



Staindrop CE Primary School Design Technology Curriculum



"Through God's love, we are the rich soil where roots grow and seeds flourish"

Intent:

At Staindrop CE Primary School, the study of Design and 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 on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Our Aims:

- 🔧 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.
- 🔧 Through wider reading, have an understanding of the impact of STEM throughout history and within in the wider world;

Curriculum aim:
Know more, do more and remember more

Curriculum aim: Meet people, go places and make things happen

Curriculum aim: Happy, healthy global citizens

Curriculum aim: Love of Reading

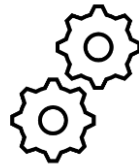
Curriculum Concepts:



DT Focus:



Structures



Mechanisms



Electrical systems



Cooking and Nutrition

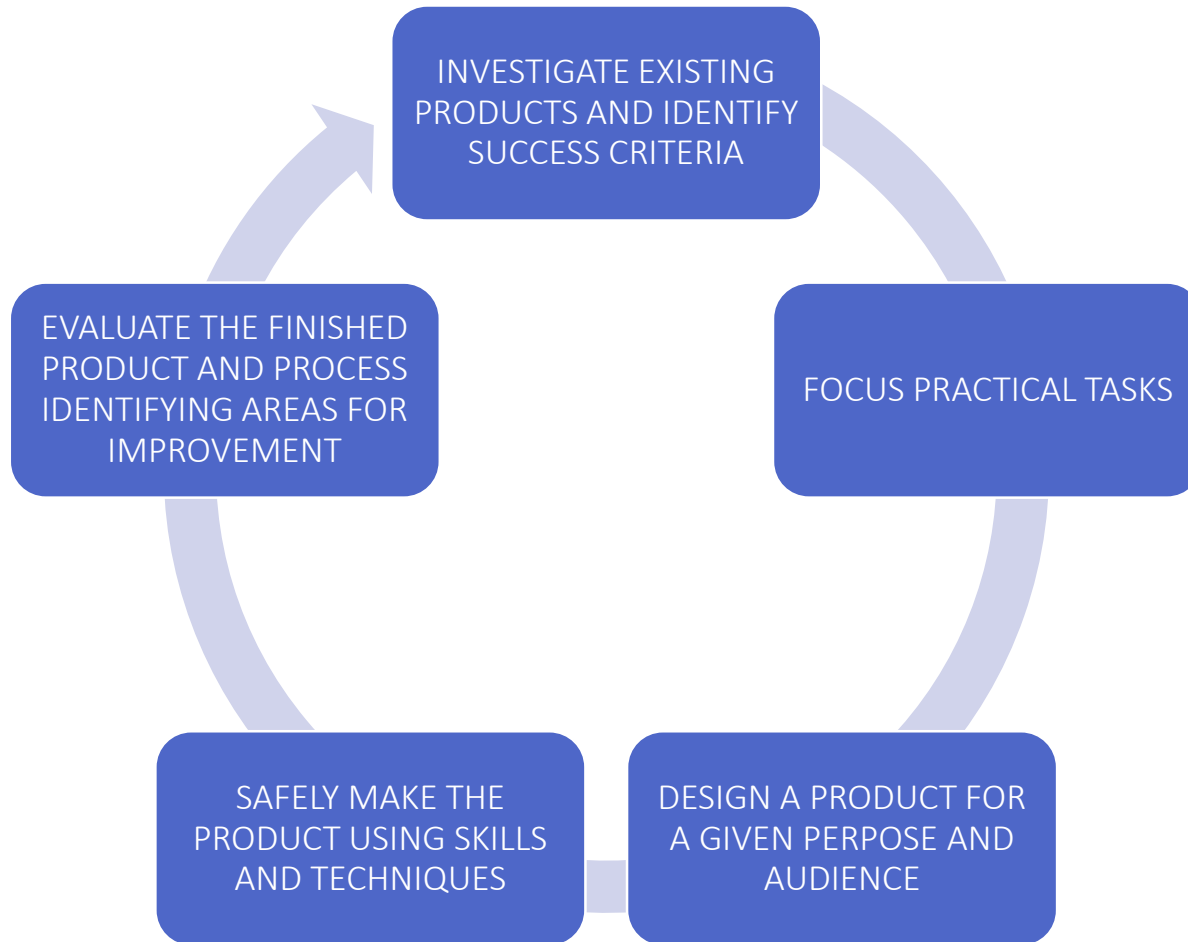


Digital World



Textiles

STRUCTURE OF A UNIT OF WORK



LESSONS FOLLOW THIS SEQUENCE ACROSS A UNIT OF WORK AND THESE ARE OUTLINED ON THE LEARNING JOURNEY.

SKILLS WITHIN UNITS BUILD ON THOSE TAUGHT IN PREVIOUS TERMS OR YEAR GROUPS.

KEY KNOWLEDGE IS IDENTIFIED IN EACH UNIT AND IS BUILT ON PROGRESSIVELY THROUGH THE MAIN AREAS OF: STRUCTURE, MECHANISMS, FOOD TECHNOLOGY, TEXTILE, ELECTRICAL & DIGITAL WORLD.

UNITS MAY BE TAUGHT OVER THE COURSE OF A TERM OR MAY BE BLOCKED INTO SHORTER PERIODS WHERE APPROPRIATE.

Viking longship automata- mechanisms (cams & gears)
Electronic Christmas cards – electrical systems (complete circuit)

Pinatas– structure

Sugar skull/cactus pin cushions- Textile

Seasonal Tudor pies & tarts- Food & nutrition

Digital World- Lego We Do: Drumming Monkey



Year 3

pop up card- Mechanisms (levers, linkages, sliders, spacers)

Stuffed Christmas decoration- textile

Bridges- Structure

Digital Word CAD design bridges, Tinkercad

LEGO We Do: Cool Cars

Egyptian bread- Food & nutrition



Year 1

Moving toys- Mechanisms (levers and sliders)

Pop-up puppets- Textiles

Igloos- Structures

Fruit kebabs- Food & nutrition

Moving trains- Mechanisms (wheels and axels)



Year 6

Felted fossil wall hangings- Textile

Digital world-Lego Wedo: Verti spin ride

Fairground rides- structure, mechanisms & electrical systems

Ration 3 course meals- Food & nutrition



Year 4

Story blanket- Textile

Healthy smoothie- Food & nutrition

volcanoes- Structure & mechanisms (pneumatic)

Buzzing quiz game- Electrical systems (buzzer and switch)

Digital world –Game logo on Sketch.io/sketchpad



Year 2

Tudor Houses- Structure

Healthy sandwich- Food & Nutrition

African purse- Textile

Moving catapults /drawbridges- Mechanisms (slingshot)



Expressive Arts & Design

They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes • They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories

