

Running theme throughout KS2 - Understand how key events and individuals in design and technology have helped shape the world

	Autumn	Spring	Summer
Year 1	<u>Mechanisms</u> <u>Moving Vehicles</u>	<u>Structures</u> <u>Dolls House</u>	<u>Food Technology</u> <u>Salad</u>
Year 2	<u>Textiles</u> <u>Design Clothes</u>	<u>Structures</u> <u>Building Bridges</u>	<u>Food Technology</u> <u>Sandwiches</u>
Year 3	<u>Mechanical Systems</u> <u>Pneumatic Toys</u>	<u>Food Technology</u> <u>Pizza</u>	<u>Textiles</u> <u>Purse</u> Computing (Summer 1) Cooling Fans
Year 4	<u>Food Technology</u> <u>Cottage Pie</u>	<u>Electrical Systems</u> <u>Alarm</u>	<u>Structures</u> <u>Mini Greenhouses</u> Computing (Spring 2) Milo the Science Rover
Year 5	<u>Food Technology</u> <u>Curry</u>	<u>Mechanical Systems</u> <u>Pop up Book?</u> Computing (Autumn 2) Grabbing Objects and Space Exploration	<u>Textiles</u> <u>Stuffed Toy</u>
Year 6	<u>Food Technology</u> <u>Lasagne</u>	<u>Electrical Systems</u> <u>Fairground Ride</u>	<u>Structures</u> <u>Anderson Shelters</u> Computing (Summer 2) Volcano Alert - Predator and Prey



Year 1 DT Knowledge Organiser Moving Vehicles - Mechanisms



Learning Questions

Identify what mechanism makes a toy or vehicle roll forwards (through exploration).

L.Q. How does a wheeled toy move?

Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]

L.Q. How can I cut wood safely? What tools would I need to select?

Begin to understand how to use wheels and axles. Learn that for a wheel to move it must be attached to an axle

L.Q. How can I make my car desirable?

Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]

L.Q. Can I explain what I am making and use suitable tools and equipment to make it?

Consider how my product will look desirable to others.

L.Q. How can I make my product more desirable to others?

Evaluate their ideas and products against design criteria

L.Q. L.Q. Can I talk about my product?



Key Vocabulary

Compare	Note the similarity or dissimilarity between.
Design	A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.
Evaluate	Form an idea of the product
Real-Life	Life as it is lived in reality
Tool	A device or implement, especially one held in the hand, used to carry out a particular function.
Wheel	A circular object that revolves on an axle and is fixed below a vehicle or other object to enable it to move easily over the ground.

Did you know?

60 million cars are produced each year globally.



Previous Knowledge

Children have had experience using the box modelling area within eyfs.

They have had experience at making and some at evaluating.

Children have also used construction on a small level (lego, duplo, wooden bricks) to join and balance and on a larger scale using the big blocks.

Future Knowledge

Explore how pneumatics create movement

Alter product after checking, to make it better. Try new/different ideas. Explain alterations to product after checking it.

Use research and develop design criteria to inform the design

Explore and use pneumatics to create movement. Use research and develop design criteria to inform the design

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Church Vale Values

Possibility – Driver, mechanic

Community – What can I find that needs wheels?

Self-Awareness - Talk about how transport can help me.



Year 1 DT Knowledge Organiser

Making Dolls House and Furniture / Structures



Learning Questions

Describe differences in materials

L.Q. What makes materials different??

Design purposeful, functional, appealing products for themselves and other users based on design criteria

L.Q. Can I design furniture using design criteria to help me?

Measure and join materials, with some support. Suggest ways to make material/product stronger.

L.Q. Can I measure and join materials, using the correct equipment?

Measure and join materials, with some support.. Suggest ways to make material/product stronger.

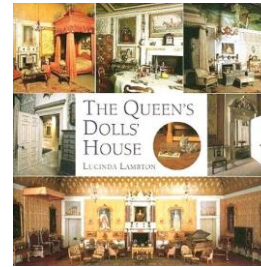
L.Q. Can I evaluate the strength of my structure and suggest ways to make it stronger?

Measure and join materials, with some support.. Suggest ways to make material/product stronger.

L.Q. Can I use finishing techniques to make my product look good?

Describe differences in materials. Suggest ways to make material/product stronger.

L.Q. Can I talk about my work, suggesting ways to make it stronger?



Key Vocabulary

Adapt	Make (something) suitable for a new use or purpose
Create	Bring (something) into existence.
Evaluate	Form an idea about a product.
Explore	Travel through (an unfamiliar area) in order to learn about it
Strength	The quality or state of being physically strong.
Structure	A building or other object constructed from several parts.
Sturdy	Strong enough to withstand rough work or treatment

Did you know?

