advanced computer-aided design tools, to produce a detailed point of sale badge.
Write a more advanced program to control (button press) and/or monitor (sense light) that will initiate a complex flashing LED algorithm.
Evaluate
Conduct a thorough analysis and evaluation of wearable technology, considering both functionality and aesthetics.
Use detailed feedback from peers to make significant improvements to the design.

3

Design
Develop design ideas through annotated sketches to create a product concept.
Develop design criteria to respond to a design brief.
Follow a list of design requirements.
Make
Draw and manipulate 2D shapes, using computer-aided design, to produce a point of sale badge.
Write a simple program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.
Evaluate
Use feedback from peers to improve design.
Analys and evaluating wearable technology.

C.C. P.S.

Design Technology

Digital World (KS2)

6

Design Designing appealing packaging to reflect a recipe.
Make Cutting and preparing vegetables safely.
Using equipment safely, including knives, hot pans, and hobs.
Knowing how to avoid cross-contamination.
Following a step-by-step method carefully to make a recipe.
Evaluate Identifying the nutritional differences between different products and recipes.
Identifying and describing healthy benefits of food groups.

5

Design Adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.
Writing a method for a recipe to incorporate the relevant changes to ingredients.
Researching existing recipes to inform ingredient choices.
Make Cut and prepare vegetables safely.
Use equipment safely, including knives, hot pans, and hobs.
Know how to avoid cross-contamination.
Follow a step-by-step method carefully to make a recipe.
Evaluate Identify the nutritional differences between different products and recipes.
Identify and describing healthy benefits of food groups.

4

Design Develop more complex recipes using a wider variety of seasonal ingredients.
Consider the environmental impact of using seasonal ingredients.
Create a detailed plan for their dish, including a list of ingredients and step-by-step instructions.
Make Independently follow a recipe to prepare a dish using seasonal ingredients, ensuring all steps are completed accurately.
Use a wider range of kitchen tools safely and effectively.
Experiment with different ingredient combinations to create unique flavors.
Evaluate Conduct a taste test and evaluate their dish based on specific criteria (e.g., taste, texture, nutritional value).
Reflect on the success of their dish and identify areas for improvement.
Use peer feedback to refine their recipe and make adjustments as needed.

3

Design Learn about various fruits and vegetables and when, where, and why they are grown in different seasons.
Understand the relationship between the color of fruits and vegetables and their health benefits.
Plan a simple recipe using seasonal ingredients, considering the combination of flavors and nutritional value.
Make Follow a recipe to prepare a dish using seasonal ingredients, focusing on hygiene and safety.
Use basic kitchen tools, such as knives and peelers, with supervision.
Measure and combine ingredients accurately.
Evaluate Taste and evaluate their dish, discussing what they like and what could be improved.
Compare their dish to others, considering taste, texture, and appearance.
Provide constructive feedback to peers on their dish creations.

2

Design Develop more detailed smoothie recipes, considering the nutritional benefits of various ingredients.
Plan a smoothie recipe independently, thinking about the combination of flavors and textures.
Create a simple design brief for their smoothie, including a list of ingredients and steps.
Make Follow a recipe to prepare a smoothie with minimal adult support, ensuring all steps are completed accurately.
Use a wider range of kitchen tools safely and effectively, such as peelers and blenders.
Measure and combine ingredients independently.
Evaluate Conduct a taste test and evaluate their smoothie based on specific criteria (e.g., taste, texture, appearance).
Reflect on the success of their smoothie and suggest areas for improvement.
Use peer feedback to refine their recipe and make adjustments as needed.

1

Design Identify and name a variety of fruits and vegetables that can be used in smoothies.
Discuss the taste, texture, and color of different ingredients.
Plan a simple smoothie recipe with adult support, considering the combination of flavors.
Make Follow simple instructions to prepare a smoothie, focusing on hygiene and safety.
Use basic kitchen tools, such as plastic knives and hand blenders, with supervision.
Measure and combine ingredients with support.
Evaluate Taste and evaluate a smoothie, discussing what they like and what could be improved.
Share their smoothie with peers and discuss the taste and texture.
Provide simple feedback to peers on their smoothie creations.

