# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | |
|---|---|
| Curriculum intent statement | Design technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils 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 upon disciplines such as mathematics, science, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. |

| | Design | Make | Evaluate | Technical knowledge | Cooking and nutrition |
|---|---|---|---|---|---|
| Ongoing skills covered by each year group | **KS1**<br>Design purposeful, functional, appealing products for themselves and other users based on design criteria.<br><br>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and where appropriate, information and communication technology.<br><br>**KS2**<br>Use research and develop design | **KS1**<br>Select from and use a wide range of tools and equipment to perform practical tasks.<br><br>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients.<br><br>**KS2**<br>Select from and use a wide range of tools and equipment to perform practical tasks accurately. | **KS1**<br>Explore and evaluate a wide range of existing products.<br><br>Evaluate their ideas and products against design criteria.<br><br>**KS2**<br>Investigate and analyse a wide range of existing products.<br><br>Evaluate their ideas and products against their own design criteria and consider the vie1212<br>ws of others to improve their work. | **KS1**<br>Build structures, exploring how they can be made stronger, stiffer and more stable.<br><br>Explore and use mechanisms in their products eg wheels and axles, levers, sliders.<br><br>**KS2**<br>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.<br><br>Understand and use electrical systems in | **KS1**<br>Use the basic principles of a healthy and varied diet.<br><br>Understand where food comes from.<br><br>**KS2**<br>Understand and apply the basic principles of a healthy and varied diet.<br><br>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.<br><br>Understand |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | | | |
|---|---|---|---|---|---|
| | criteria to inform innovative, functional, appealing products that are fit for purpose, aimed at particular groups or individuals.<br><br>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design. | Select from and use a wider range of materials, textiles and ingredients, according to their functional properties and aesthetic qualities. | Understand how key individuals and events in design technology have helped to shape the world. | their products eg switches, buzzers, bulbs and motors.<br><br>Apply their understanding of computing to program, monitor and control their products. | seasonality, and how a variety of ingredients are grown, reared, caught and processed. |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| Year 1/2 | |
|---|---|
| Programme of study statements which apply to more than one project | **DESIGNING**<br>Understanding contexts users and purposes<br>Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment<br>State the product they are designing/making<br>Say whether the product is for themselves/other users<br>Describe what the product is for<br>Say how their products will work<br>Say how they will make the product suitable for the intended user<br>Use simple design criteria to develop their ideas<br>Designing – Generating, developing, modelling and communicating ideas<br>Generate ideas by drawing on their own experiences<br>Use the knowledge of existing products to come up with ideas<br>Develop and communicate ideas by drawing and talking<br>Model ideas by exploring materials, components and construction kits and by making templates and mock-ups<br>Use information and communication technology, where appropriate, to develop and communicate their ideas.<br><br>**MAKING**<br>Planning<br>Plan by suggesting what to do next<br>Select from a range of tools and equipment, explaining their choices<br>Select from a range of materials and components according to their characteristics<br>Practical skills and techniques<br>Follow procedures for safety and hygiene |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | |
|---|---|---|---|
| | Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components<br>Measure, mark out, cut and shape materials and components<br>Assemble, join and combine materials and components<br>Use finishing techniques, including those from art and design<br><br>**EVALUATING**<br>Own ideas and products<br>Talk about their design ideas and what they are making<br>Make simple judgements about their products and ideas against design criteria<br>Suggest how their products could be improved<br>**Technical knowledge**<br>Making products work<br>Use the correct technical vocabulary for the projects they are undertaking | | |