EYFS

Art
knowl
edge
&
Skills:

Structures: Igloos



Y1

Design: Learning the importance of a clear design criteria
Including individual preferences and requirements in a design

Make: Making stable structures from a range of materials e.g. building blocks, card, tape and glue • Following instructions to cut and assemble the supporting structure of an igloo • Making functioning parts which are assembled into a main supporting structure. Make a large-scale group structure

Evaluate:

Evaluating an igloo according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't
Suggest points for improvements

Technical knowledge:

Describing the purpose of structures, including igloos • Learning how to turn 3d shapes can build structures e.g. bricks, cubes • Learning that the shape of materials can be changed to improve the strength and stiffness of structures • Understanding that cuboids are a strong type of structure that are often used for buildings • Understanding that shelters protect people/animals from the elements • Developing awareness of different structures for different purposes



Mechanisms: moving toys/trains



Design: Explaining how to adapt mechanisms, using bridges or guides to control the movement

Designing a moving toy for a given audience
Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move

Creating clearly labelled drawings which illustrate movement.

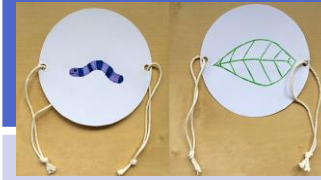
Make:

Following a design to create moving models that use levers and sliders (textile puppet)
Adapting mechanisms

Evaluate:

Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed • Reviewing the success of a product by testing it with its intended audience • Testing mechanisms, identifying what stops wheels from turning, knowing • that a wheel needs an axle in order to move

Technical knowledge: Learning that levers and sliders are mechanisms and can make things move • Identifying whether a mechanism • is a lever or slider and determining what movement the mechanism will make • Using the vocabulary: up, down, left, right, vertical and horizontal to describe movement • Identifying what mechanism makes a toy or vehicle roll forwards • Learning that for a wheel to move it must be attached to an axle
Evaluate the speed and motion of a moving vehicle



Food and Nutrition: Fruit/Veg Kebabs



Design: Designing a healthy kebab based on a food combination which work well together

Make: Chopping fruit and vegetables safely to make a kebab
identifying if a food is a fruit or a vegetable

Learning where and how fruits and vegetables grow

Evaluate: Tasting and evaluating different food combinations
Describing appearance, smell and taste
Suggesting information to be included on packaging

Technical knowledge:

Understanding the difference between fruits and vegetables
Describing and grouping fruits by texture and taste



Textiles: fabric pop up puppet



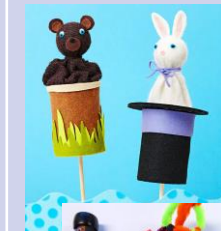
Design: Using a template to create a design for a puppet

Make: Cutting fabric neatly with scissors
Using joining methods to decorate a puppet
Sequencing steps for construction

Evaluate: • Reflecting on a finished product, explaining likes and dislikes

Technical knowledge:

Learning different ways in which to join fabrics together: pinning, stapling, gluing



DT
knowledge &
Skills:

Structures: Tudor houses



Y2

Design: Generating and communicating ideas using sketching and modelling • Learning about different types of structures, found in the natural world and in everyday objects. Designing a building with key features to appeal to a specific person/ purpose • Drawing and labelling a building design using 2D shapes, labelling: - the 3D shapes that will create the features - materials need and colours

Make: Making a structure according to design criteria • Creating joints and structures from paper/card and tape. Constructing a range of 3D geometric shapes using nets • Creating special features for individual designs • Making facades from a range of recycled materials

Evaluate: 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

Technical knowledge: Identifying natural and man-made structures • Identifying when a structure is more or less stable than another • Understanding that the shape of a structure affects its strength • Using the vocabulary: strength, stiffness and stability • Identifying features of a building • Identifying suitable materials to be selected and used for a building, considering weight, compression, tension • Extending the knowledge of wide and flat based objects are more stable • Understanding the terminology of strut, tie, span, beam • Understanding the difference between frame and shell structure

Mechanisms: Moving gargoyle

Design: Creating a class design criteria for a moving monster • Designing a moving monster for a specific audience in accordance with a design criteria • Selecting a suitable linkage system to produce the desired motions •

Make: • 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 • Selecting materials according to their characteristics • Following a design brief

Evaluate: Evaluating own designs against design criteria • Using peer feedback to modify a final design • Evaluating different designs • Testing and adapting a design

Technical knowledge: Learning that mechanisms are a collection of moving parts that work together in a machine • Learning that there is an input and output in a mechanism • Identifying mechanisms in everyday objects • Learning that a lever is something that turns on a pivot • Learning that a linkage is a system of levers that are connected by pivots •



Food and Nutrition: Healthy sandwich



Design: Designing a healthy sandwich based on a food combination which work well together

Make: Slicing food safely using the bridge or claw grip

Evaluate: Describing the taste, texture and smell of fruit and vegetables
Taste testing food combinations and final products
Describing the information that should be included on a label
Evaluating which grip was most effective

Technical knowledge: Understanding what makes a balanced diet • Knowing where to find the nutritional information on packaging • Knowing the five food groups



Textiles: African purse

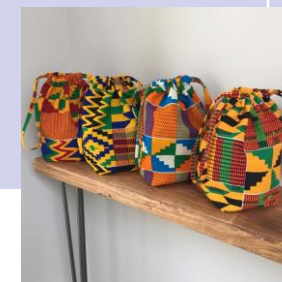


Design: Designing a fabric pouch

Make: Selecting and cutting fabrics for sewing • Decorating a pouch using fabric glue or running stitch

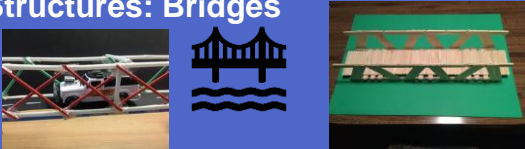
Evaluate: Troubleshooting scenarios posed by teacher • Evaluating the quality of the stitching on others' work • Discussing as a class, the success of their stitching against the success criteria • Identifying aspects of their peers' work that they particular

Technical knowledge: Joining items using fabric glue or stitching • Identifying benefits of these techniques • Threading a needle • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric • Neatly pinning and cutting fabric using a template Use pattern matching to create a quality appearance




DT
knowl
edge
Skills:

Structures: Bridges



Mechanisms: Pop up card



**Food and Nutrition:
Egyptian bread**



**Textiles: christmas
decoration**




Y3

Design: Designing a stable structure that is able to support weight • Creating frame structure with focus on triangulation

Make: Making a range of different shaped beam bridges • Using triangles to create truss bridges that span a given distance and supports a load • Building a wooden bridge structure • Independently measuring and marking wood accurately • Selecting appropriate tools and equipment for particular tasks • Using the correct techniques to saws safely • Identifying where a structure needs reinforcement and using card corners for support