F2

Design Plan a simple recipe with adult support, considering the ingredients needed.
Understand the importance of hygiene when handling food.
Make Follow simple instructions to prepare a basic dish, such as a fruit salad or vegetable sticks.
Use a variety of tools safely, including peeler and graters with supervision.
Evaluate Evaluate their food creations by discussing what they enjoyed and what they might change next time.

F1

Design Explore different types of food and discuss their favorite foods.
Begin to understand where food comes from (e.g., fruits and vegetables grow in the ground).
Make Participate in simple food preparation activities, such as washing fruits and vegetables.
Use basic tools safely, like plastic knives for cutting soft fruits with supervision
Evaluate Talk about the foods they have prepared and what they like or dislike about them.

C.C. P.S.

Design Technology

Cooking and nutrition

6

Design Further refine waistcoat designs, incorporating more intricate features and decorations.
Create a highly detailed plan for the waistcoat, including precise measurements and advanced techniques.
Make Demonstrate advanced stitching techniques to assemble the waistcoat, ensuring high quality and precision.
Add complex decorative elements to the waistcoat, such as intricate embroidery or layered appliqué.
Complete the final assembly of the waistcoat, ensuring all components are securely attached.
Evaluate
Conduct an in-depth evaluation of the finished waistcoat, considering advanced criteria for aesthetics and functionality.
Use peer feedback to refine and improve the waistcoat design.
Reflect on the overall process and identify key learning points for future projects.

5

Design
Develop detailed and complex waistcoat designs, incorporating additional features and decorations.
Create a detailed plan for the waistcoat, including a list of materials and step-by-step instructions.
Make
Use a variety of stitching techniques to assemble the waistcoat, ensuring neatness and accuracy.
Add decorative elements to the waistcoat, such as appliqué or embroidery.
Evaluate Conduct a comprehensive evaluation of the finished waistcoat, considering both aesthetics and functionality.
Reflect on the success of the waistcoat and suggest areas for improvement.

4

Design Develop more detailed and complex cushion designs, incorporating additional features and decorations.
Create a detailed plan for the cushion, including a list of materials and step-by-step instructions.
Make Use a variety of stitching techniques to assemble the cushion, ensuring neatness and accuracy.
Add decorative elements to the cushion, such as appliqué or embroidery.
Stuff the cushion and complete the final assembly.
Evaluate Conduct an evaluation of the finished cushion, considering both aesthetics and functionality.
Reflect on the success of the cushion and suggest areas for improvement.
Use peer feedback to refine and improve the cushion design.

3

Design
Research and explore different cushion designs and patterns.
Create initial sketches and diagrams for a cushion design.
Use templates to create a design for a cushion.
Make
Cut fabric accurately and neatly using scissors.
Learn basic stitching techniques, such as cross-stitch and appliqué.
Begin assembling the cushion by stitching fabric pieces together.
Evaluate
Reflect on the finished product, explaining likes and dislikes.
Compare the final cushion to the initial design and identify any differences.
Provide simple feedback to peers on their cushion designs.

2

Design
Create a more detailed design for a puppet, considering additional features and decorations.
Make
Cut fabric accurately and neatly with scissors.
Use a variety of joining methods to decorate a puppet.
Sequence the steps taken during construction.
Evaluate
Reflect on a finished product, explaining likes and dislikes.
Suggest improvements based on the evaluation.

1

Design
Use a template to create a design for a puppet.
Make
Cutt fabric neatly with scissors.
Use simple joining methods to decorate a puppet.
Evaluate
Reflect on a finished product, explaining likes and dislikes.

F2

Design Designing a bookmark.
Choose from available materials.
Make Use a prepared needle and wool to practice threading.
Evaluate Reflect on a finished product and comparing it to their design.

F1

Plan Design a simple pattern with paper.
Make Develop fine motor/cutting skills with snipping scissors.
Explore fine motor/threading and weaving (under, over technique) with a variety of materials.
Evaluate Reflect on a finished product and comparing it to their design.

C.C. P.S.

Design Technology

Textiles