Queen Mary's Dolls' House is the largest, most beautiful and most famous dolls' house in the world.



Previous Knowledge

Children have had experience using the box modelling area within eyfs.

They have had experience at making and some at evaluating.

Children have also used construction on a small level (lego, duplo, wooden bricks) to join and balance and on a larger scale using the big blocks.

Future Knowledge

Measure materials

Describe some different characteristics of materials

Join materials in different ways

Use joining, rolling or folding to make it stronger

Use own ideas to try to make product stronger

Church Vale Values

Possibility – Interior designer, design engineer
Community – What furniture do I have in my house? How does it differ to others?
Self-Awareness - How could I change a structure to meet a purpose?

Year 1 DT Knowledge Organiser

Salad – Food Technology

Learning Questions

Describe textures.

L.Q. What does a salad contain?

Say where some foods come from. Describe differences between some food groups. Discuss how fruit and vegetables are healthy

L.Q. Can I name a range of places where fruits and vegetables grow?

Describe textures. Wash hands & clean surfaces. Cut, peel and grate safely, with support.

L.Q. What is the best way of chopping and cutting?

Think of interesting ways to decorate food.

L.Q. How can I write instructions, considering what I need to do next?

Wash hands & clean surfaces, Think of interesting ways to decorate food. Cut, peel and grate safely, with support

L.Q. What finishing techniques will I use to improve my product?

Describe differences between some food groups

L.Q. What do I think about other people's work, how could we work together to think of improvements?



Key Vocabulary

Balance	A balanced diet is one that fulfills all of a person's nutritional needs.
Diet	The kinds of food that a person or animal habitually eats.
Farm	An area of land and its buildings, used for growing crops and rearing animals.
Healthy	Healthy foods are those that provide you with the nutrients you need to sustain your body's well-being and retain energy
Unhealthy	Harmful to health.

Did you know?

The most popular fruit in the world?

Tomatoes! Followed by bananas!!



Previous Knowledge

Have understanding that food is made.

Talks about how to stay healthy and safe.

Uses 'more' and 'less', 'full' and 'empty'

Can follow instructions involving several ideas and actions

Future Knowledge

Name the main food groups and identify foods that belong to each group.

Describe the taste, texture and smell of a given food.

Considering flavour combinations.

Construct a food that meets the design brief and their plan.

Church Vale Values

Possibility – Farmer, chef

Community – Where do I get my food from?

Self-Awareness - Talk about my diet and what other foods I should try?



Year 2 DT Knowledge Organiser

Design Clothes / Textiles



Learning Questions

Understand that a 3D textile structure can be made from two identical fabric shapes.. Explain choices of textile

L.Q. How can evaluations help me understand existing products on the market?

Choose suitable textiles.. Explain choices of textile

L.Q. How can design criteria help meet the audiences' needs?

Explain how I can join textiles together.

L.Q. Can I design my t-shirt, explaining what I want to do and how I may do it?

Explain how I can join textiles together.

L.Q. How can I improve my running stitch?

Measure, cut and join textiles to make a product, with some support. Carefully cut textiles to produce accurate pieces.

L.Q. How can I use what I have learnt to make my t-shirt?

Evaluate their ideas and products against design criteria

L.Q. Did my t-shirt fit it's purpose and what did I like about my project and why?



Key Vocabulary

Clothing	A collection of clothes
Criteria	A principle or standard by which something may be judged or decided.
Fabric	Cloth or other material produced by weaving or knitting fibres.
Material	The matter from which a thing is or can be made.
Sew	Join, fasten, or repair (something) by making stitches with a needle and thread or sewing machine.
Textiles	A type of cloth or woven fabric.

Did you know?



Clothing and footwear are the most popular products purchased online, representing 29% of the total online spending in the UK.



Previous Knowledge

Talk about their design- what they want to make with some idea as to why

Experiments with design, texture, form and function.

Explains processes they have used in creations.

Future Knowledge

Join different textiles in different ways.

Choose textiles considering appearance and functionality.

Begin to understand that a simple fabric shape can be used to make a 3D textiles project.

Think about user when choosing textiles.

Think about how to make product strong.

Begin to devise a template.

Explain how to join things in a different way.

Understand that a simple fabric shape can be used to make a 3D textiles project.

Church Vale Values

Possibility - Fashion designer (Paul Smith), machinists, clothes brand rep, shop manager, web designer (can you get clothes to look great on a screen?)

Community - What clothes do I have at home? Who buys my clothes and where from? Are there any independent clothes shops in my town?

