Design and Technology

Houghton on the Hill Primary School

STRUCTURE TEXTILES MECHANISMS COOKING AND NUTRITION ELECTRICAL SYSTEMS

MECHANICAL SYSTEMS

Houghton on the Hill Primary School

Design and Technology

VISION/AIMS:

- For pupils to produce high quality products for a particular purpose and to be aware of the needs of the user.
- For pupils to produce high quality products that are innovative and authentic.
- To encourage creativity and to encourage pupils to think about important issues in their own locality and the wider world such as sustainability and enterprise.
- For pupils to develop the creative, technical and practical skills needed for a technological world, such as learning about how materials work and the tools that are needed to join them.
- For pupils to develop their skills to test, refine and develop the products that they design and make and to check that they work and improve them if they don't, such as creating prototypes.
- For pupils to recognise the importance of every stage of the design cycle, including the initial stage of research, and to recognise that changes and refinements may be needed during this process.
- For pupils to have opportunities to work in a range of contexts such as the home, school, gardens, playgrounds, the local community, industry and the wider environment.
- For pupils to work confidently and safely, taking risks with ideas but not tools, when working alone and alongside others.
- For pupils to critique and evaluate existing products to inform their own D and T work.
- To provide children with cooking skills to create an affordable healthy meal for themselves and others in later life.
- For pupils to understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
- To use external relevant individuals and organisations to provide expertise with resources.
- For pupils to draw on other subjects such as mathematics, art, science and computers and engineering.
- For pupils to be aware of how Design and Technology has been used in the local area and the impact it has had on people's lives and the wider world e.g. Foxton locks, Textile industry, Curve theatre.
- For pupils to be recognise that people in the past and present have used Design and Technology and to be aware of the story behind inventions and everyday objects to inform their own D and T work.
- To instil a love of D and T that will stay with them in further education and later life.

A memorable definition for D&T

Designing and making:

Something for

Somebody for

Some purpose

Examples of some of our Design and Technology Projects

Year 6 will design, make and evaluate a warming, healthy soup to be served after Carol Singing. There are lots of factors they have to consider (warmth, common allergies, dietary requirements) and some members of the carol singers are vegetarian.

Year 4 will design, make and evaluate a light box with illuminated words or letters for a special occasion.

Year 5 will design, make and evaluate a toy carousel for the 'little people' toys that can be used by Foundation children as part of their continuous provision.

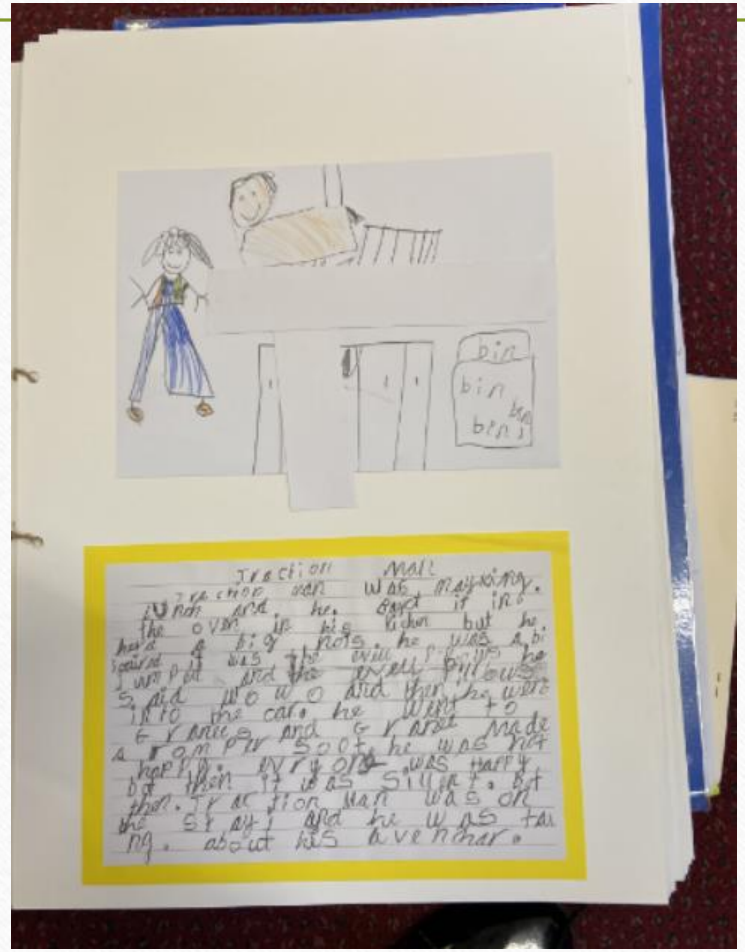
Year 3 will design , make and evaluate a stationary holder to help organise a person who is now working from home from their dining table.