Evaluate: Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary • Suggesting points for improvements for own bridges and those designed by others

Technical knowledge: Exploring how to create a strong beam • Identifying arch and beam bridges and understanding the terms: compression and tension • Identifying stronger and weaker structures • Finding different ways to reinforce structures • Understanding how triangles can be used to reinforce bridges • Articulating the difference between beam, arch, truss and suspension bridges




Design: • Designing a popup card which uses a mixture of structures and mechanisms • Naming each mechanism, input and output accurately • Sketching ideas for a design

Make: Following a design brief to make a pop-up card, 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

Evaluate: Evaluating the work of others and receiving feedback on own work • Suggesting points for improvement

Technical knowledge: Knowing that an input is the motion used to start a mechanism • Knowing that output is the motion that happens as a result of starting the input • Knowing that mechanisms control movement • Describing mechanisms that can be used to change one kind of motion into another

DIGITAL WORLD-CAD Design Bridges
Tinkercad
LEGO WE DO: cool cars-pulley and belt system 




Design: Designing bread within a given budget, drawing upon previous taste testing

Make: Following a baking recipe • Cooking safely, following basic hygiene rules • Adapting a recipe

Evaluating:
Evaluating a recipe, considering taste, smell, texture and appearance • Describing the impact of the method on the final outcome
Evaluating and comparing a range of products • Suggesting modifications

Technical knowledge:
Working with cooking equipment safely and hygienically Know the importance of different ingredients/processes and the role they play within a recipe e.g. yeast, water, sugar, kneading, proving




Design: Designing and making a template from an existing decoration and applying individual design criteria

Make: • Following design criteria to create a cushion • Selecting and cutting fabrics with ease using fabric scissors and a pattern template • Sewing cross stitch/blanket stitch to join fabric • Completing design ideas with stuffing and sewing the edges

Evaluate: Evaluating an end product and thinking of other ways in which to create similar items

Technical knowledge: • Threading needles with greater independence • Tying knots with greater independence • Sewing cross stitch and appliqué • Understanding the need to count the thread on a piece of even weave fabric in each direction to create uniform size and appearance • Understanding that fabrics can be layered for effect





Y4

Design: Designing a volcano featuring a variety of different structures, giving careful consideration to how the structures will be built up in layers.

Make: • Building a layered structure drawing upon new and prior knowledge of structures • Measuring, marking and cutting corrugated cards • Using a range of materials to reinforce and add decoration to structures

Evaluate: 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

Technical knowledge: Knowing that structures can be strengthened by manipulating materials and shapes • Understanding man made and natural structures



Design: Designing a toy which uses a pneumatic system • Developing design criteria from a design brief • Generating ideas using thumbnail sketches and exploded diagrams • Learning that different types of drawings are used in design to explain ideas clearly

Make: Creating a pneumatic system to create a desired motion • Building secure housing for a pneumatic system • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy • Selecting materials due to their functional and aesthetic characteristics • Manipulating materials to create different effects by cutting, creasing, folding, weaving

Evaluate: Using the views of others to improve designs • Testing and modifying the outcome, suggesting improvements

Technical knowledge: Understanding how pneumatic systems work • Learning that mechanisms are a system of parts that work together to create motion • Understanding that pneumatic systems can be used as part of a mechanism • Learning that pneumatic systems force air over a distance to create movement and air resistance

Design: Designing a game, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas

Make: • Making a game with a working electrical circuit and switch • Using appropriate equipment to cut and attach materials • Assembling a game according to the design and success criteria

Evaluate: • Evaluating electrical products • Testing and evaluating the success of a final product and taking inspiration from the work of peers

Technical knowledge: Learning how electrical items work • Identifying electrical products • Learning what electrical conductors and insulators are • Understanding that a battery contains stored electricity and can be used to power products • Identifying the features of a game • Understanding how an electrical game works • Articulating the positives and negatives about different games.

DIGITAL WORLD-Game
logo Sketchpad.io 
Lego We Do: Monster carousel: crown
gear, sound recordings, Motor speed,

Design: Designing a smoothie within a given budget, drawing upon previous taste testing

Make: Following a smoothie • Cooking safely, following basic hygiene rules • Adapting a recipe

Evaluate: Evaluating a recipe, considering taste, smell, texture and appearance • Describing the impact of the budget on the selection of ingredients • Evaluating and comparing a range of products • Suggesting modifications

Technical knowledge: Learning that climate affects food growth Understanding the impact of the cost and importance of budgeting while planning ingredients for smoothies e.g. fresh v frozen • Understanding the environmental impact on future product and cost of production Learning that imported foods travel from far away and this can negatively impact the environment • Learning that vegetables and fruit grow in certain seasons • Learning that each fruit and vegetable gives us nutritional benefits •

Design: • Writing design criteria for a product, articulating decisions made • Designing personalised story quilt squares

Make: Making and testing a paper template with accuracy and in keeping with the design criteria • Measuring, marking and cutting fabric using a paper template • Selecting a stitch style to join fabric • Incorporating fastening to a design Use of fabric pens/paints and fabric glue

Evaluate: • Testing and evaluating an end product against the original design criteria • Deciding how many of the criteria should be met for the product to be considered successful • Suggesting modifications for improvement

Technical knowledge: Understanding that there are different types of fastenings and what they are • Articulating the benefits and disadvantages of different fastening types



DT knowl edge Skills:	Structures: Pinatas 	Mechanisms: Viking longship automata  	Electrical systems: Light up Christmas card  Makerspaces.com	Food and Nutrition: Tudor tarts/pies  	Textiles: Cactus pin cushion 
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Y5

Design: Designing a pinata featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.