Self-Awareness - Would I follow a fashion?



Year 2 DT Knowledge Organiser Bridges / Structures



Learning Questions

Describe some different characteristics of materials.

L.Q. Can I use objects to construct simple bridges?

Use joining, rolling or folding to make it stronger. Use own ideas to try to make product stronger.

L.Q. Can I investigate what makes a bridge stronger?

Design purposeful, functional products for themselves and other users based on design criteria.

L.Q. Can I follow design criteria to draw a diagram of my bridge?

Measure materials. Join materials in different ways.. Use joining, rolling or folding to make it stronger.

L.Q. Can I measure and join materials to successfully make my bridge?

Evaluate their ideas and products against design criteria..

L.Q. Can I look back on my design criteria and decide if I was successful?



Key Vocabulary

Develop	The application of scientific knowledge for practical purposes, especially in industry.
Criteria	A principle or standard by which something may be judged or decided.
Bridge	A structure carrying a road, path, railway, etc. across a river, road or other obstacle.
Measure	Determine the size, amount, or degree of something by using a device (ruler) marked in standard units.
Stiff	Not easily bent or changed in shape
Strong	Able to withstand force, pressure, or wear.

Did you know?

The Danyang-Kunshan Grand Bridge is officially the longest bridge in the world. It stretches out for no less than 102.4 miles and forms part of one of China's most important railway connections: the high-speed train between Beijing and Shanghai



Previous Knowledge

Begin to measure and join materials, with some support.

Describe differences in materials.

Suggest ways to make material/product stronger.

Future Knowledge

Use appropriate materials.

Work accurately to make cuts and holes.

Join materials.

Begin to make strong structures.

Measure carefully to avoid mistakes.

Attempt to make product strong.

Continue working on product even if original didn't work.

Make a strong, stiff structure

Church Vale Values

Possibility - Architect, engineer, designer.

Community - Where are the bridges in my area? What are the purpose of them?

Self-Awareness - Talk about how bridges bring two places together.



Year 2 DT Knowledge Organiser Sandwiches / Food Technology



Learning Questions

Describe properties of ingredients and importance of varied diet and say where food comes from (animal, underground etc.), describing how food is farmed, home-grown, caught.

L.Q. What can I find in a sandwich?

Draw eat well plate; explain there are groups of food, explaining "five a day". Explain hygiene and keeping a hygienic kitchen.

L.Q. What does a healthy sandwich contain?

Describe properties of ingredients and importance of varied diet

L.Q. Can I design a healthy sandwich?

Explain hygiene and keep a hygienic kitchen.. Cut, peel and grate with increasing confidence.

L.Q. Can I explain what I am making and why it fits the design criteria?

Apply the principles of nutrition and healthy eating.

L.Q. Did my sandwich taste nice?



Key Vocabulary

Dough	A soft mass of moistened flour or meal thick enough to knead or roll.
Flavour	The quality of something that affects the sense of taste
Ingredients	Ingredients are the things that are used to make something, especially all the different foods you use when you are cooking a particular dish.
Taste	Taste is the ability to detect flavour.
Texture	Texture refers to those qualities of a food that can be felt with the fingers, tongue, palate, or teeth.
Yeast	Yeasts are tiny one-celled organisms.

Did you know?

Around 12 billion sandwiches are eaten every year in the UK

The UK's favourite sandwich filling?

Ham and Cheese!

Previous Knowledge

Where do fruit and vegetables grow?

The best way of chopping and cutting.

Write instructions with support

Introducing finishing techniques

What do we think of other people's work?

Future Knowledge

Name the main food groups and identify foods that belong to each group.

Describe the taste, texture and smell of a given food.

Think of three different ideas, considering flavour combinations.

Construct a given food that meets the design brief and their plan.

Evaluate the outcomes of my pizza, giving improvements I could make

Church Vale Values

Possibility - Baker, farmer.

Community - Where can I buy a sandwich?

Self-Awareness - Talk about what a balanced diet is. Talk about what I like and how I can design it.



Year 3 DT Knowledge Organiser

Moving Monster (Pneumatic) - Mechanical System



Learning Questions

Explore how pneumatics create movement

L.Q. What is pneumatics?

Alter product after checking, to make it better. Try new/different ideas. Explain alterations to product after checking it.

L.Q. What do we use prototypes for?

Use research and develop design criteria to inform the design

L.Q. Can I develop design criteria to match my brief?

Explore and use pneumatics to create movement. Use research and develop design criteria to inform the design

L.Q. Can I create a plan to match the design criteria?

Select appropriate tools / techniques. Alter product after checking, to make it better. Explain alterations to product after checking it.

