

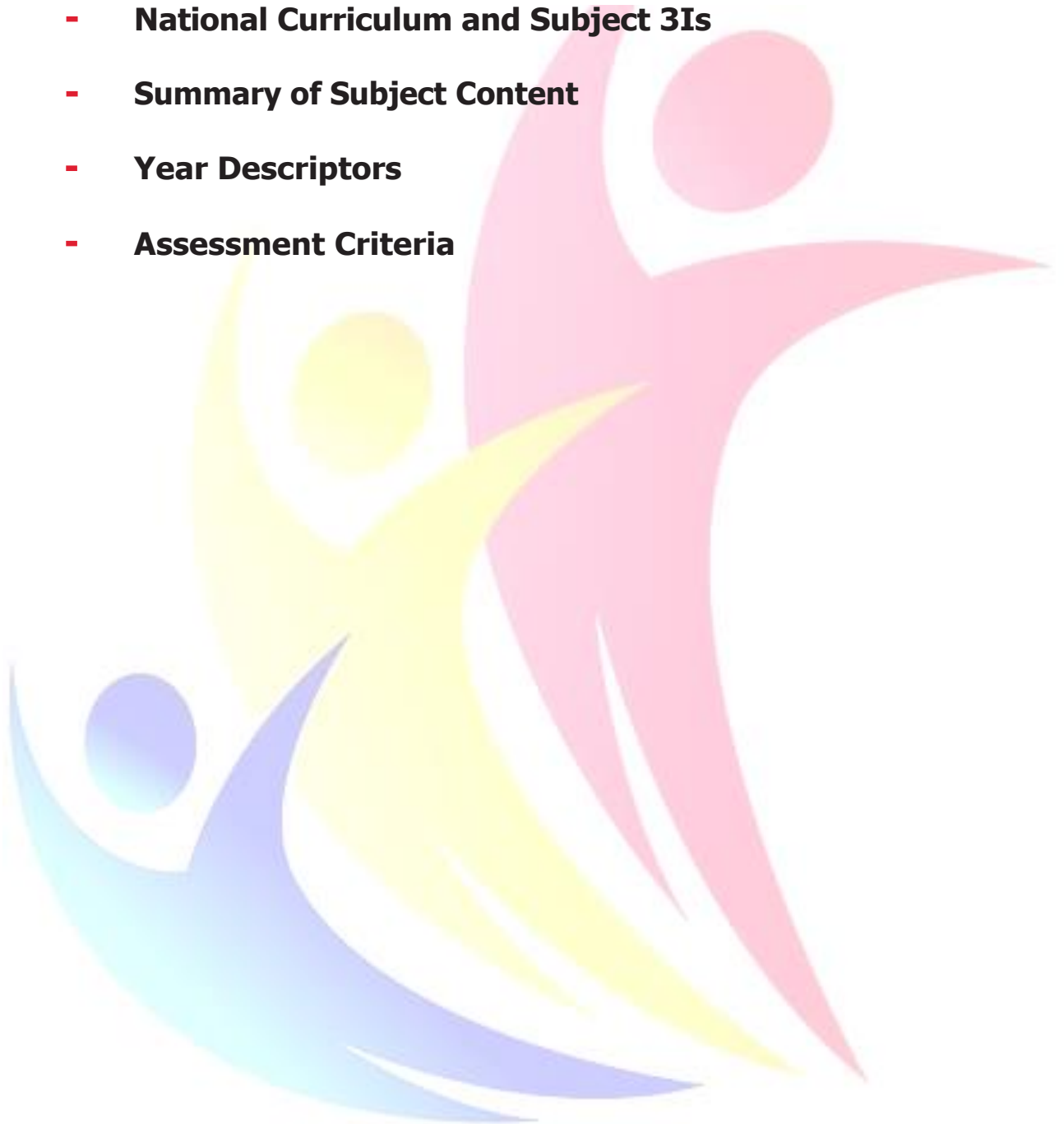
Primary Specification



Design & Technology

CONTENTS:

- **Rationale**
- **National Curriculum and Subject 3Is**
- **Summary of Subject Content**
- **Year Descriptors**
- **Assessment Criteria**



Trust Level

Children are matched against 'stage descriptors' (in other words what pupils are expected to know and be able to do in computing for their year group or phase) when being assessed by their teachers in their computing lessons. Where appropriate, teachers will provide opportunities for children to apply computing knowledge and skills in other curriculum areas and may use this information as part of their assessments. Teachers use this information to form an overall picture for each child, to determine whether they have met the stage descriptors for the end of their year group or phase

School Level

Formal assessments may be administered in different ways depending on the school. E.g. gradings offered, end of unit mini assessments, knowledge review weeks, termly or half termly assessment periods etc.