Make: • Building a group structure drawing upon new and prior knowledge of structures • Measuring, marking and cutting corrugated card to create a range of structures • Using a range of materials to reinforce and add decoration to structures Use materials to create catches/latches to secure a door/flap

Evaluate: 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

Technical knowledge: Knowing that structures can be strengthened by manipulating materials and shapes • Identifying the shell structure in everyday life (cars, aeroplanes, tins, cans) • Understanding man made

Design: After experiment of cams, creating a design for an automata toy based on a choice of cam to create a desired movement • Understanding how linkages change the direction of a force • Making things move at the same time

Make: • Measuring, marking and checking the accuracy of the jelutong and dowel pieces required • Measuring, marking and cutting components accurately using a ruler and scissors • Assembling components accurately to make a stable frame • Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles • Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set

Evaluate: • Evaluating the work of others and receiving feedback on own work • Applying points of improvements • Describing changes they would make/ do if they were to do the project again

Technical knowledge: Using a bench hook to saw safely and effectively • Exploring cams, learning that different shaped cams produce different follower movements • Exploring types of motions and direction of a motion

Design: Designing an electronic greetings card with a simple electrical control circuit • Creating a labelled design showing positive and negative parts in relation to the LED and the battery

Make: • Making a working circuit • Creating an electronics greeting card, referring to a design criteria • Mapping out where different components of the circuit will go

Evaluate: Evaluating a completed product against the original design sheet and looking at modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of electronic device, eg: led

Technical knowledge:

- Learning the key components used to create a functioning circuit • Learning that graphite is a conductor and can be used as part of a circuit • Learning the difference between series and parallel circuits • Understanding that breaks in a circuit will stop it from working

Design:Creating a healthy and nutritious recipe for a savoury tart using seasonal/local ingredients, considering the taste, texture, smell and appearance of the dish

Make:Knowing how to prepare themselves and a workspace to cook safely in, learning the basic rules to avoid food contamination • Following the instructions within a recipe

Evaluate:Establishing and using design criteria to help test and review dishes • Describing the benefits of seasonal fruits and vegetables and the impact on the environment • Suggesting points for improvement when making a seasonal tart Describe the properties/pros and cons of different types of pastry

Technical knowledge: •understand the positive impact using locally sourced produce can provide. Working with cooking equipment safely and hygienically

- Learning to use, store and clean a knife safely

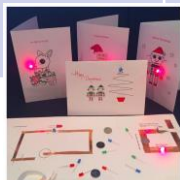
To investigate how cooking techniques can affect a final product e.g., blind baking Compare the Nutritional values of two recipes and decide which one has the most benefits

Design:Designing a stuffed toy considering the main component shapes required and creating an appropriate template • Considering proportions of individual components

Make: Creating a 3D stuffed toy from a 2D design • Measuring, marking and cutting fabric accurately and independently • Creating strong and secure blanket stitches when joining fabric • Using applique to attach pieces of fabric decoration

Evaluate: Testing and evaluating an end product and giving point for further improvements

Technical knowledge: • Learning to sew blanket stitch to join fabric • Applying blanket stitch so the space between the stitches are even and regular • Threading needles independently



DIGITAL WORLD-
Lego We Do: DRUMMING MONKEY-
DUAL CAM SYSTEM 





Y6

Design: Designing a stable fairground structure that is aesthetically pleasing and selecting materials to create a desired effect • Building frame structures designed to support weight Use a range of materials to prototype

Make: 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 for the cladding • Reinforcing corners to strengthen a structure • Creating a design in accordance with a plan • Learning to create different textural effects with materials

Evaluate: Evaluating structures made by the class • Describing what characteristics of a design and construction made it the most effective • Considering effective and ineffective designs

Technical knowledge: • Learning what Ferris wheels/carousels are and their purpose • Building on prior knowledge of net structures and broadening knowledge of frame structures • Learning that architects consider light, shadow and patterns when designing • Implementing frame and shell structure knowledge • Considering effective and ineffective designs

Design: 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

- **Make:** Measuring, marking, cutting and assembling with increasing accuracy in a range of materials e.g. card, wood, plastic • Making a model based on a chosen design
- Draw on skills developed over time and apply with increasing confidence.
- **Evaluate:** Evaluating structures made by the class • Describing what characteristics of a design and construction made it the most effective • Considering effective and ineffective designs
- Explore and make adjustments to designs as construction develops. Annotate changes on plans
- Identify next steps

Technical knowledge: Learning that products change and evolve over time • Learning that all moving things have kinetic energy • Understanding that kinetic energy is the energy that something (object person) has by being in motion

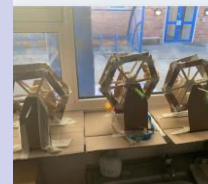
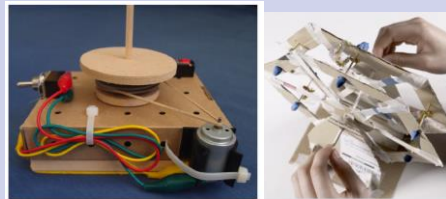


Design: Designing a circuit - identifying and naming the components required • Drawing a design from three different perspectives • Generating ideas through sketching and discussion • Modelling ideas through prototypes

Make: Making electromagnetic motors and tweaking the motor to improve its function • Constructing a stable base for an electromagnetic ride • Accurately cutting, folding and assembling a net • Decorating the base of the ride to a high-quality finish • Making and testing a circuit • Incorporating a circuit into a base To use control software to control the circuit

Evaluate: Testing own and others finished rides, identifying what went well and making suggestions for improvement

Technical knowledge: Understanding how electromagnetic motors work • Learning that batteries contain acid, which can be dangerous if they leak • Learning that when electricity enters a magnetic field it can make a motor



• **Design:** 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 Writing a recipe, explaining the key steps, method and ingredients • Including facts and drawings from research undertaken

Make: Following a recipe, including using the correct quantities of each ingredient • Adapting a recipe based on research • Working to a given timescale • Working safely and hygienically with independence

Evaluate: Evaluating a recipe, considering taste, smell, texture and origin of the food group • Taste testing and scoring final products • Suggesting and writing up points of improvements in productions • Evaluating health and safety in production to minimise cross contamination

Technical knowledge: Learning how to research a recipe by ingredient • Recording the relevant ingredients and equipment needed for a recipe • Understanding the combinations of food that will complement one another • Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredient



DIGITAL WORLD-
Lego We Do: VERTISPIN FAIRGROUND
RIDE Motion sensor input, worm and
bevel gears,

Design: Designing a Wall hanging in accordance with specification linked to set of design criteria to fit a specific theme • Drawing inspiration from local crafts people Annotating designs

Make: • Use wet felting techniques to create a felted background fabric
Decorating fabric using appliqué
Using template
pinning pieces onto fabric •
Marking and cutting fabric
accurately, in accordance with a
design • Sewing a strong running
stitch, making small, neat stitches
and following the edge • Tying
strong knots • Decorating by
attaching objects using thread and
use of decorative stitches

Evaluate: Evaluating work continually as it is created

Technical knowledge: Learning different decorative stitches • Application and outcome of the felting technique • Sewing accurately with even regularity of stitches



KS2 Progression in Control/Robotics



YEAR 3

YEAR 4

YEAR 5

YEAR 6



Cool cars

Basic chassis
Pulleys and belt system
Motor output
The children then write algorithms to control their car before designing the body with their own creative Lego designs.