L.Q. Can I make my product, checking it along the way to improve?

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

L.Q. Can I peer evaluate against the design criteria?

Did you know?

What uses a pneumatic system?

Brakes on buses and lorries
Bicycle pumps
Excavators

A Greek mathematician simply known as the Hero of Alexandria created what would be the first pneumatic tools.

Previous Knowledge

Begin to understand how to use wheels and axles

Identify what mechanism makes a toy or vehicle roll forwards (through exploration).

Learn that for a wheel to move it must be attached to an axle

Future Knowledge

Refine product after testing.

Grow in confidence about trying new / different ideas.

Refine product after testing, considering aesthetics, functionality and purpose.

Be confident to try new / different ideas.

Use lever and linkages to create movement

Key Vocabulary

Pneumatic	Containing or operated by air or gas under pressure.
Hydraulics	Denoting or relating to a liquid moving in a confined space under pressure.
Gas	A substance or matter in a state in which it will expand freely to fill the whole of a container, having no fixed shape
Syringe	A tube with a plunger that usually connects to a needle. It is used to inject or take out fluid / gas.
Inflate	Fill (a balloon, tyre, or other expandable structure) with air or gas so that it becomes distended.
Component	A part or element of a larger whole
Motion	The action or process of moving or being moved.

Church Vale Values

Possibility – Mechanic, engineer, scientists, manufacturer (car and pharmaceutical)

Community – Do my toys move? Can I find examples of when air is used to move things?

Self-Awareness – How would I use my knowledge to design other products?



Year 3 DT Knowledge Organiser

Pizza - Food Technology



Learning Questions

Describe how healthy diet = variety/balance of food/drinks.. Explain how food and drink are needed for active/healthy bodies.

L.Q. What does a healthy diet look like?

Think about how to grow plants to use in cooking. Begin to understand food comes from UK and wider world.

L.Q. Can I deconstruct a pizza?

Carefully select ingredients.

L.Q. Can I design three possible pizza options before selecting my favourite and drawing and labelling my final design?

Carefully select ingredients., use equipment safely, to make product look attractive. Prepare and cook dishes safely and hygienically.

L.Q. Can I prepare the pizza I designed, chopping ingredients safely using the 'bridge' or 'claw' gri.p?

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

L.Q. Can I evaluate the outcome of my pizza, giving one improvement I could make?

Key Vocabulary

Bake	Cook (food) by dry heat without direct exposure to a flame
Balance	A balanced diet is one that fulfills all of a person's nutritional needs.
Healthy	Healthy foods are those that provide you with the nutrients you need to sustain your body's well-being and retain energy
Mix	Combine or put together to form one substance or mass.
Stir	Move a spoon or other implement round in (a liquid or other substance) in order to mix it thoroughly.

Did you know?

The UK's favourite pizza topping?

Pepperoni!



Previous Knowledge

Describe fruits and vegetables and explain why they are a fruit or a vegetable.

Name a range of places that fruits and vegetables grow.

Describe basic characteristics of fruit and vegetables.

Prepare fruits and vegetables to make a smoothie / kebab

Future Knowledge

Explain that fruits and vegetables grow in different countries based on their climates and are seasonal.

Know that eating seasonal fruit and vegetables has a positive effect on the environment.

Design their own pie recipe using seasonal ingredients.

Understand the basic rules of food hygiene and safety.

Follow the instructions within a recipe.

Church Vale Values

Possibility - Baker, pizza maker, farmer

Community - Where can I buy a pizza?

Self-Awareness - Talk about what a balanced diet is, what I like and how I can design it.



Year 3 DT Knowledge Organiser

Purse - Textiles



Learning Questions

Choose textiles considering appearance and functionality.

L.Q. Who is Vivienne Westwood?

Join and explain how different textiles join in different ways

L.Q. What are purses for and how they are made?

Understand that a simple fabric shape can be used to create a template and make a 3D textiles project. How can this be strong?

L.Q. What is a templates purpose and how can I use this to make a prototype?

Choose textiles considering appearance and functionality and think about user when choosing textiles

L.Q. Can I create a plan for a product following given design criteria?

Join and explain how different textiles join in different ways

L.Q. Can I work through my plan to join and create my purse?

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

L.Q. What do I like about my purse and what could I improve?



Key Vocabulary

Adapt	Make (something) suitable for a new use or purpose
Annotate	Add notes to (a text or diagram) giving explanation or comment.
Function	Practical use or purpose in design
Materials	The matter from which a thing is or can be made
Pattern Piece	A flat template, made of paper or card
Purse	A small pouch of material used for carrying money
Sew	Join, fasten, or repair (something) by making stitches with a needle
Strengthen	Make or become stronger.