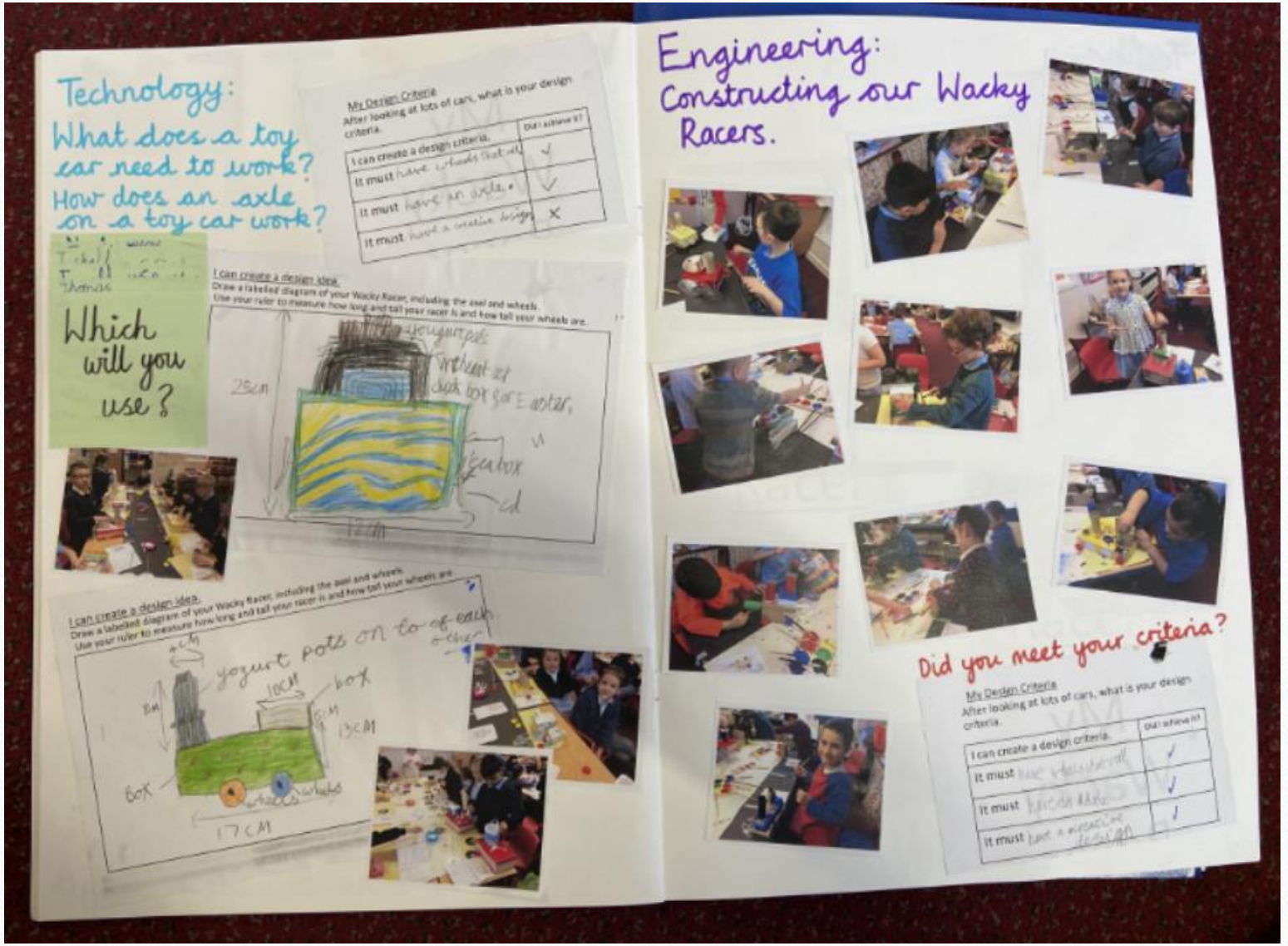
Year 2 will design, make and evaluate a moving wacky racer for the annual school race.

Year 1 will design, make and evaluate a class moving picture book of Traction Man for FS to read.

Foundation will design, make and evaluate a teddy bears picnic blanket for the new starters.


Cutting Vegetables.
Nikolas needs a new doll because his turnip doll was made into soup! Can you help
Design 3
Design 2
Design 1
Our design ideas



