

Electrical Systems



Digital world



Mechanisms



Cooking and Nutrition



Textiles



Structures



Playgrounds



Navigating the World



Pop-up Book



Waistcoats



6

5

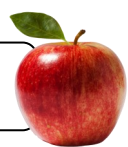
Doodlers



Slingshot Car



What could be healthier?



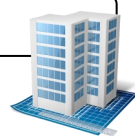
4

Torches



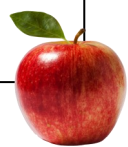
Electronic Charm

Pavilions



3

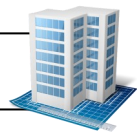
Eating Seasonally



Fairground Wheel



Castles



2

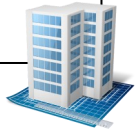
Making a Moving Monster



Puppets



Baby Bear's Chair



1

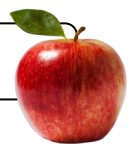
Windmills



Bookmarks



Fruit and Vegetables



Boats



Junk Modelling



R

Key Stage 1 - DT Skills

Structures

Year R

- Making verbal plans and material choices.
- Developing a junk model.
- Designing a junk model.
- Using knowledge from exploration to inform design.
- Improving fine motor/scissor skills with a variety of materials.
- Joining materials in a variety of ways (temporary and permanent).
- Joining different materials together.
- Describing their junk model, and how they intend to put it together.
- Making a structure that floats and is waterproof, considering material choices.
- Giving a verbal evaluation of their own and others' junk models with adult support.
- Checking to see if their model matches their plan.
- Considering what they would do differently if they were to do it again.
- Describing their favourite and least favourite part of their model.
- Making predictions about, and evaluating different materials to see if they are waterproof.
- Making predictions about, and evaluating existing boats to see which floats best.
- Testing their design and reflecting on what could have been done differently.
- Investigating the how the shapes and structure of a boat affect the way it moves.

Year 1

- Learning the importance of a clear design criteria.
- Including individual preferences and requirements in a design.
- Making stable structures from card, tape and glue .
- Learning how to turn 2D nets into 3D structures.
- Following instructions to cut and assemble a supporting structure
- Making functioning wheels and axles which are assembled into a main supporting structure.
- Evaluating a structure according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't.
- Suggest points for improvements.

Year 2

- Generating and communicating ideas using sketching and modelling.
- Learning about different types of structures, found in the natural world and in everyday objects.
- Making a structure according to design criteria.
- Creating joints and structures from paper/card and tape.
- Building a strong and stiff structure by folding paper.
- Exploring the features of structures.
- Comparing the stability of different shapes.
- Testing the strength of own structures.
- Identifying the weakest part of a structure.
- Evaluating the strength, stiffness and stability of own structure.

Textiles

Year R

- Discussing what a good design needs.
- Designing a simple pattern with paper.
- Designing a product.
- Choosing from available materials.
- Developing fine motor/cutting skills with scissors.
- Exploring fine motor/threading and weaving (under, over technique) with a variety of materials.
- Using a prepared needle and wool to practise threading.
- Reflecting on a finished product and comparing to their design.

Year 1

- Using a template to create a design.
- Cutting fabric neatly with scissors.
- Using joining methods
- Sequencing steps for construction.
- Reflecting on a finished product, explaining likes and dislikes.

Electrical Systems

N/A

Cooking and Nutrition

Year 1

- Designing packaging by-hand or on ICT software.
- Chopping fruit and vegetables safely .
- Tasting and evaluating different food combinations.
- Describing appearance, smell and taste.
- Suggesting information to be included on packaging.

Mechanisms

Year 2

- Selecting a suitable linkage system to produce the desired motion.
- Designing a wheel.
- Creating a class design criteria for a product.
- Designing a product for a specific audience in accordance with a design criteria.
- Selecting materials according to their characteristics.
- Following a design brief.
- Making linkages using card for levers and split pins for pivots.
- Experimenting with linkages adjusting the widths, lengths and thicknesses of card used.
- Cutting and assembling components neatly.
- Evaluating different designs.
- Testing and adapting a design.
- Evaluating own designs against design criteria.
- Using peer feedback to modify a final design.

Digital World

N/A

Lower Key Stage 2 - DT Skills

Structures

Year 3

- Designing a product with key features to appeal to a specific person/purpose.
- Drawing and labelling a product design using 2D shapes, labelling: -the 3D shapes that will create the features, materials needed and colours.
- Designing and/or decorating a product on CAD software.
- Constructing a range of 3D geometric shapes using nets.
 - Creating special features for individual designs.
 - Making facades from a range of recycled materials.
- Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.
- Suggesting points for modification of the individual designs.

Year 4

- Designing a stable structure that is aesthetically pleasing and selecting materials to create a desired effect.
 - Building frame structures designed to support weight.
 - Creating a range of different shaped frame structures.
- Making a variety of free standing frame structures of different shapes and sizes.
- Selecting appropriate materials to build a strong structure and cladding.
 - Reinforcing corners to strengthen a structure.
 - Creating a design in accordance with a plan.
- Learning to create different textural effects with materials.
 - Evaluating structures made by the class.
- Describing what characteristics of a design and construction made it the most effective.
 - Considering effective and ineffective designs.