Did you know?

The nineteenth century was when that handbag came into being. Before that, women used to carry boxes around their necks that looked like a chain



Previous Knowledge

Design clothes for a purpose

Prepare and cut fabric to make clothes from a template.

Join their clothes design together as one, using a running stitch with regular-sized stitches and understand that both ends must be knotted

Decorate their finished product using the materials provided.

Evaluate their ideas and products against design criteria

Future Knowledge

Design a stuffed toy, considering the main component shapes of their toy.

Create an appropriate template for their stuffed toy and neatly cut out their fabric.

Join two pieces of fabric using a blanket stitch.

Use blanket stitch to assemble their stuffed toy, repairing when needed.

Use appliqué or decorative stitching to decorate the front of their stuffed toy.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Church Vale Values

Possibility - Fashion Designer

Community - Where can I buy purses here?

Self-Awareness - What would I put in my own purse?



Year 4 DT Knowledge Organiser Cottage Pie / Food Technology



Learning Questions

Describe the eat well plate and how a healthy diet = variety / balance of food and drinks

L.Q. How can research help me with my understanding and design?

Think about presenting product in interesting/ attractive ways. Understand ingredients can be fresh, pre-cooked or processed.

L.Q. How can a change of ingredients alter the taste / attractiveness of the pie.

Explain how to be safe/hygienic.. Use some of these techniques: peeling, chopping, slicing, grating, mixing, spreading and baking.

L.Q. What are the different ways I could prepare vegetables?

Explain how to be safe/hygienic.

L.Q. Can I plan a recipe for my cottage pie?

Prepare and cook some dishes safely and hygienically.

L.Q. Can I cook my dish safely and hygienically?



Evaluate their product against their design criteria and consider what they have to do to improve, using feedback to help if needed.

L.Q. Looking at my design criteria, what do I need to do to improve?

Did you know?

The name "cottage pie" was first used at the end of the 18th century. It was around that time that the poorer people of Britain, people who lived in cottages in the country, started using potatoes as an everyday food.

Previous Knowledge

Think about how to grow plants to use in cooking.

Begin to understand food comes from UK and wider world.

Describe how healthy diet= variety/balance of food/drinks.

Explain how food and drink are needed for active/healthy bodies.

Prepare and cook some dishes safely and hygienically.

Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Future Knowledge

Explain how to be safe / hygienic and follow own guidelines

Present product well - interesting, attractive, fit for purpose

Begin to understand seasonality of foods

Understand food can be grown, reared or caught in the UK and the wider world

Describe how recipes can be adapted to change appearance, taste, texture, aroma

Explain how there are different substances in food / drink needed for health

Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source

Key Vocabulary

Balance	A balanced diet is one that fulfills all of a person's nutritional needs.
Chop	Cut (something) into pieces with repeated sharp blows of an axe or knife
Healthy	Healthy foods are those that provide you with the nutrients you need to sustain your body's well-being and retain energy
Savoury	Belonging to the category that is salty or spicy rather than sweet.
Season	Salt, herbs, or spices added to food to enhance the flavour.

Church Vale Values

Possibility - Baker, chef, farmer

Community - What is my favourite family meal?

Self-Awareness - How might my family meals change for a balanced diet?



Year 4 DT Knowledge Organiser Mini Greenhouse / Structures



Learning Questions

Continue working on product even if original didn't work.

L.Q. What is a design engineer?

Refer to the design criteria when designing.

L.Q. How can I make alterations to an existing product to meet the requirements of a consumer?

Join materials. in an attempt to make product strong.

L.Q. How can a prototype help me to make my design stronger?

Continue working on product even if original didn't work.. Refer to the design criteria when designing.

L.Q. Can I use an annotated sketch to help plan and explain my design?

Use and join appropriate materials and work accurately to make cuts and holes.

L.Q. Can I make my design strong by measuring, marking and cutting out with accuracy?

Refer to the design criteria when evaluating

L.Q. How can my design criteria help evaluate a product?



Key Vocabulary

Alteration	The action or process of changing something
Functional	Designed to be practical and useful
Opinion	A view or judgement formed about something
Prototype	A first or preliminary version of a device or vehicle from which other forms are developed.
Reinforce	To strengthen or support
Research	The systematic investigation into something to reach a conclusion

Did you know?

The first known greenhouses were built in Rome during the 1st century AD.

Previous Knowledge

Describe some different characteristics of materials.

Use joining, rolling or folding to make it stronger. Use own ideas to try to make product stronger.

Design purposeful, functional products for themselves and other users based on design criteria.