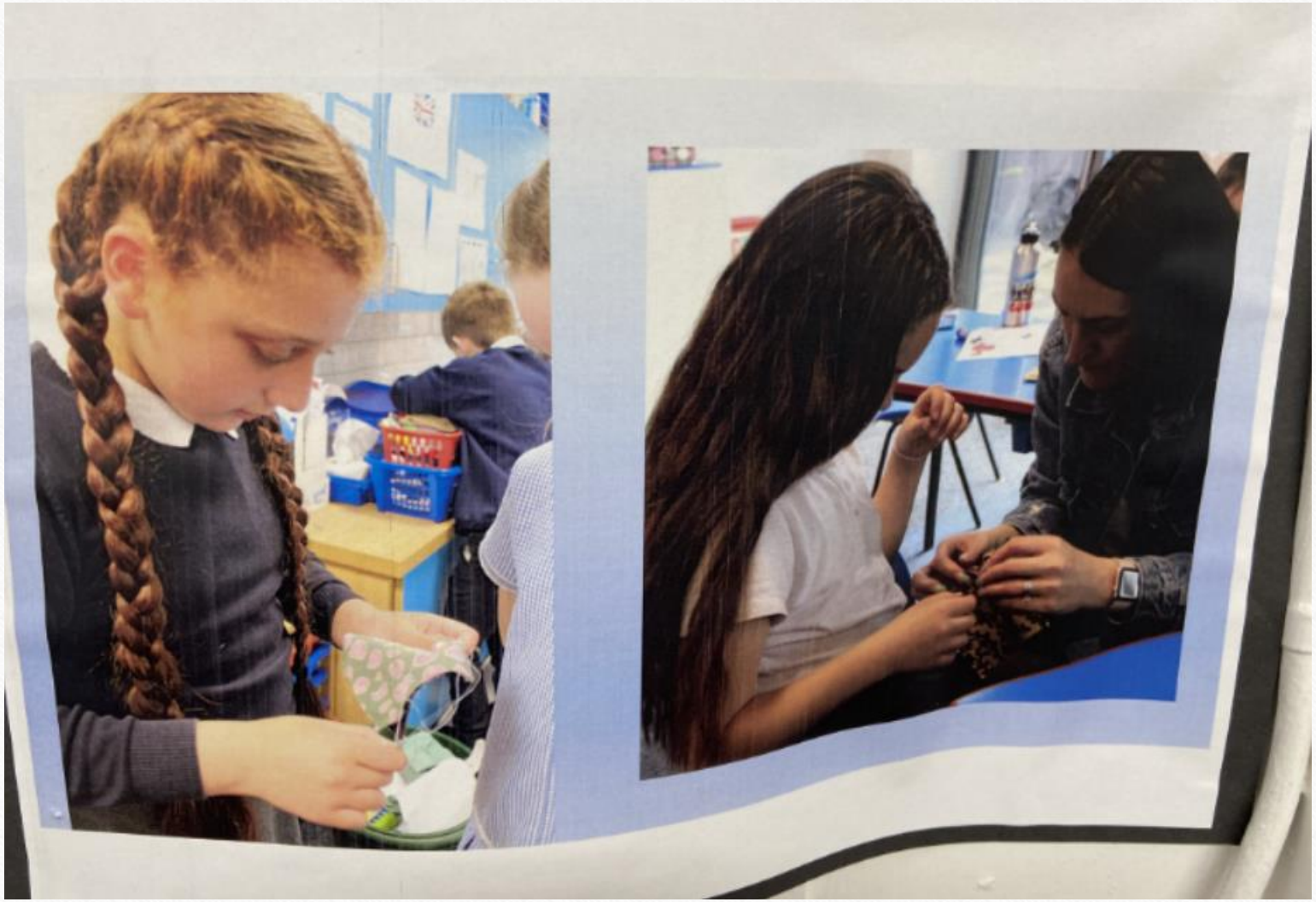

Technology:
What does a toy car need to work?
How does an axle on a toy car work?
Which will you use?
My Design Criteria
After looking at lots of cars, what is your design criteria.
I can create a design criteria.
Did I achieve it?
I can create a design idea.
Draw a labelled diagram of your Wacky Racer, including the axel and wheels.
Use your ruler to measure how long and tall your racer is and how tall your wheels are.
yogurt pots on to of each other
box
wheels
axles
Engineering:
Constructing our Wacky Racers.
Did you meet your criteria?


Cutting Vegetables.
Nikolas needs a new doll because his turnip doll was made into soup! Can you help?
Design 3
Design 2
Design 1
Our design ideas.
December 2020
Cutting skills we tried:
peeling
slicing
bridge grip
claw grip


We made a mock up of our planned equipment, investigating different ways of building them.
Then we worked in groups to build our planned playgrounds


D.T.
Measurement
You now need to measure your head very carefully.
What units of measure will you use?
What parts of your head do you need to measure?
Hat


D.T.
Making healthy soup



Summary of D and T provision in each class

- 2 quality D &T projects. Themes are shared between 2 year groups e.g. only one textiles unit in KS1.
- 1 additional activity to relate to cooking and nutrition.
- Links to the local community.
- Links to a people and products (range of current and people from history, gender, BAME, culture etc.)
- Links to other subjects e.g. STEM.
- D &T can be taught in blocks over one or more days.

Long term Overview and Progression Document

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Structures Freestanding Structures	**Textiles** Templates & Joining	**Structures** Shell structures	**Textiles** 2D shapes to 3D products	**Textiles** Combining different shapes	**Structures** Frame structures
Beach structure	Dinosaur Puppets	Stationary Holders	Funky Furnishings	Christmas Decorations	Mad Hatter's Hats
Mechanisms Sliders & Levers	**Mechanisms** Wheels and Axels	**Mechanical Systems** Levers and Linkages	**Electrical Systems** Simple Circuits and Switches	**Mechanical Systems** Pullies or gears	**Electrical Systems** More complex Switches
Moving Picture Book	Wacky Races	Snappy crocodiles	Light Boxes	Controllable Fairground Rides	Motorised framework vehicle
Cooking and Nutrition Preparing fruit and vegetables	**Cooking and Nutrition** Preparing fruit and vegetables	**Cooking and Nutrition** Healthy and varied diet	**Cooking and Nutrition** Healthy and varied diet	**Cooking and Nutrition** Celebrating Culture and Seasonality	**Cooking and Nutrition** Celebrating Culture and Seasonality
Fruit Kebabs	Vegetable Dolls	Healthy Dips	Pizza	Healthy Pasties	Healthy Soup
Links to the local area and people	**Links to the local area and people**	**Links to the local area and people**	**Links to the local area and people**	**Links to the local area and people**	**Links to the local area and people**