| Cycle A | **Technical knowledge**<br>**Sheet materials**<br>Know the simple working characteristics of materials and components<br><br>Roll paper to create tubes, curl paper, create hinges, make simple pop ups<br>Use a hole punch<br>Insert paper fasteners for card linkages<br><br>**Technical knowledge**<br>**Textiles**<br>Experience using different kinds of simple stitch – running and cross stitch | **Cooking and nutrition**<br>Know that all food comes from plants or animals<br>Know that food has to be farmed, grown elsewhere (eg home) or caught<br><br>Know how to prepare simple dishes safely and hygienically, without using a heat source<br>Know how to use techniques such as peeling, grating and cutting (bridge cut) | **Technical knowledge**<br>**Construction**<br>Know about the movement of simple mechanisms - levers and sliders<br><br>**Evaluating**<br>**Existing products and designs**<br>Explore what the product is, who it is for, what it is for, how it works, how it is used, where it might be used, what materials the product is made from, what they like and dislike about the product. |
| Cycle B | **Technical knowledge** | **Cooking and nutrition** | **Technical knowledge** |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | |
|---|---|---|---|
| | **Sheet materials**<br>Know how free-standing structures can be made stronger, stiffer and more stable<br><br>**Technical knowledge**<br>**Textiles**<br>Know that a 3D textiles product can be assembled from two identical fabric shapes | Know how to name and sort foods into the five sections on 'The Eatwell Plate'<br>Know that everyone should eat at least five portions of fruit and vegetables every day<br><br>Know how to prepare simple dishes safely and hygienically, without using a heat source<br>Know how to use techniques such as peeling, grating and cutting (bridge cut) | **Construction**<br>Know about the movement of simple mechanisms – wheels and axles<br><br>**Evaluating**<br>**Existing products and designs**<br>Explore what the product is, who it is for, what it is for, how it works, how it is used, where it might be used, what materials the product is made from, what they like and dislike about the product. |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| Year 3/4 | | | |
|---|---|---|---|
| Programme of study statements which apply to more than one project | **DESIGNING**<br>Understanding contexts users and purposes<br>KS2<br>Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment<br>Describe the purpose of their products<br>Indicate the design features of their products that will appeal to the intended users<br>Explain how particular parts of their products work<br>**Year 3/4**<br>**Gather information about the needs and wants of particular individuals and groups**<br>**Develop their own design criteria and use these to inform their ideas**<br>Generating, developing, modelling and communicating ideas<br>KS2<br>Share and clarify ideas through discussion<br>Model ideas using prototypes and pattern pieces<br>Use annotated sketches, cross-sectional drawings and exploded diagrams to communicate ideas<br>Use computer-aided design to develop and communicate their ideas<br>**Year 3/4**<br>**Generate realistic ideas focusing on the needs of the user**<br>**Make design designs that take account of the availability of resources**<br><br>**MAKING**<br>Planning<br>KS2<br>Select tools and equipment suitable for the task | | |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | |
|---|---|
| | Explain their choice of equipment in relation to the skills and techniques they will be using<br>Select materials and components suitable for the task<br>Explain their choice of materials and components according to functional and aesthetic qualities<br>**Year 3/4**<br>**Order the main stages of making**<br><u>Practical skills and techniques</u><br><u>KS2</u><br>Follow procedures for safety and hygiene<br>Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components<br>**Year 3/4**<br>**Measure, mark, cut out and shape materials and components with some accuracy**<br>**Assemble, join and combine materials and components with some accuracy**<br>**Apply a range of finishing techniques, including those from art and design with some accuracy**<br><br>**<u>EVALUATING</u>**<br><u>Own ideas and products</u><br><u>KS2</u><br>Identify the strengths and areas for development in their ideas and products<br>Consider the views of others, including intended users, to improve their work<br>**Year 3/4**<br>**Refer to their