Digital World

Year 3

- Problem solving by suggesting potential features on a Micro:bit and justifying my ideas.
 - Developing design ideas.
- Drawing and manipulating 2D shapes, using computer-aided design.
 - Using a template when cutting and assembling.
 - Following a list of design requirements.
- Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating.
- Applying functional features, such as using foam to create soft buttons.
- Writing a program to control (e.g. button press) and/or monitor (e.g. sense light).
 - Analysing and evaluating an existing product.
 - Identifying the key features of a product.

Textiles

N/A

Cooking and Nutrition

Year 3

- Creating a healthy and nutritious recipe using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.
 - Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination.
 - Following the instructions within a recipe.
- Establishing and using design criteria to help test and re-view dishes.
- Describing the benefits of seasonal fruits and vegetables and the impact on the environment.
 - Suggesting points for improvement.

Electrical Systems

Year 4

- Designing a product, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.
- Making a product with a working electrical circuit and switch.
- Using appropriate equipment to cut and attach materials.
- Assembling a product according to the design and success criteria.
- Evaluating electrical products.
- Testing and evaluating the success of a final product.

Mechanisms

Year 4

- Designing a shape that reduces air resistance.
 - Drawing a net to create a structure from.
- Choosing shapes that increase or decrease speed as a result of air resistance.
 - Personalising a design.
- Measuring, marking, cutting and assembling with increasing accuracy.
 - Making a model based on a chosen design.
- Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.

Upper Key Stage 2 - DT Skills

Structures

Year 6

- Designing a space featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
- Building a range of structures drawing upon new and prior knowledge of structures.
- Measuring, marking and cutting wood to create a range of structures.
- Using a range of materials to reinforce and add decoration to structures.
- Improving a design plan based on peer evaluation.
- Testing and adapting a design to improve it as it is developed.
- Identifying what makes a successful structure.

Textiles

Year 6

- Designing a product in accordance to a specification linked to set of design criteria.
- Annotating designs, to explain their decisions.
- Using a template when cutting fabric to ensure they achieve the correct shape.
- Using pins effectively to secure a template to fabric without creases or bulges.
- Marking and cutting fabric accurately, in accordance with their design.
- Sewing a strong running stitch, making small, neat stitches and following the edge.
- Tying strong knots.
- Decorating a product, attaching features (such as appliqué) using thread.
- Finishing the waistcoat with a secure fastening (such as buttons).
- Learning different decorative stitches.
- Sewing accurately with evenly spaced, neat stitches.
- Reflecting on their work continually throughout the design, make and evaluate process.

Cooking and Nutrition

Year 5

- Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.
- Writing an amended method for a recipe to incorporate the relevant changes to ingredients.
- Designing appealing packaging to reflect a recipe.
- 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.
- Identifying the nutritional differences between different products and recipes.
- Identifying and describing healthy benefits of food groups.

Digital World

Year 6

- Writing a design brief from information submitted by a client.
- Developing design criteria to fulfil the client's request.
- Considering and suggesting additional functions for my navigation tool.
- Developing a product idea through annotated sketches.
- lacing and manoeuvring 3D objects, using CAD.
- Changing the properties of, or combining one or more 3D objects, using CAD.
- Considering materials and their functional properties, especially those that are sustainable and recyclable.
- Explaining material choices and why they were chosen as part of a product concept.
- Programming an N,E, S, W cardinal compass.
- Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool.
- Developing an awareness of sustainable design.
- Identifying key industries that utilise 3D CAD modelling and explaining why.
- Describing how the product concept fits the client's request and how it will benefit the customers.
- Explaining the key functions in my program, including any additions.
- Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool.
- Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch.
- Demonstrating a functional program as part of a product concept pitch.

Electrical Systems

Year 5

- Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product.
- Developing design criteria based on findings from investigating existing products.
- Developing design criteria that clarifies the target user.
- Altering a product's form and function by tinkering with its configuration.
- Making a functional series circuit, incorporating a motor.
- Constructing a product with consideration for the design criteria.
- Breaking down the construction process into steps so that others can make the product.
- Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses.
- Determining which parts of a product affect its function and which parts affect its form.
- Analysing whether changes in configuration positively or negatively affect an existing product.
- Peer evaluating a set of instructions to build a product.

Mechanisms

Year 5

- Designing a product which uses a mixture of structures and mechanisms.
- Naming each mechanism, input and output accurately.
- Storyboarding ideas for a product.
- Following a design brief to make a product, neatly and with focus on accuracy.
- Making mechanisms and/or structures using sliders, pivots and folds to produce movement.
- Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.
- Evaluating the work of others and receiving feedback on own work.
- Suggesting points for improvement.