DESIGNING

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
• **Structures** Freestanding Structures • **Mechanisms** Wheels and Axels • **Cooking and Nutrition** Preparing fruit and vegetables	• **Textiles** Templates & Joining • **Mechanisms** Sliders & Levers • **Cooking and Nutrition** Preparing fruit and vegetables	• **Structures** Shell structures • **Mechanical Systems** Levers and Linkages • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** 2D shapes to 3D products • **Electrical Systems** Simple Circuits and Switches • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** Combining different shapes • **Mechanical Systems** Pullies or gears • **Cooking and Nutrition** Celebrating Culture and Seasonality	• **Structures** Frame structures • **Electrical Systems** More complex switches • **Cooking and Nutrition** Celebrating Culture and Seasonality
Understanding context, users and purposes		*Understanding context, users and purposes*		*Understanding context, users and purposes*	
Across KS1 pupils will: • work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for • say how their products will work • say how they will make their products suitable for their intended users • use simple design criteria to help develop their ideas		*Across KS2 pupils will:* • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work *In early KS2 pupils will also:* • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas		*Across KS2 pupils will:* • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work *In late KS2 pupils will also:* • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • develop a simple design specification to guide their thinking	
Generating, developing, modelling and communicating ideas		*Generating, developing, modelling and communicating ideas*		*Generating, developing, modelling and communicating ideas*	
Across KS1 pupils will: • generate ideas by drawing on their own experiences • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mock- ups • use information and communication technology, where appropriate, to develop and communicate their ideas		*Across KS2 pupils will:* • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas *In early KS2 pupils will also:* • generate realistic ideas, focusing on the needs of the user • make design decisions that take account of the availability of resources.		*Across KS2 pupils will:* • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas In late KS2 pupils will also: • generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost	

MAKING

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
• **Structures** Freestanding Structures • **Mechanisms** Wheels and Axels • **Cooking and Nutrition** Preparing fruit and vegetables	• **Textiles** Templates & Joining • **Mechanisms** Sliders & Levers • **Cooking and Nutrition** Preparing fruit and vegetables	• **Structures** Shell structures • **Mechanical Systems** Levers and Linkages • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** 2D shapes to 3D products • **Electrical Systems** Simple Circuits and Switches • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** Combining different shapes • **Mechanical Systems** Pullies or gears • **Cooking and Nutrition** Celebrating Culture and Seasonality	• **Structures** Frame structures • **Electrical Systems** More complex switches • **Cooking and Nutrition** Celebrating Culture and Seasonality
Planning		*Planning*		*Planning*	
Across KS1 pupils will: • plan by suggesting what to do next • select from a range of tools and equipment, explaining their choices • select from a range of materials and components according to their characteristics		*Across KS2 pupils will:* • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities *In early KS2 pupils will also:* • order the main stages of making		*Across KS2 pupils will:* • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities *In late KS2 pupils will also:* • produce appropriate lists of tools, equipment and materials that they need • formulate step-by-step plans as a guide to making	
Practical skills and techniques		*Practical skills and techniques*		*Practical skills and techniques*	
Across KS1 pupils will: • follow procedures for safety and hygiene • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design		*Across KS2 pupils will:* • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components *In early KS2 pupils will also:* • measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with some accuracy		*Across KS2 pupils will:* • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components *In late KS2 pupils will also:* • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems	

EVALUATING

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
• **Structures** Freestanding Structures • **Mechanisms** Wheels and Axels • **Cooking and Nutrition** Preparing fruit and vegetables	• **Textiles** Templates & Joining • **Mechanisms** Sliders & Levers • **Cooking and Nutrition** Preparing fruit and vegetables	• **Structures** Shell structures • **Mechanical Systems** Levers and Linkages • **Cooking and Nutrition** Healthy+varied diet	• **Textiles** 2D shapes to 3D products • **Electrical Systems** Simple Circuits and Switches • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** Combining different shapes • **Mechanical Systems** Pullies or gears • **Cooking and Nutrition** Celebrating Culture and Seasonality	• **Structures** Frame structures • **Electrical Systems** More complex switches • **Cooking and Nutrition** Celebrating Culture and Seasonality
Own ideas and products		*Own ideas and products*		*Own ideas and products*	
Across KS1 pupils will: • talk about their design ideas and what they are making • make simple judgements about their products and ideas against design criteria • suggest how their products could be improved		*Across KS2 pupils will:* • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work *In early KS2 pupils will also:* • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products		*Across KS2 pupils will:* • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work *In late KS2 pupils will also:* • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification	
Existing products		*Existing products*		*Existing products*	
Across KS1 pupils will explore: • what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products		*Across KS2 pupils will investigate and 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 user needs and wants *In early KS2 pupils will also investigate and analyse:* • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused		*Across KS2 pupils will investigate and 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 user needs and wants *In late KS2 pupils will also investigate and analyse:* • *how much products cost to make* • *how innovative products are* • *how sustainable the materials in products are* • *what impact products have beyond their intended purpose*	
Key events and individuals		*Key events and individuals*		*Key events and individuals*	
Not a requirement		Across KS2 pupils will know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products		Across KS2 pupils will know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	