Monster Merry go round

Motor output/LED/Sound outputs-speed and duration
Crown gear-rotational movement
Own Sound recordings
The children then write algorithms using the WeDo 2.0 APP to control their fairground and have the opportunity to upgrade/improve the carousel with their own creative Lego designs

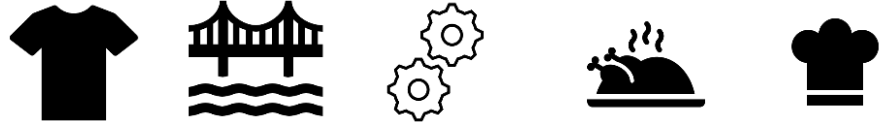
Drumming Monkey





Dual cam system –linear movement
Cam adjustment to create varied rhythms & patterns
Music outputs
The children are encouraged to add their own sounds as well as upgrade using Lego pieces


Verti Spin Ride







Input sensors
Bevel gear
Worm gear
Multi directional movement
Pupils are encouraged to experiment with the programming as well as decorate or upgrade the ride to make it even more exciting.

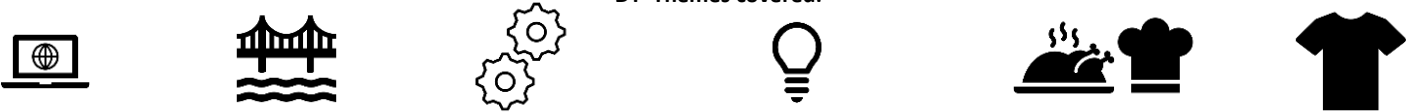
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Build Make Tall Short Roll Swing Hammer Turn on/off Stick Cut Glue Break/fix Sellotape Tear	Igloo Structure Shelter construction 3 dimensions Cube, cuboid, cylinder Bricks Support strength Purpose Design Wheels Axels Vertical Horizontal Lever Slider Attach Chop Fruit Vegetable Combine Taste Texture Puppet Joining Fabric	Pitched roof Façade Frame]shell Triangular gables Chimney Windows Thatched Jetty Parallel Net Recyclable materials Strengthening Stiffness Stability Wide base Strut Tie Span Beam Levers Pivot Linkage Split pins Machine Input/output Slicing Claw grip Label Balanced diet Healthy Nutrition Packaging Food groups Running stitch Threading Evenly spaced Pinning Cutting Template Drawstring	Triangulation Beam bridge Truss bridge Arch bridge Suspension bridge Distance Load Saw Reinforcement Weakness Compression Tensions Spacers Mechanical part Aesthetically pleasing Mechanism Motion Control Kneading Proving Baking Ingredients Yeast Measuring Hygiene Label Stuffing Decoration Cross-stitch Blanket stitch Uniform Layering CAD-Computer aided design ALGORITHM	Papier Mache Mod Roc Corrugated card Man-made/ natural structures Moldable Sculpture Rigid Pulp Making tape Decoupage Pneumatics Air resistance Exploded diagrams Syringe Target audience Success criteria Conductors Insulators Battery Circuit Switch Troubleshoot Positive/negative Logo/brand Budget Hygiene Appearance Modifications Climate Environmental Impact Production Imported seasonal	Effective/ ineffectiveness Measuring Marking cutting Catches/latches Temporary/permanent fixings Failure analysis Automata Cams Followers Slider Rotational movement Linear movement Bench hook Hack saw Dowel Components Series parallel Circuit breaks LED-Light emitting diode Locally sourced Provenance Cooking technique Blind baking Pre-cooking Contamination Herbs/spices Seasoning Filo/puff/short crust/choux pastry Running/whip/cross/chain stitch Applique Proportions Pattern Cushion Micro bit code Programming thermostat	Prototype Free-standing Cladding Ferris wheel/carousel Air resistance Kinetic energy Electromagnetic motor Substitute Quantities Timescale Health & Safety Farm to fork Wet felting Decorative stitches Regularity Control loop Feedback Commands De-bugging