design criteria as they design and make**<br>**Use their design criteria to evaluate finished products**<br><u>Existing products</u><br><u>KS2</u><br>Analyse how well products have been designed, how well products have been made, why materials have been chosen, what methods of construction have been used, how well products work, how well products achieve their purposes, how well products meet their users needs and wants<br>**Year 3/4**<br>**Investigate and analyse who designed and made the products, where products were designed and made, when the products were designed and made, whether products can be recycled or reused**<br><u>Key events and individuals</u> |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | |
|---|---|---|---|
| | KS2<br>Know about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products<br>**Technical knowledge**<br>Making products work<br>KS2<br>Use learning from science and mathematics to help design and make products that work<br>Know that materials have both functional and aesthetic qualities<br>That mechanical and electrical systems have an input, process and output<br>Use the correct technical vocabulary to describe the projects they are undertaking | | |
| Cycle A | **Technical knowledge**<br>**Sheet materials**<br>Know how simple electrical circuits and components can be used to create functional products<br>How to program a computer to control a product<br><br>**Technical knowledge**<br>**Textiles**<br>Learn how to applique and sew buttons and sequins onto work | **Cooking and nutrition**<br>Know that food ingredients can be fresh, pre-cooked and processed<br>Know that food is grown, reared and caught in the UK, Europe and the wider world<br><br>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate the use of a heat source<br>Know how to use a range of cooking techniques such as peeling, chopping (bridge cut), grating, mixing, spreading, kneading and baking<br><br>**Key events and individuals**<br>Which inventors, designers, engineers, chefs and/or manufacturers????? | **Technical knowledge**<br>**Construction**<br>Know how mechanical systems to create movement – pneumatic systems<br><br>**Evaluating**<br>**Existing products and designs**<br>Which product/s?????? |
| Cycle B | **Technical knowledge**<br>**Sheet materials** | **Cooking and nutrition** | **Technical knowledge**<br>**Construction** |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | |
|---|---|---|---|
| | Know how to make strong, stiff, shell structures<br><br>**Technical knowledge**<br>**Textiles**<br>Know that a single fabric shape can be used to make a 3D textiles product<br>Expand the range of stitches that can be used – introduce chain stitch and back stitch | Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted on 'The Eatwell Plate'<br>Know that to be active and healthy, food and drink are needed to provide energy for the body<br><br>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate the use of a heat source<br>Know how to use a range of cooking techniques such as peeling, chopping (bridge cut), grating, mixing, spreading, kneading and baking<br><br>**Key events and individuals**<br>Which inventors, designers, engineers, chefs and/or manufacturers????? | Know how mechanical systems to create movement – levers and linkages<br><br>**Evaluating**<br>**Existing products and designs**<br>Which product/s?????? |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| Year 5/6 | | | |
|---|---|---|---|
| Programme of study statements which apply to more than one project | **DESIGNING**<br>Understanding contexts users and purposes<br>KS2<br>Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment<br>Describe the purpose of their products<br>Indicate the design features of their products that will appeal to the intended users<br>Explain how particular parts of their products work<br>**Year 5/6**<br>**Carry out research, using surveys, interviews, questionnaires and web-based resources**<br>**Identify the needs, wants, preferences and values of particular individuals and groups**<br>**Develop a simple design specification to guide their thinking**<br>Generating, developing, modelling and communicating ideas<br>KS2<br>Share and clarify ideas through discussion<br>Model ideas using prototypes and pattern pieces<br>Use annotated sketches, cross-sectional drawings and exploded diagrams to communicate ideas<br>Use computer-aided design to develop and communicate their ideas<br>**Year 5/6**<br>**Generate innovative ideas, drawing on research** | | |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM
C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve
TOGETHER