TECHNICAL KNOWLEDGE

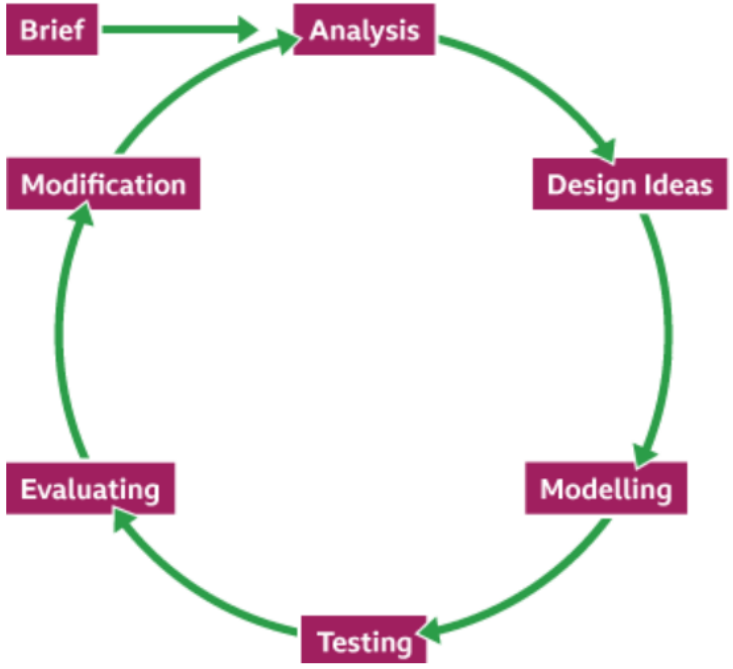
YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
• **Structures** Freestanding Structures • **Mechanisms** Wheels and Axels • **Cooking and Nutrition** Preparing fruit and vegetables	• **Textiles** Templates & Joining • **Mechanisms** Sliders & Levers • **Cooking and Nutrition** Preparing fruit and vegetables	• **Structures** Shell structures • **Mechanical Systems** Levers and Linkages • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** 2D shapes to 3D products • **Electrical Systems** Simple Circuits and Switches • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** Combining different shapes • **Mechanical Systems** Pullies or gears • **Cooking and Nutrition** Celebrating Culture and Seasonality	• **Structures** Frame structures • **Electrical Systems** More complex switches • **Cooking and Nutrition** Celebrating Culture and Seasonality
Across KS1 pupils will know: • about the simple working characteristics of materials and components • about the movement of simple mechanisms such as levers, sliders, wheels and axles • how freestanding structures can be made stronger, stiffer and more stable • that a 3-D textiles product can be assembled from two identical fabric shapes • that food ingredients will be combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking		*Across KS2 pupils will know:* • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking *In early KS2 pupils will also know* : • how mechanical systems such as levers and linkages or pneumatic systems create movement • how simple electrical circuits and components can be used to create functional products • how to program a computer to control their products • how to make strong, stiff shell structures • that a single fabric shape can be used to make a 3D textiles product • that food ingredients can be fresh, pre-cooked and processed		*Across KS2 pupils will know:* • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking *In late KS2 pupils will also know:* • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients

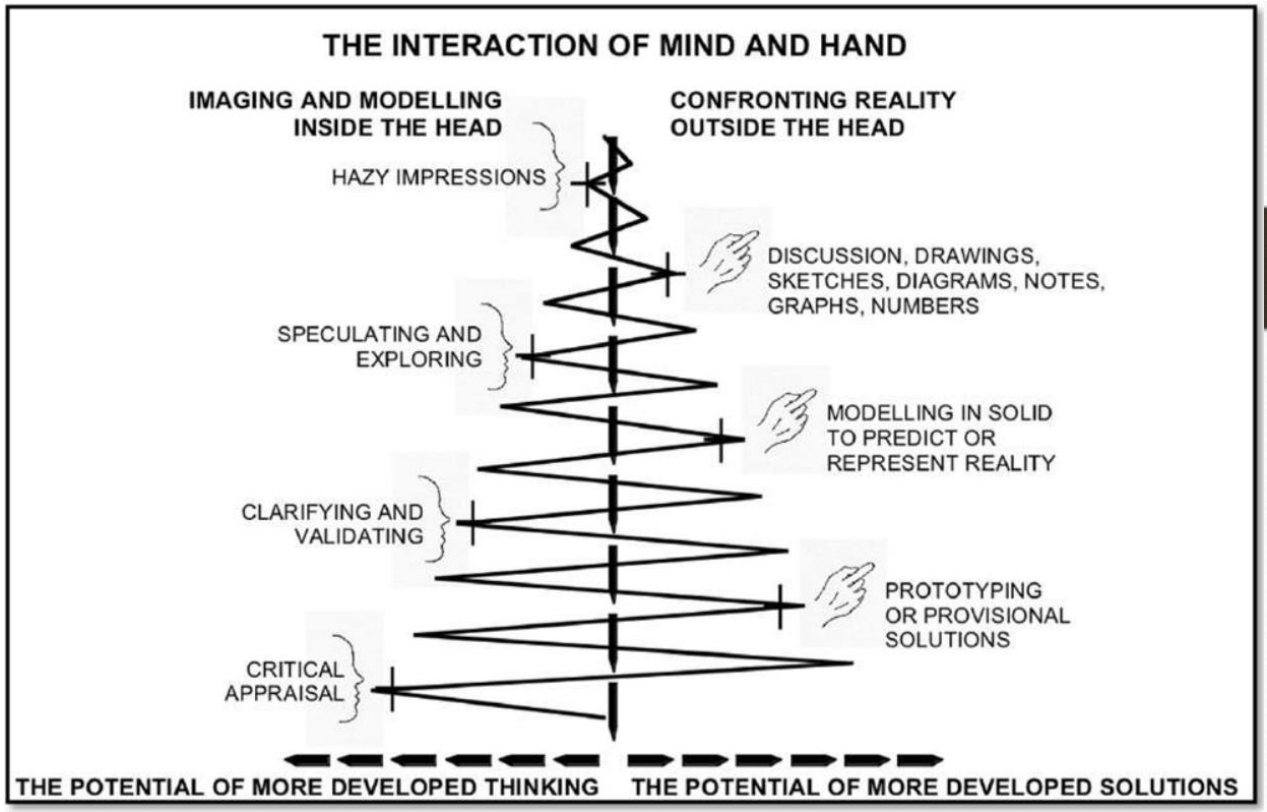
COOKING AND NUTRITION

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
• **Structures** Freestanding Structures • **Mechanisms** Wheels and Axels • **Cooking and Nutrition** Preparing fruit and vegetables	• **Textiles** Templates & Joining • **Mechanisms** Sliders & Levers • **Cooking and Nutrition** Preparing fruit and vegetables	• **Structures** Shell structures • **Mechanical Systems** Levers and Linkages • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** 2D shapes to 3D products • **Electrical Systems** Simple Circuits and Switches • **Cooking and Nutrition** Healthy and varied diet	• **Textiles** Combining different shapes • **Mechanical Systems** Pullies or gears • **Cooking and Nutrition** Celebrating Culture and Seasonality	• **Structures** Frame structures • **Electrical Systems** More complex switches • **Cooking and Nutrition** Celebrating Culture and Seasonality
Where food comes from		*Where food comes from*		*Where food comes from*	
Across KS1 pupils will know: • *that all food comes from plants or animals* • *that food has to be farmed, grown elsewhere (e.g. home) or caught*		*Across KS2 pupils will know:* • that a recipe can be adapted a by adding or substituting one or more ingredients • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world		*Across KS2 pupils will know:* • that a recipe can be adapted a by adding or substituting one or more ingredients • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world *In late KS2 pupils will also know:* • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking	
Food preparation, cooking and nutrition		*Food preparation, cooking and nutrition*		*Food preparation, cooking and nutrition*	
Across KS1 pupils will know: • how to name and sort foods into the five groups in The eatwell plate • that everyone will eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating		Across KS2 pupils will know: • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking In early KS2 pupils will also know: • that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the eatwell plate • that to be active and healthy, food and drink are needed to provide energy for the body		Across KS2 pupils will know: • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking In late KS2 pupils will also know: • that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health	

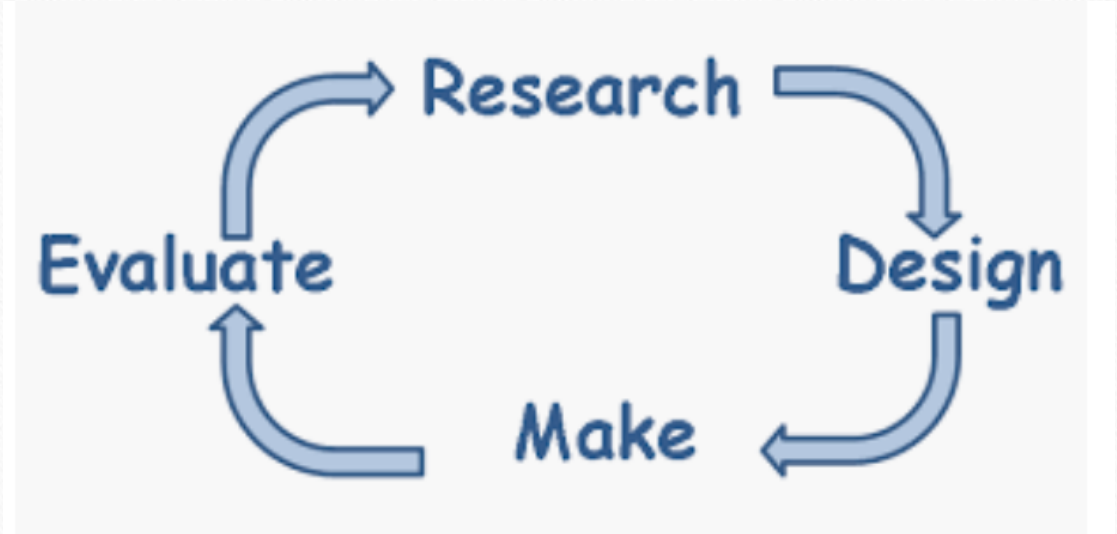
The Design Process

Iterative design is a circular design process that models, evaluates and improves designs based on the results of testing.