<p><u>Year 1 DT assessment</u> Topics: Igloos, moving toys/mechanisms, fruit/veg kebabs, pop-up puppets</p>	<p>DT Themes covered:</p> 	<p>Prior Learning:</p> <ul style="list-style-type: none"> • Junk modelling • Making playdough • Baking biscuits • Working with a range of materials-loose parts play, construction area • Threading laces/fine motor skills <ul style="list-style-type: none"> • Den building 			
<p>Pupils Working towards expected:</p>	<p>Skills/concepts Covered:</p>	<p>Pupils working at Greater Depth:</p>			
	<p>AUTUMN Following a design to create moving models that use levers and sliders Adapting mechanisms Designing a moving toy for a given audience Cutting fabric neatly with scissors Using joining methods to decorate a puppet Sequencing steps for construction</p> <p>SPRING Making stable structures from a range of materials e.g. building blocks, card, tape and glue • Following instructions to cut and assemble the supporting structure of an igloo • Making functioning parts which are assembled into a main supporting structure. Make a large- scale group structure Chopping fruit and vegetables safely to make a kebab identifying if a food is a fruit or a vegetable Learning where and how fruits and vegetables grow</p> <p>SUMMER Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move Creating clearly labelled drawings which illustrate movement.</p>				
	<table border="1"> <tr> <td data-bbox="705 1382 1110 1422"> <p>Core Knowledge: TERM 1</p> <ul style="list-style-type: none"> • Know that levers and sliders are mechanisms and can make things move • Identifying whether a mechanism is a lever or slider and determining what movement the mechanism will make • Using the vocabulary: up, down, left, right, vertical and horizontal to describe movement • Name different ways in which to join fabrics together: pinning, stapling, gluing </td> <td data-bbox="1110 1382 1516 1422"> <p>Core Knowledge: TERM 2</p> <ul style="list-style-type: none"> • Know the purpose of structures, including igloos • know how to turn 3d shapes can build structures e.g. bricks, cubes • know that the shape of materials can be changed to improve the strength and stiffness of structures • Know that cuboids are a strong type of structure that are often used for buildings • know that shelters protect people/animals from the elements • Name different structures for different purposes • Know the difference between fruits and vegetables • Describe and grouping fruits by texture and taste </td> <td data-bbox="1516 1382 1921 1422"> <p>Core Knowledge: TERM 3</p> <ul style="list-style-type: none"> • know what mechanism makes a toy or vehicle roll forwards • know that for a wheel to move it must be attached to an axle • Name something that affects the speed and motion of a moving vehicle </td> </tr> </table>	<p>Core Knowledge: TERM 1</p> <ul style="list-style-type: none"> • Know that levers and sliders are mechanisms and can make things move • Identifying whether a mechanism is a lever or slider and determining what movement the mechanism will make • Using the vocabulary: up, down, left, right, vertical and horizontal to describe movement • Name different ways in which to join fabrics together: pinning, stapling, gluing 	<p>Core Knowledge: TERM 2</p> <ul style="list-style-type: none"> • Know the purpose of structures, including igloos • know how to turn 3d shapes can build structures e.g. bricks, cubes • know that the shape of materials can be changed to improve the strength and stiffness of structures • Know that cuboids are a strong type of structure that are often used for buildings • know that shelters protect people/animals from the elements • Name different structures for different purposes • Know the difference between fruits and vegetables • Describe and grouping fruits by texture and taste 	<p>Core Knowledge: TERM 3</p> <ul style="list-style-type: none"> • know what mechanism makes a toy or vehicle roll forwards • know that for a wheel to move it must be attached to an axle • Name something that affects the speed and motion of a moving vehicle 	
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<p><u>Year 2 DT assessment</u> Topics:</p>	<p>DT Themes covered:</p>    			<p>Prior Learning: -fruit kebabs -moving toys -igloos -pop-up puppets</p>			
<p>Pupils Working towards expected:</p>	<p>Skills/concepts Covered:</p>			<p>Pupils working at Greater Depth:</p>			
	<p>AUTUMN Generate and communicate ideas using sketching and modelling • Learn about different types of structures, found in the natural world and in everyday objects. Design a building with key features to appeal to a specific person/ purpose • Draw and label a building design using 2D shapes and 3D shapes that will create the features - materials need and colours Making a structure according to design criteria Creating joints and structures from paper/card and tape. Construct a range of 3D geometric shapes using nets • Creating special features for individual designs • Making facades from a range of recycled materials Exploring the features of structures • Comparing the stability of different shapes • Testing the strength of own structures • Identifying the weakest part of a structure- Evaluate the strength, stiffness and stability of own structure</p> <p>Design a healthy sandwich based on a food combination which work well together Slice food safely using the bridge or claw grip Describe the taste, texture and smell of fruit and vegetables Taste test food combinations and final products Describing the information that should be included on a label Evaluating which grip was most effective</p> <p>SPRING Creating a class design criteria for a moving monster • Designing a moving monster for a specific audience in accordance with a design criteria • Selecting a suitable linkage system to produce the desired motions • 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 • Selecting materials according to their characteristics • Following a design brief Evaluating own designs against design criteria • Using peer feedback to modify a final design • Evaluating different designs • Testing and adapting a design</p> <p>SUMMER Designing a fabric pouch Selecting and cutting fabrics for sewing • Decorating a pouch using fabric glue or running stitch Troubleshooting scenarios posed by teacher • Evaluating the quality of the stitching on others' work • Discussing as a class, the success of their stitching against the success criteria • Identifying aspects of their peers' work that they particular</p> <table border="1" data-bbox="614 982 2010 1332"> <tr> <td data-bbox="614 982 1110 1332"> <p>Core Knowledge: TERM 1 Understanding what makes a balanced diet • Knowing where to find the nutritional information on packaging • Knowing the five food groups Identifying natural and man-made structures • Identifying when a structure is more or less stable than another • Understanding that the shape of a structure affects its strength • Using the vocabulary: strength, stiffness and stability • Identifying features of a building • Identifying suitable materials to be selected and used for a building, considering weight, compression, tension • Extending the knowledge of wide and flat based objects are more stable • Understanding the terminology of strut, tie, span, beam • Understanding the difference between frame and shell structure</p> </td> <td data-bbox="1110 982 1516 1332"> <p>Core Knowledge: TERM 2 Joining items using fabric glue or stitching • Identifying benefits of these techniques • Threading a needle • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric • Neatly pinning and cutting fabric using a template Use pattern matching to create a quality appearance</p> </td> <td data-bbox="1516 982 2010 1332"> <p>Core Knowledge: TERM 3 Learning that mechanisms are a collection of moving parts that work together in a machine • Learning that there is an input and output in a mechanism • Identifying mechanisms in everyday objects • Learning that a lever is something that turns on a pivot • Learning that a linkage is a system of levers that are connected by pivots •</p> </td> </tr> </table>			<p>Core Knowledge: TERM 1 Understanding what makes a balanced diet • Knowing where to find the nutritional information on packaging • Knowing the five food groups Identifying natural and man-made structures • Identifying when a structure is more or less stable than another • Understanding that the shape of a structure affects its strength • Using the vocabulary: strength, stiffness and stability • Identifying features of a building • Identifying suitable materials to be selected and used for a building, considering weight, compression, tension • Extending the knowledge of wide and flat based objects are more stable • Understanding the terminology of strut, tie, span, beam • Understanding the difference between frame and shell structure</p>	<p>Core Knowledge: TERM 2 Joining items using fabric glue or stitching • Identifying benefits of these techniques • Threading a needle • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric • Neatly pinning and cutting fabric using a template Use pattern matching to create a quality appearance</p>	<p>Core Knowledge: TERM 3 Learning that mechanisms are a collection of moving parts that work together in a machine • Learning that there is an input and output in a mechanism • Identifying mechanisms in everyday objects • Learning that a lever is something that turns on a pivot • Learning that a linkage is a system of levers that are connected by pivots •</p>	
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<p>% On Track : _____</p>							

<p>Year 3 DT assessment</p> <p>Topics:</p> <ul style="list-style-type: none"> -Fabric Christmas decorations -Pop up Christmas cards -bridges -Egyptian Bread 	<p>DT Themes covered:</p> 	<p>Prior Learning:</p> <ul style="list-style-type: none"> • African textile purses • Healthy sandwich • Tudor houses • moving gargoyles 	
<p>Pupils Working towards expected:</p>	<p>Skills/concepts Covered:</p>	<p>Pupils working at Greater Depth:</p>	
	<p>AUTUMN</p> <p>Designing and making a template from an existing decoration and applying individual design criteria Following design criteria to create a cushion • Selecting and cutting fabrics with ease using fabric scissors and a pattern template • Sewing cross stitch/blanket stitch to join fabric • Completing design ideas with stuffing and sewing the edges Evaluating an end product and thinking of other ways in which to create similar items Designing a popup card which uses a mixture of structures and mechanisms • Naming each mechanism, input and output accurately • Sketching ideas for a design Following a design brief to make a pop-up card, 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</p> <p>SPRING</p> <p>Designing a stable structure that is able to support weight • Creating frame structure with focus on triangulation Making a range of different shaped beam bridges • Using triangles to create truss bridges that span a given distance and supports a load • Building a wooden bridge structure • Independently measuring and marking wood accurately • Selecting appropriate tools and equipment for particular tasks • Using the correct techniques to saws safely • Identifying where a structure needs reinforcement and using card corners for support Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary • Suggesting points for improvements for own bridges and those designed by others</p> <p>SUMMER</p> <p>Designing bread within a given budget, drawing upon previous taste testing Following a baking recipe Cooking safely, following basic hygiene rules • Adapting a recipe Evaluating a recipe, considering taste, smell, texture and appearance • Describing the impact of the method on the final outcome Evaluating and comparing a range of products • Suggesting modifications</p>		
	<p>Core Knowledge: TERM 1</p> <p>Threading needles with greater independence • Tying knots with greater independence • Sewing cross stitch and appliqué • Understanding the need to count the thread on a piece of even weave fabric in each direction to create uniform size and appearance • Understanding that fabrics can be layered for effect</p> <p>Knowing that an input is the motion used to start a mechanism • Knowing that output is the motion that happens as a result of starting the input • Knowing that mechanisms control movement • Describing mechanisms that can be used to change one kind of motion in</p>	<p>Core Knowledge: TERM 2</p> <p>•Exploring how to create a strong beam • Identifying arch and beam bridges and understanding the terms: compression and tension • Identifying stronger and weaker structures • Finding different ways to reinforce structures • Understanding how triangles can be used to reinforce bridges • Articulating the difference between beam, arch, trus</p>	<p>Core Knowledge: TERM 3</p> <p>Working with cooking equipment safely and hygienically Know the importance of different ingredients/processes and the role they play within a recipe e.g. yeast, water, sugar, kneading, proving</p>