Measure materials. Join materials in different ways.. Use joining, rolling or folding to make it stronger.

Evaluate their ideas and products against design criteria..

Future Knowledge

Explain how product meets design criteria.

Select materials carefully, considering intended use of product and appearance and begin to reinforce and strengthen a 3D frame.

Explain how product meets design criteria.

Measure accurately enough to ensure precision. Select materials carefully, considering intended use of the product, the aesthetics and functionality.

Ensure product is strong and fit for purpose.

Church Vale Values

Possibility – Engineer, electrician, artist, design engineer, gardener, architect.

Community – Who has a greenhouse? What do they use them for?

Self-Awareness - What could I improve to make my life better?

Year 4 DT Knowledge Organiser

Alarm / Electrical System



Learning Questions

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.

L.Q. How are alarms made and what is their purpose?

Use simple circuit in product.

L.Q. Can I experiment with simple circuits?

Use number of components in circuit

L.Q. Can I use prototypes to investigate how realistic my plan is?

Select suitable tools and equipment, explain choices in relation to required techniques and use accurately.

L.Q. Can I use an annotated sketch and the design criteria to finalise a plan for my alarm?

Use simple circuit in product. Use number of components in circuit

L.Q. Can I incorporate a simple circuit in my product?

Evaluate the effectiveness of their system.

L.Q. Can I use my criteria to help evaluate my product?

Did you know?

The 1850s saw the first electrical home alarm system, one that primarily used magnets.



Previous Knowledge

Design with some purpose in mind with some design criteria taken from real life items.

Explain who the product is for.

Select from and use a range of tools and equipment to perform practical tasks

Evaluate their ideas and products against design criteria.

Make comments on existing products.

Future Knowledge

Communicate my ideas through discussion, cross sectional diagrams and prototypes

Select from and use a wider range of materials and components, including construction materials according to their functional properties and aesthetic qualities.

Understand and use electrical systems in their products.

Investigate and analyse a range of existing products.

Key Vocabulary

Alarm	A warning of danger
Control	A switch or other device by which a device or vehicle is regulated.
Electricity	A form of energy
Functional	Designed to be practical and useful
Switch	A device for making and breaking the connection in an electric circuit.
Technology	The application of scientific knowledge for practical purposes, especially in industry.

Church Vale Values

Possibility – Engineer, electrician

Community – Where can I find alarm systems?

Self-Awareness - Why would I need an alarm?



Year 5 DT Knowledge Organiser

Curry - Food Technology



Learning Questions

Describe how recipes can be adapted to change appearance, taste, texture, aroma. Explain how there are different substances in food / drink needed for health

L.Q. Can recipes be adapted and how does this impact on existing products?

Begin to understand seasonality of foods. Understand food can be grown, reared or caught in the UK and the wider world

L.Q. Can I create design criteria with an annotated sketch to match the needs of the consumer?

Explain how to be safe / hygienic and follow own guidelines. Present product well - interesting, attractive, fit for purpose

L.Q. Can I cut vegetables successfully?

Explain how to be safe / hygienic and follow own guidelines. Describe how recipes can be adapted to change appearance, taste, texture, aroma

L.Q. Can I create my own recipe?

Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source

L.Q. Can I follow a recipe?

Evaluate finished product from design criteria.

L.Q. Can I use a taste test to evaluate my product against the design criteria?



Key Vocabulary

Fair Trade	Trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers.
Farms	Make one's living by growing crops or keeping livestock.
Melt	Make or become liquefied by heat.
Processed	A processed food is any food that has been altered in some way during preparation.
Reversible Change	A reversible change is a change that can be undone or reversed.
Safety	The condition of being protected from or unlikely to cause danger, risk, or injury.
Tools	A device or implement, especially one held in the hand, used to carry out a particular function.

Did you know?

Vindaloo isn't actually the hottest of curries – it's Phal, which is rarely served in Britain because of its heat!



Previous Knowledge

Follow a recipe, with some support.

Describe some of the features of bread based on taste, smell, texture and appearance.

Adapt a recipe by adding extra ingredients to it.

Plan a bread recipe within a budget.

Examine a range of existing products which I have researched.

Future Knowledge

Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Understand that while a finished product may have the same name, the taste and recipes can differ.

Understand the process needed to cook a savory meal and use this to create a recipe

Follow a personalised recipe.

To understand what is needed to improve the presentation of a dish with layers.

Church Vale Values

Possibility - Chef, farmer, food critic.

Community - When do I have curry? Can I get the ingredients locally?

Self-Awareness - Do I eat curry? Can I change the ingredients according to my preferences?