Consistent design approach at Houghton



Assessment

Design and Technology Assessment: Year 1

Developing, Planning and Communicating ideas.		**STRUCTURES** Freestanding structure **Beach Structure**			**MECHANISMS** Sliders and Levers **Moving Picture Book**			**COOKING AND NUTRITION** Preparing Fruit and Vegetables **Fruit Kebabs**			EVALUATIONS
I can generate an idea and with help put my ideas into practice.	*I can use pictures to describe what I want to do.*	*I can cut along straight lines and curved lines carefully using paper and card.*	*I can join materials such as glueing and taping*	*I can measure and mark out a design with some support*	*I can recognise sliders, levers, flaps etc. in books.*	*I can construct a simple slider with support.*	*I can construct a simple lever with support.*	*I recognise where food comes from*	*I can cut, peel, grate and chop fruit carefully*	*I can work safely and hygienically when preparing kebabs*	*I can talk about my own and other people's work and describe how a product works.*

Design and Technology Assessment: Year 2

Developing, Planning and Communicating ideas.		**TEXTILES** Templates and Joining **Dinosaur Puppets**		**MECHANISMS** Wheels and Axels **Wacky Races**		**COOKING AND NUTRITION** Preparing fruit and vegetables **Vegetable Dolls**		EVALUATIONS
I can generate an idea based on my experiences of working with materials and components	*I can use models, pictures and words to describe what I want to do next.*	*I can join two piece of material (felt) together using simple sewing stitches(running stitch)*	*I can use gluing techniques to decorate a piece of material (felt).*	*I can use an axel to join wheels together so they can move.*	*I can use joining techniques to construct a racer design.*	*I can safely use cutting (claw grip), slicing, grating, peeling, snipping measuring and weighing techniques*	*I can follow hygiene rules when preparing foods.*	*I can say what I like and do not like about products I have made and attempt to say why.*

Design and Technology Assessment: Year 3

Developing, Planning and Communicating ideas.		**STRUCTURES** Shell structures **Stationery Holders**			**MECHANICAL SYSTEMS** Levers and Linkages **Snappy Crocodiles**			**COOKING AND NUTRITION** Healthy and varied diet **Healthy Dips**			EVALUATIONS	
I can generate an idea to meet a range of different needs and think ahead about the order of my work.	*I can use words, labelled sketches and words to describe the details of my design.*	*I can select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.*	*I can create nets to use in my design*	*I can make a stable structure that is suitable for its purpose.*	*I can recognise levers and linkages in everyday objects.*	*I can explain the difference between a lever and a linkage.*	*I can make a crocodile that's mouth can open and shut using a linkage/ pivot.*	*I understand a balanced diet and can make healthy eating choice when choosing my ingredients.*	*I can combine a range of ingredients to make a healthy snack, working safely and hygienically.*	*I can create packaging to hold my healthy snack using nets.*	*I can talk about my design as it develops and identify what I like and don't like.*	*I can talk about changes that are needed during the design process.*

Design and Technology Assessment: Year 4

Developing, Planning and Communicating ideas.		**TEXTILES** 2D shapes to 3D products **Funky Furnishings**			**ELECTRICAL SYSTEMS** Simple Circuits and Switches **Light boxes**			**COOKING AND NUTRITION** Healthy and varied diet **Pizza**			EVALUATIONS	
I can generate and idea by collecting and using information and take users' views into account.	*I can use words, labelled sketches and models, showing that I am aware of the constraints.*	*I can join fabrics with some support use over sewing and/or back stitch.*	*I can add fastenings such as buttons and poppers,*	*I can measure and cut fabric carefully.*	*I can create a circuit*	*I can use joining techniques to construct a box.*	*I can measure, cut and join with accuracy.*	*I can safely use cutting (claw grip), slicing, grating, peeling, snipping measuring and weighing techniques.*	*I can use mixing and whisking techniques on dry and wet ingredients*	***I can follow a simple recipe.** and follow hygiene rules when preparing foods.*	*I can talk about the strengths and weaknesses of my design idea and how my design could be improved.*	*I can discuss how well the finished product meets the design criteria.*