<p>Year 4 DT assessment</p> <p>Topics:</p> <ul style="list-style-type: none"> -Electrical buzzer game -textile story quilt -pneumatic volcanoes -healthy smoothies with packaging 	<p>DT Themes covered:</p> <div style="display: flex; justify-content: space-around; align-items: center;">       </div>	<p>Prior Learning:</p> <ul style="list-style-type: none"> -Bridges structure -pop up cards -felt hanging decorations -Healthy sandwiches 			
<p>Pupils Working towards expected:</p>	<p>Skills/concepts Covered:</p>	<p>Pupils working at Greater Depth:</p>			
	<p>AUTUMN Designing a game, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas Making a game with a working electrical circuit and switch • Using appropriate equipment to cut and attach materials • Assembling a game according to the design and success criteria • Evaluating electrical products • Testing and evaluating the success of a final product and taking inspiration from the work of peers Writing design criteria for a product, articulating decisions made • Designing personalised story quilt squares Making and testing a paper template with accuracy and in keeping with the design criteria • Measuring, marking and cutting fabric using a paper template • Selecting a stitch style to join fabric • Incorporating fastening to a design Use of fabric pens/paints and fabric glue Testing and evaluating an end product against the original design criteria • Deciding how many of the criteria should be met for the product to be considered successful • Suggesting modifications for improvement</p> <p>SPRING Designing a smoothie within a given budget, drawing upon previous taste testing Following a smoothie • Cooking safely, following basic hygiene rules • Adapting a recipe Evaluating a recipe, considering taste, smell, texture and appearance • Describing the impact of the budget on the selection of ingredients • Evaluating and comparing a range of products • Suggesting modifications</p> <p>SUMMER Designing a volcano featuring a variety of different structures, giving careful consideration to how the structures will be built up in layers. Building a layered structure drawing upon new and prior knowledge of structures • Measuring, marking and cutting corrugated cards • 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 Designing a toy which uses a pneumatic system • Developing design criteria from a design brief • Generating ideas using thumbnail sketches and exploded diagrams • Learning that different types of drawings are used in design to explain ideas clearly Creating a pneumatic system to create a desired motion • Building secure housing for a pneumatic system • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy • Selecting materials due to their functional and aesthetic characteristics • Manipulating materials to create different effects by cutting, creasing, folding, weaving Using the views of others to improve designs • Testing and modifying the outcome, suggesting improvements</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e6f2ff; width: 33%; padding: 5px;"> <p>Core Knowledge: TERM 1</p> <p>Understanding that there are different types of fastenings and what they are • Articulating the benefits and disadvantages of different fastening types</p> <p>Technical knowledge: Learning how electrical items work • Identifying electrical products • Learning what electrical conductors and insulators are • Understanding that a battery contains stored electricity and can be used to power products • Identifying the features of a game • Understanding how an electrical game works • Articulating the positives and negatives about different games.</p> </td> <td style="background-color: #e6f2ff; width: 33%; padding: 5px;"> <p>Core Knowledge: TERM 2</p> <p>Learning that climate affects food growth Understanding the impact of the cost and importance of budgeting while planning ingredients for smoothies e.g. fresh v frozen • Understanding the environmental impact on future product and cost of production Learning that imported foods travel from far away and this can negatively impact the environment • Learning that vegetables and fruit grow in certain seasons • Learning that each fruit and vegetable gives us nutritional benefits •</p> </td> <td style="background-color: #e6f2ff; width: 33%; padding: 5px;"> <p>Core Knowledge: TERM 3</p> <p>Knowing that structures can be strengthened by manipulating materials and shapes • Understanding man made and natural structures Understanding how pneumatic systems work • Learning that mechanisms are a system of parts that work together to create motion • Understanding that pneumatic systems can be used as part of a mechanism • Learning that pneumatic systems force air over a distance to create movement and air resistance</p> </td> </tr> </table>	<p>Core Knowledge: TERM 1</p> <p>Understanding that there are different types of fastenings and what they are • Articulating the benefits and disadvantages of different fastening types</p> <p>Technical knowledge: Learning how electrical items work • Identifying electrical products • Learning what electrical conductors and insulators are • Understanding that a battery contains stored electricity and can be used to power products • Identifying the features of a game • Understanding how an electrical game works • Articulating the positives and negatives about different games.</p>	<p>Core Knowledge: TERM 2</p> <p>Learning that climate affects food growth Understanding the impact of the cost and importance of budgeting while planning ingredients for smoothies e.g. fresh v frozen • Understanding the environmental impact on future product and cost of production Learning that imported foods travel from far away and this can negatively impact the environment • Learning that vegetables and fruit grow in certain seasons • Learning that each fruit and vegetable gives us nutritional benefits •</p>	<p>Core Knowledge: TERM 3</p> <p>Knowing that structures can be strengthened by manipulating materials and shapes • Understanding man made and natural structures Understanding how pneumatic systems work • Learning that mechanisms are a system of parts that work together to create motion • Understanding that pneumatic systems can be used as part of a mechanism • Learning that pneumatic systems force air over a distance to create movement and air resistance</p>	
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<p>% On Track : _____</p>					