In addition to formal assessments, schools will assess pupils informally in accordance with the schools guidelines. At school level the KS2 specification document for each subject will be supported by the school own planning documents/ portals which also include LTPs, MTPs, Schemes of work and associated resources.

Long Term Plans provide leaders, teachers, students and parents with the overview of the learning journey that occurs yearly. These are available on the school website.

Medium Term Plans map the outline learning for each of the learning focusses of each half term in each year group. These provide more detailed information into the steps to facilitate a differentiated approach ensuring that content and skills are covered. The number of activities / objectives covered may vary dependent on the length of a half term and the frequency of lessons in a given subject. There are 5 planning cycles in the year. Autumn 1, Autumn 2, Spring, Summer 1 and Summer 2.

Schemes of Work may vary from subject to subject allowing the specialists in schools to develop suitable activities and topics ensuring ownership of planning for progress. Please note that no external schemes are followed to the book and when used, are merely a starting point for start.

SOW – Guiding Principles

- Skills and content based
- Form part of the 'big picture' e.g. show progression over the 7 years in school
- Provide suggested resources
- Allow for teacher ownership and/or creativity of lessons
- Allow for appropriate differentiation

The national curriculum for Design and Technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to 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 and the work of others
- understand and apply the principles of nutrition and learn how to cook.

OBJECTIVES

KS1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking and Nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:

Design

- 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
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- 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, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

KS2

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

SUBJECT INTENT

We are committed to providing our children with a progressive and relevant Design Technology education, to prepare them for life in the wider world. We believe that high quality DT lessons will inspire children to think independently, innovatively and develop creative, procedural and technical understanding. The skills developed in this subject can be transferred across the curriculum. Children will acquire and build upon a range of knowledge and techniques, working with mechanisms, structures, food, textiles and electrical systems. Children will be taught how to cook and apply the principles of nutrition and healthy eating, allowing them to maintain a healthy lifestyle. We will equip them with the crucial life skills of how to feed themselves and others affordably and well, in later life. By the time our pupils leave, they will be able to select resources, take risks and solve problems, to become capable citizens.

DESIGN AND TECHNOLOGY IMPLEMENTATION

Across school, an adaptation of the Kapow scheme of work will be employed to ensure a consistent approach and progression of skills within the key strands of the DT curriculum. The areas of mechanisms, textiles and structures will be revisited within each key stage to ensure that knowledge and skills are retained and developed overtime. Electrical systems will be taught twice during Key Stage Two. A focus will be placed on cooking and nutrition, which will be taught within each year group, with the children learning to prepare healthy and predominantly savoury dishes. Children will be taught about food provenance and seasonality. The long-term plan ensures that children build a repertoire of knowledge and techniques, such as building structures of increasing difficulty and progressing from simple mechanisms to mechanical systems. These are based on constructions in our locality, reflecting the importance of key events or individuals who have influenced designs which have shaped the world around them. Our pupils gain the practical skills in textiles to be able to perform everyday tasks in their future lives.

DESIGN AND TECHNOLOGY IMPACT

Children will be able to demonstrate an understanding of the purpose and user, in relation to the designs and products that they produce. Children will be confident when researching, designing, making and evaluating quality products, based on an initial design criteria. They will be able to select the appropriate skills, tools and techniques, working safely to solve a problem. Children will critique their own *and others'* designs (**UKS2*), assessing their final products and making suggestions for further adaptations and improvements.

Children will confidently be able to select a range of healthy ingredients to enable them to cook a nutritious, healthy and affordable meal, with an awareness of seasonality and food provenance.

Summary of Subject Content

Our scheme of work aims to inspire pupils to be innovative and creative thinkers who have appreciation for the product design cycle. We want pupils to develop the confidence and be reflective learners. Through using the Kapow scheme of work we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful citizens. The scheme of work enables pupils to meet the end of key stage attainment targets in the National Curriculum.