| | |
|---|---|
| | **Make design decisions, taking account of constraints such as time, resources and cost**<br><br>**MAKING**<br>Planning<br>KS2<br>Select tools and equipment suitable for the task<br>Explain their choice of equipment in relation to the skills and techniques they will be using<br>Select materials and components suitable for the task<br>Explain their choice of materials and components according to functional and aesthetic qualities<br>**Year 5/6**<br>**Produce appropriate lists of tools, equipment and materials they need**<br>**Formulate step by step plans as a guide to making**<br>Practical skills and techniques<br>KS2<br>Follow procedures for safety and hygiene<br>Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components<br>**Year 5/6**<br>**Accurately measure, mark out, cut and shape materials and components**<br>**Accurately assemble, join and combine materials and components**<br>**Accurately apply a range of finishing techniques, including those from art and design**<br>**Use techniques that involve a number of steps**<br>**Demonstrate resourcefulness when tackling practical problems**<br><br>**EVALUATING**<br>Own ideas and products<br>KS2<br>Identify the strengths and areas for development in their ideas and products<br>Consider the views of others, including intended users, to improve their work<br>**Year 5/6**<br>**Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make** |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

<table>
<tr><td></td><td colspan="3">Evaluate their ideas and products against their original design specification<br><u>Existing products</u><br><u>KS2</u><br>Analyse how well products have been designed, how well products have been made, why materials have been chosen, what methods of construction have been used, how well products work, how well products achieve their purposes, how ell products meet their users needs and wants<br>Year 5/6<br>Investigate and analyse how much products cost to make, how innovative products are, what impact products have beyond their original purpose<br><u>Key events and individuals</u><br><u>KS2</u><br>Know about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products<br><u>Technical knowledge</u><br><u>Making products work</u><br><u>KS2</u><br>Use learning from science and mathematics to help design and make products that work<br>Know that materials have both functional and aesthetic qualities<br>That mechanical and electrical systems have an input, process and output<br>Use the correct technical vocabulary to describe the projects they are undertaking</td></tr>
<tr><td>Cycle A</td><td>Technical knowledge<br>Sheet materials<br>Know how more complex electrical circuits and components can be used to create functional products<br><br>Technical knowledge<br>Textiles<br>Join fabric – patch work<br>Expand the range of stitches that can be used – introduce overcast stitch</td><td>Cooking and nutrition<br><br>Know that the seasons may affect the food available to cook with<br>Know how food can be processed into ingredients that can be eaten or used in cooking<br>Know that recipes can be adapted to change the appearance, texture, taste and aroma<br><br>Know how to prepare and cook a variety of predominantly savoury</td><td>Technical knowledge<br>Construction<br>Know how mechanical systems such as cams or pulley or gears create movement<br><br>Evaluating<br>Existing products and designs<br>Which product/s??????</td></tr>
</table>

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | |
|---|---|---|---|
| | | dishes safely and hygienically including, where appropriate the use of a heat source<br>Know how to use a range of cooking techniques such as peeling, chopping (bridge cut), grating, mixing, spreading, kneading, rubbing in and baking<br><br>**Key events and individuals**<br>Which inventors, designers, engineers, chefs and/or manufacturers????? | |
| Cycle B | **Technical knowledge**<br>**Sheet materials**<br>Know how to reinforce and strengthen a 3D framework<br><br>**Technical knowledge**<br>**Textiles**<br>Know that 3D textiles products can be made from a combination of fabric shapes<br>Expand the range of stitches that can be used – introduce blanket stitch | **Cooking and nutrition**<br>Know that different foods and drinks contain different substances – nutrients, water and fibre – that are needed for health<br><br>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate the use of a heat source<br>Know how to use a range of cooking techniques such as peeling, chopping (bridge cut), grating, mixing, spreading, kneading, rubbing in and baking<br><br>**Key events and individuals**<br>Which inventors, designers, engineers, | **Technical knowledge**<br>**Construction**<br>Know how to program a computer to monitor changes in the environment and control their products/control a model using a computing program<br><br>**Evaluating**<br>**Existing products and designs**<br>Which product/s?????? |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021

# Whole School Progression - DT

THE RACKHAM C OF E PRIMARY SCHOOL
Inspire- Challenge- Believe- Achieve TOGETHER

| | | | |
|---|---|---|---|
| | | chefs and/or manufacturers????? | |

Completed by: Emma Berrett
Date: March 2019
Reviewed by VO: September 2021