Year 5 DT Knowledge Organiser Pop Up Books - Mechanical System



Learning Questions

Refine product after testing. Evaluate the quality of design while designing and making.

L.Q. How are pop up books made?

Refine product after testing. Grow in confidence about trying new / different ideas.

L.Q. Can I try out my ideas about how a lever would work?

Know that a product needs to meet a users needs.

L.Q. How can I plan my book to meet the design criteria and my users needs?

Use lever and linkages to create movement.

L.Q. Can I use an annotated sketch to show how my levers and linkages will create movement?

Grow in confidence about trying new / different ideas.. Use lever and linkages to create movement

L.Q. Can I use levers and linkages to successfully create movement?

Evaluate finished product from design criteria.

L.Q. Can I evaluate the quality of my design by using answers from a questionnaire?



Key Vocabulary

Model	A thing used as an example to follow or imitate.
Mock-Up	Make a replica or imitation of something.
Linkage	The action of linking or the state of being linked.
Lever	A rigid bar resting on a pivot, used to move a heavy or firmly fixed load with one end when pressure is applied to the other.
Pivot	The central point, pin, or shaft on which a mechanism turns.
Hinge	A movable joint or mechanism on which a door, gate, or lid swings as it opens and closes or which connects linked objects.
Flexible	Capable of bending easily without breaking.

Who invented the pop-up book?

Lothar Meggendorfer is known as the father of the Pop-Up Book. While many types of movable books came before him, Lothar is credited as inventing the Pop-Up book itself.

Previous Knowledge

Alter product after checking, to make it better.
Try new/different ideas. Explain alterations to product after checking it.

Use research and develop design criteria to inform the design

Explore and use pneumatics to create movement. Use research and develop design criteria to inform the design

Select appropriate tools / techniques.. Alter product after checking, to make it better. Explain alterations to product after checking it.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Future Knowledge

Use research and exploration, such as the study of different cultures, to identify and understand user needs

Identify and solve their own design problems and understand how to reformulate problems given to them

Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations

Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical response

Church Vale Values

Possibility - Author, illustrator, car mechanic

Community - Where are books in my community?
Where is my nearest library?

Self-Awareness - Could I be an author? How do I feel about po up books?



Year 5 DT Knowledge Organiser

Stuffed Toys - Textiles



Learning Questions

Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes

L.Q. How are stuffed toys made?

Think about how to make product strong and look better. Think of a range of ways to join things

L.Q. How can I join my material and make it strong?

Think about user and aesthetics when choosing textiles

L.Q. Can I use my questionnaire to help design my stuffed toy?

Use own template.. Make a prototype. Think carefully about what would improve product

L.Q. How can a prototype help me with my design?

Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.. Use own template

L.Q. Can I make my stuffed toy, using my template to help me?

Think about how product might be sold.

L.Q. How much would my product have cost to make?



Key Vocabulary

Create	Bring (something) into existence.
Finish	Complete the manufacture or decoration of (an article) by giving it an attractive surface appearance.
Function	Work or operate in a proper or particular way
Opinion	A view or judgement formed about something
Stitch	A loop of thread or yarn resulting from a single pass or movement of the needle in sewing, knitting, or crocheting
Target Group	A more specified groups of people within your broader target audience.

Did you know?

A teddy bear named Magellan T. Bear was sent to space in 1955 on Space Shuttle Discovery.



Previous Knowledge

Identify the features, benefits and disadvantages of a range of fastening types.

Recognise different types and qualities of fabrics.

Demonstrate their ability to use cross-stitch as a decorative feature or to join two pieces of fabric together.

Decorate their purse using a variety of techniques such as appliqué, cross-stitch, beads, buttons

Explain the aesthetic and/or functional properties of some of their material choices.

Future Knowledge

Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations

Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture

Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups

Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.

Church Vale Values

Possibility - Seamstress

Community - Where can I buy a stuffed toy in my community?

Self-Awareness - Am I a soft toy owner? How does it make me feel?



Year 6 DT Knowledge Organiser

Lasagne - Food Technology



Learning Questions

Describe some of the different substances and seasonality in food and drink, and how they can affect health. Name some types of food that are grown, reared or caught in the UK or wider world.

L.Q. Can I evaluate different supermarket lasagne, investigating if cost makes a difference to taste?

Use a range of techniques and food processing methods confidently such as peeling, chopping, slicing,.

L.Q. Can I use equipment safely to fry onions?

Understand a recipe can be adapted by adding / substituting ingredients. to change appearance, taste, texture or aroma..

L.Q. Can I adapt recipes by substituting recipes according to my intended audience and cost how much the finished dish will be?