Year Group	Autumn	Spring	Summer
1	Food Fruit and Vegetables Healthy smoothies. (Kapow Y1U1)	Mechanisms Moving Story Book Sliders (Kapow Y1U3)	Textiles Puppets Sewing (Kapow Y1U5)
2	Structures Baby Bear's Chair Exploring stability and strengthening materials (Kapow Y2U3)	Food A Balanced Diet Healthy wraps (Kapow Y2U2)	Mechanisms Moving Monster Pivot, lever, linkages (Kapow Y2U5)
3	Textiles Cushions Sewing, cross-stitch and appliqué (Y3U1)	Mechanical Systems Pneumatic Toys Thumbnail sketches and exploded diagrams (Kapow Y3U5)	Food Eating Seasonally Healthy vegetable tarts (Kapow Y3U3)
4	Food Adapting a recipe Biscuit Bake Off (As part of a balanced diet.) (Kapow Y4U4)	Structures Pavilions Frames and structures (Link to locality: Haigh Hall/Wigan Park.) (Kapow Y4U3)	Electrical Systems Torches (Kapow Y4U5)
5	Mechanical Systems Automata Cam mechanisms (Kapow Y6U2)	Food What could be healthier? Healthy Bolognese (Kapow Y5U1)	Textiles Fastenings Sewing and fastening to create a book cover/ipad case. (Y4U2)
6	Structures Bridges Stability and strengthening materials. (Link to locality: Bridge over Scotsman's Flash) (Kapow Y5U5)	Electrical Systems Steady Hand Game (Kapow Y6U3)	Food Come Dine with Me 3 ingredients, 3 courses (Kapow Y6U5)

	Stage Descriptors
EYFS	<ul style="list-style-type: none"> • Safely use and explore a variety of materials, tools and techniques, experimenting with design, texture, form and function • Share their creations, explaining the process they have used • Make use of props and materials when role playing characters in narratives and stories • Return to and build on their previous learning, refining ideas and developing their ability to represent them • Create collaboratively, sharing ideas, resources and skills
KS1	<p>Design:</p> <ul style="list-style-type: none"> • Explore and evaluate a range of existing products • Know the purpose of their product • Design a product for a particular purpose or user • Communicate a design for their product <p>Make:</p> <ul style="list-style-type: none"> • Follow a simple design • Select and use appropriate tools, materials and techniques • Perform practical tasks, including cutting and joining • Create a product based on their designs • Follow safety rules and use equipment correctly <p>Evaluate:</p> <ul style="list-style-type: none"> • Identify strengths and weaknesses of a product • Discuss whether their product has met the design criteria <p>Technical Knowledge:</p> <ul style="list-style-type: none"> • Build structures that are strong and stable • Use mechanisms in their product <p>Cooking and Nutrition:</p> <ul style="list-style-type: none"> • Follow a simple recipe • Use the basic principles to prepare dishes • Show an understanding of where the food they are using comes from