<p>Year 5 DT assessment</p> <p>Topics:</p> <ul style="list-style-type: none"> -electrical cards -cam system Viking ships -pinatas -Mexican pin cushions -Tudor pies 	<p>DT Themes covered:</p> 			<p>Prior Learning:</p> <ul style="list-style-type: none"> -electrical games -Egyptian bread -story quilts -pneumatic volcanoes
<p>Pupils Working towards expected:</p>	<p>Skills/concepts Covered:</p>			<p>Pupils working at Greater Depth:</p>
<p>AUTUMN</p> <p>After experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement • Understanding how linkages change the direction of a force • Making things move at the same time</p> <p>Measuring, marking and checking the accuracy of the jelutong and dowel pieces required • Measuring, marking and cutting components accurately using a ruler and scissors • Assembling components accurately to make a stable frame • Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles • Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set</p> <p>Evaluating the work of others and receiving feedback on own work • Applying points of improvements • Describing changes they would make/ do if they were to do the project again</p> <p>Designing an electronic greetings card with a simple electrical control circuit • Creating a labelled design showing positive and negative parts in relation to the LED and the battery</p> <p>Making a working circuit • Creating an electronics greeting card, referring to a design criteria • Mapping out where different components of the circuit will go</p> <p>Evaluating a completed product against the original design sheet and looking at modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of electronic device, eg: led</p> <p>SPRING</p> <p>Designing a pinata featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.</p> <p>Building a group structure drawing upon new and prior knowledge of structures • Measuring, marking and cutting corrugated card to create a range of structures • Using a range of materials to reinforce and add decoration to structures Use materials to create catches/latches to secure a door/flap</p> <p>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</p> <p>Designing a stuffed Shape considering the main component shapes required and creating an appropriate template • Considering proportions of individual components</p> <p>Creating a 3D stuffed pin cushion from a 2D design • Measuring, marking and cutting fabric accurately and independently • Creating strong and secure blanket stitches when joining fabric • Using applique to attach pieces of fabric decoration</p> <p>Testing and evaluating an end product and giving point for further improvements</p> <p>SUMMER</p> <p>Creating a healthy and nutritious recipe for a savoury tart using seasonal/local ingredients, considering the taste, texture, smell and appearance of the dish</p> <p>Knowing how to prepare themselves and a workspace to cook safely in, learning the basic rules to avoid food contamination • Following the instructions within a recipe</p> <p>Establishing and using design criteria to help test and review dishes • Describing the benefits of seasonal fruits and vegetables and the impact on the environment • Suggesting points for improvement when making a seasonal tart</p> <p>Describe the properties/pros and cons of different types of pastry</p>				
<p>Core Knowledge: TERM 1</p> <p>Using a bench hook to saw safely and effectively • Exploring cams, learning that different shaped cams produce different follower movements • Exploring types of motions and direction of a motion</p> <p>Learning the key components used to create a functioning circuit • Learning that graphite is a conductor and can be used as part of a circuit • Learning the difference between series and parallel circuits • Understanding that breaks in a circuit will stop it from working</p>		<p>Core Knowledge: TERM 2</p> <p>Knowing that structures can be strengthened by manipulating materials and shapes • Identifying the shell structure in everyday life (cars, aeroplanes, tins, cans) • Understanding man made and natural structures</p> <p>Learning to sew blanket stitch to join fabric</p> <ul style="list-style-type: none"> • Applying blanket stitch so the space between the stitches are even and regular • Threading needles independently 	<p>Core Knowledge: TERM 3</p> <p>understand the positive impact using locally sourced produce can provide. Working with cooking equipment safely and hygienically • Learning to use, store and clean a knife safely</p> <p>To investigate how cooking techniques can affect a final product e.g., blind baking</p> <p>Compare the Nutritional values of two recipes and decide which one has the most benefits</p>	
<p>% On Track : _____</p>				

<p>Year 6 DT assessment Topics: - fairground rides, ration menus and fossil felting</p>	<p>DT Themes covered:</p> 			<p>Prior Learning: - Pinatas -electrical cards -pin cushions/quilts -tudor pies -cam viking boats</p>
<p>Pupils Working towards expected:</p>	<p>Skills/concepts Covered:</p>			<p>Pupils working at Greater Depth:</p>
<p>AUTUMN Design: Designing a stable fairground structure that is aesthetically pleasing and selecting materials to create a desired effect • Building frame structures designed to support weight Use a range of materials to prototypeS 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 for the 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 • 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 in a range of materials e.g. card, wood, plastic • Making a model based on a chosen design Draw on skills developed over time and apply with increasing confidence. Evaluating structures made by the class • Describing what characteristics of a design and construction made it the most effective • Considering effective and ineffective designs Explore and make adjustments to designs as construction develops. Annotate changes on plans Identify next steps Designing a circuit - identifying and naming the components required • Drawing a design from three different perspectives • Generating ideas through sketching and discussion • Modelling ideas through prototypes Making electromagnetic motors and tweaking the motor to improve its function • Constructing a stable base for an electromagnetic ride • Accurately cutting, folding and assembling a net • Decorating the base of the ride to a high-quality finish • Making and testing a circuit • Incorporating a circuit into a base To use control software to control the circuit Testing own and others finished rides, identifying what went well and making suggestions for improvement SPRING 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 Writing a recipe, explaining the key steps, method and ingredients • Including facts and drawings from research undertaken Following a recipe, including using the correct quantities of each ingredient • Adapting a recipe based on research • Working to a given timescale • Working safely and hygienically with independence Evaluating a recipe, considering taste, smell, texture and origin of the food group • Taste testing and scoring final products • Suggesting and writing up points of improvements in productions • Evaluating health and safety in production to minimise cross contamination SUMMER Designing a Wall hanging in accordance with specification linked to set of design criteria to fit a specific theme • Drawing inspiration from local crafts people Annotating designs Use wet felting techniques to create a felted background fabric Decorating fabric using appliqué Using template pinning pieces onto fabric • Marking and cutting fabric accurately, in accordance with a design • Sewing a strong running stitch, making small, neat stitches and following the edge • Tying strong knots • Decorating by attaching objects using thread and use of decorative stitches Evaluating work continually as it is created</p>				
<p>Core Knowledge: TERM 1 Learning what Ferris wheels/carousels are and their purpose • Building on prior knowledge of net structures and broadening knowledge of frame structures • Learning that architects consider light, shadow and patterns when designing • Implementing frame and shell structure knowledge • Considering effective and ineffective designs Learning that products change and evolve over time • Learning that all moving things have kinetic energy • Understanding that kinetic energy is the energy that something (object person) has by being in motion Understanding how electromagnetic motors work • Learning that batteries contain acid, which can be dangerous if they leak • Learning that when electricity enters a magnetic field it can make a motor</p>		<p>Core Knowledge: TERM 2 • Learning how to research a recipe by ingredient • Recording the relevant ingredients and equipment needed for a recipe • Understanding the combinations of food that will complement one another • Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredient</p>	<p>Core Knowledge: TERM 3 Learning different decorative stitches • Application and outcome of the felting technique • Sewing accurately with even regularity of stitches</p>	
<p>% On Track : _____</p>				