Design and Technology Assessment: Year 5

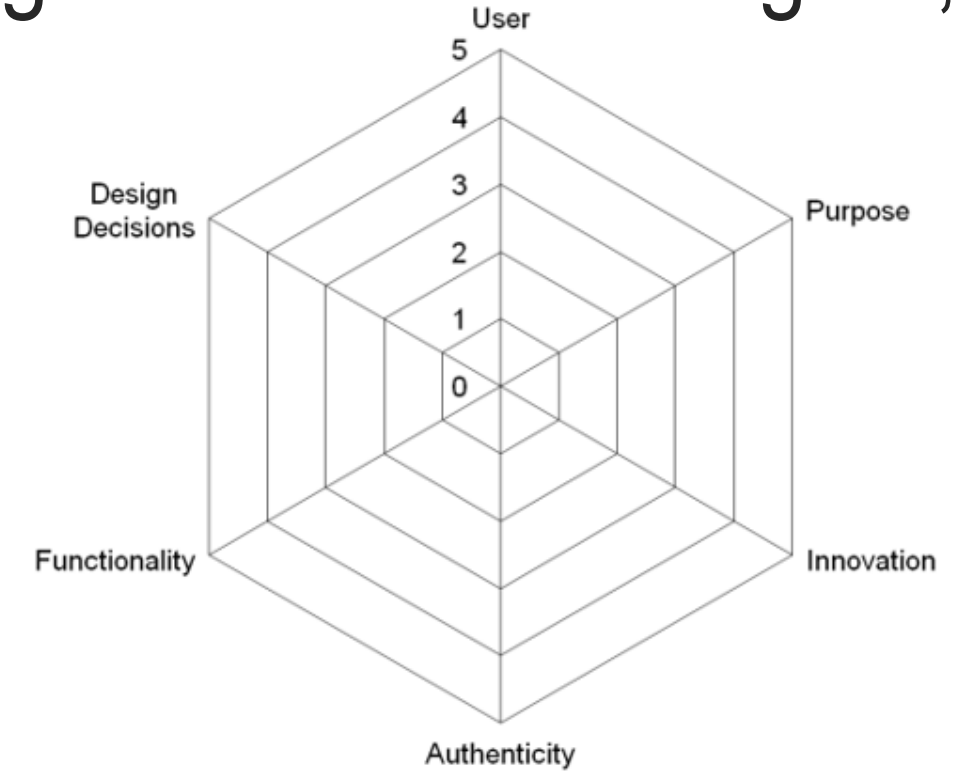
Developing, Planning and Communicating ideas.		**TEXTILES** Combining different shapes **Christmas decorations**			**MECHANICAL SYSTEMS** Pulleys or Gears **Controllable fairground toys**			**COOKING AND NUTRITION** Celebrating Culture and Seasonality **Healthy Pasties**			EVALUATIONS	
I can use various sources of information and use my understanding of the characteristics of familiar products when developing my ideas.	*I can use storyboards, models, kits and detailed drawings to formulate my design ideas.*	*I can make 3D products using pattern pieces and a seam allowance.*	*I can pin and tack pieces together.*	*I can join fabrics together using over sewing or back stitch.*	*I can build frameworks using a range of materials such as wood, card, plastic to support mechanisms.*	*I understand that mechanical and electrical systems have an input, process and an output.*	*I understand how pulleys can be used for rotational movements.*	*I can choose ingredients that are in season to create my pasie.*	*I can make pastry using mixing, rolling cutting, crimping and glazing skills to create my pasty.*	***I can adapt a simple recipe.** and follow hygiene rules when preparing foods*	*I can write an evaluation about the strength and weaknesses of my design, making suggestions about how the design can be improved.*	*I can use the design criteria to inform my decisions about ways to proceed*

HOUGHTON ON THE HILL Primary School

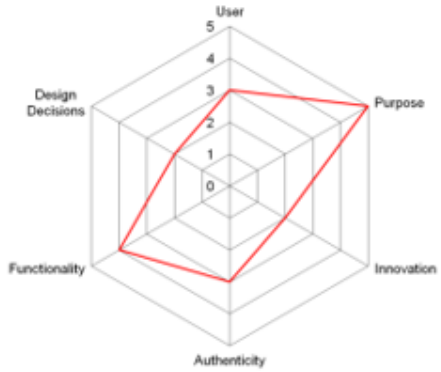
Design and Technology Assessment: Year 6

Developing, Planning and Communicating ideas.			**STRUCTURES** Frame structures **Mad Hatter's Hats**			**ELECTRICAL SYSTEMS** More complex switches **Motorised framework vehicle**		**COOKING AND NUTRITION** Celebrating Culture and Seasonality **Healthy Soup**			EVALUATIONS	
I can generate an idea in depth using found information to inform decisions.	*I can make a prototype and adapt as necessary.*	*I can write a report using correct t technical vocabulary and detailed annotated diagrams.*	*I can competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks*	*I have a good understanding of what structures are and how they can be made stronger, stiffer and more stable.*	*I can use finishing and decorative techniques suitable for the product they are designing and making.*	*I can select from and use materials /components, including construction materials and electrical components according to their functional properties and aesthetic qualities*	*I understand and use electrical systems in my products, such as series circuits incorporating switches, bulbs and buzzers*	*I can choose ingredients based on season, cost, purpose, tast and research.*	*I can use a range of cooking techniques without support and use equipment safely.*	*I can adapt a simple recipe. and follow hygiene rules when preparing foods, recognising which ingredients need to be kept in a fridge.*	*I can justify my decisions about my materials and methods of construction,*	*I can check my work as it develops and modify my approach as necessary.*

Design and technology projects include, to a greater or lesser degree, **all** of the D&T principles.



Example



We want our pupils to……

- demonstrate a secure understanding of who they are designing and making for, the purpose of the product and how it would work, and the specific criteria their product must meet to be successful
- communicate their innovative ideas and plans clearly and modify their designs and prototypes in light of their testing and evaluation
- develop technical competence, applying measurement and using tools and components with increasing accuracy to safely make well-finished products
- draw effectively upon their scientific understanding and their knowledge of mechanisms, structures, forces or the effect of heat to create and explain how their products work
- use an increasing technical vocabulary when talking or writing about what they might change as their work develops.

We want our pupils to be aware of how D and T can support Sustainable goals

We want D and T at Houghton to be……

- Progressive
- Consistent
- Challenging
- Purposeful
- Relevant
- Enjoyable