<p style="text-align: center;">LKS2</p>	<p>Design:</p> <ul style="list-style-type: none"> • Identify the design features of existing products and how they are fit for purpose • Know the purpose of their product • Design a product for a particular purpose or user • Generate and communicate my design ideas in a variety of ways <p>Make:</p> <ul style="list-style-type: none"> • Follow their own design accurately • Select and use appropriate tools, materials and techniques, explaining their choices • Perform practical tasks, including cutting and joining, with greater precision • Create a product that reflects their original design • Follow safety rules and use a wider range of equipment correctly <p>Evaluate:</p> <ul style="list-style-type: none"> • Evaluate their ideas and products against their own design criteria • Discuss whether their product has met the design criteria <p>Technical Knowledge:</p> <ul style="list-style-type: none"> • Build more complex structures that are strong and stable • Understand and use mechanisms in their product <p>Cooking and Nutrition:</p> <ul style="list-style-type: none"> • Prepare and cook healthy dishes • Understand the principles of a healthy varied diet • Show an understanding of seasonality and where a range of food comes from
<p style="text-align: center;">UKS2</p>	<p>Design:</p> <ul style="list-style-type: none"> • Use their knowledge of a broad range of innovative, functional and appealing existing products to help generate their ideas for the intended purpose or user • Design innovative, functional and appealing products • Generate, communicate, develop and justify my design ideas in a variety of ways <p>Make:</p> <ul style="list-style-type: none"> • Select and use a wider range of appropriate materials and techniques with precision and accuracy, taking into account functional properties and aesthetic qualities • Create a product that reflects their original design with adaptations, if needed • Follow safety rules and identify potential dangers when using a wider range of equipment correctly <p>Evaluate:</p> <ul style="list-style-type: none"> • Evaluate their ideas and products against their own design criteria taking into account the views of others in order to improve their work • Discuss whether their product has met the design criteria • Discuss how key events or individuals have influenced some designs, inventions and products that have helped shape the world <p>Technical Knowledge:</p> <ul style="list-style-type: none"> • Apply their knowledge to strengthen, stiffen and reinforce complex structures • Understand and use a wider range of mechanisms in their product and justify choices • Understand and use electrical systems in their products • Apply their understanding of computing to program, monitor and control products <p>Cooking and Nutrition:</p> <ul style="list-style-type: none"> • Prepare and cook a range of healthy dishes • Use a range of cooking techniques when creating dishes • Apply the principles of a healthy and varied diet to the dishes they create • Know the source of a variety of ingredients



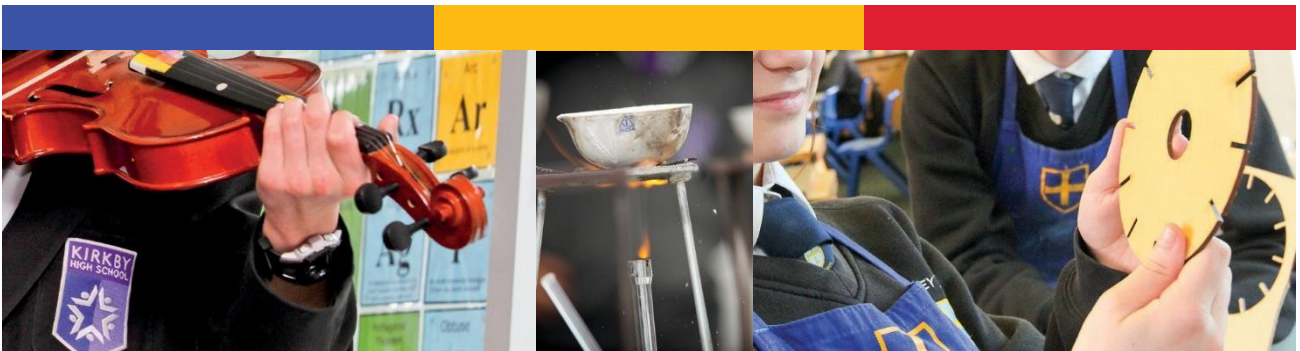
Assessment Criteria

What we do

1. We implement an inclusive curriculum so that all children, including those with SEND, can make progress and demonstrate success in a range of ways.
2. We conduct baseline assessments, checking the pupils' existing knowledge and skill level.
3. We review and re-cap prior learning and link it to new and current study. We identify curriculum links so that learning can be applied and assessed in new contexts.
4. Teachers use a range of assessment activities in their class, including the review of knowledge organisers, mini assessments, sketch books, independent tasks, work in books, pupil chats in lessons. We incorporate longitudinal study where appropriate, including geography and history to assess long term knowledge retention.
5. To meet the expected standard, pupils should demonstrate a broad understanding of the key facts in the end points for that year (as outlined in the subject key specification document). In addition, they retain key knowledge from prior learning.
6. At the greater depth standard, pupils demonstrate knowledge and understanding of every aspect of the key specification to the highest degree.
7. We enter a mid-year and end of year attainment grade onto FFT. Subject leaders analyse the data and report to governors annually.
8. Bi-annual peer audits provide quality assurance, moderation of standards and training across trust schools.



Our logo was carefully chosen to represent the children, young people and adults in our learning community who strive for excellence through high aspiration and high expectation.



The Rowan Learning Trust

Registered Office: Hawkey Hall High School, Carr Lane, Wigan, WN3 5NY. Company Number 8010464

© The Rowan Learning Trust 2018