Understand a recipe can be adapted by adding / substituting ingredients

L.Q. Can create and adapt step by step plans?

Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source.

L.Q. Can I prepare my dish safely and hygienically?

Evaluate a product using taste tests and previous market research.

L.Q. How can different resources change the outcome of my finished product?



Key Vocabulary

Abroad	A foreign country
Culture	The ideas, customs, and social behaviour of a particular people or society
Lasagne	An Italian dish consisting of lasagne baked with meat or vegetables and a cheese sauce.
Savoury	Belonging to the category that is salty or spicy rather than sweet.
Sweet	Having the pleasant taste characteristic of sugar or honey; not salt, sour, or bitter.
Varied	Incorporating a number of different types or elements

Did you know?

Originally, in Italy, the word “lasagna” did not refer to a food. The word “lasagna” referred to the pot in which the food was cooked.

Previous Knowledge

Understand how beef gets from the farm to our plates.

Contribute ideas as to what a ‘healthy meal’ means. Notice the nutritional differences between different products and recipes.

Work as a team to amend a curry recipe with healthy adaptations.

Follow a recipe to produce a healthy curry sauce.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Future Knowledge

Understand and apply the principles of nutrition and health ☑

Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet ☑

Become competent in a range of cooking techniques

☑

Understand the source, seasonality and characteristics of a broad range of ingredients

Church Vale Values

Possibility – Farmer, food critic, head chef, sous chef

Community – What grows in my local farm compared with farms in Italy?

Self-Awareness - How can I change the world using my design and technology skills?



Year 6 DT Knowledge Organiser

Moving fairground ride - Electrical System



Learning Questions

Think of ways in which adding a circuit would improve product.

L.Q. Can research help to inform my design?

Confidently use number of components in circuit. Use different types of circuit in product

L.Q. Can I draw upon my knowledge of circuits to design a circuit for a fairground ride?

Think of ways in which adding a circuit would improve product.

L.Q. Can I design a fairground ride, using an exploded diagram to help me?

Incorporate a switch into product.

L.Q. Can I follow my design plan and make my fairground ride?

Evaluate how an electrical system has improved their product.

L.Q. Can I test and evaluate my fairground ride and make improvements if needed?



Key Vocabulary

Pulley	Pulleys are made by looping a rope over one or more wheels. They are often used to lift heavy objects
Control	A switch with a function within a circuit
Electrical system	A system which uses electricity to work within a circuit
Criteria	A list of needed jobs that a design should include
Motor	An electrical component
Circuit	A complete electrical loop which conducts electricity for a purpose
Rotate	Something which turns

Did you know?

The first merry go round was created for New Years Day in 1861



Previous Knowledge

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.

Select from and use a wider range of tools and equipment to perform practical tasks accurately

Generate, develop, model and communicate their ideas through discussion and annotated sketches

Select from and use a wider range of tools and equipment to perform practical tasks accurately

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Future Knowledge

Use research and exploration, such as the study of different cultures, to identify and understand user needs

Identify and solve their own design problems and understand how to reformulate problems given to them

Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties

Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]

Church Vale Values

Possibility – Engineer, electrician

Community – Who designed the electrical items in my classroom?

Self-Awareness - How can I change the world using my design and technology skills?



Year 6 DT Knowledge Organiser Anderson Shelter - Structures



Learning Questions

Explain how product meets design criteria.

L.Q. How can structures meet design criteria and what happens when something doesn't go to plan?

Select materials carefully, considering intended use of product and appearance and begin to reinforce and strengthen a 3D frame.

L.Q. How can make my shelter strong?

Explain how product meets design criteria.

L.Q. Can I design a logical plan, including the use of a cross-sectional planning?

Measure accurately enough to ensure precision. Select materials carefully, considering intended use of the product, the aesthetics and functionality.

L.Q. Can I measure, mark and cut out accurately in order to create my shelter?

Ensure product is strong and fit for purpose.

L.Q. Is my product strong and fit for purpose?

Key Vocabulary

Corrugated	Shaped into a series of parallel ridges and grooves.
Cross Sectional Diagram	A view or drawing that shows what the inside of something looks like after a cut has been made across it.
Evaluate	To form an idea.
Framework	Essential supporting structure of a building, vehicle, or object.
Improve	Achieve or produce something better than.
Prototype	A first or preliminary version of a device or vehicle from which other forms are developed.

Did you know?

Anderson shelters were named after Sir John Anderson, the lord privy seal in charge of air raid precautions in 1938



Previous Knowledge

Continue working on product even if original didn't work.

Refer to the design criteria when designing.

Join materials. in an attempt to make product strong.

Continue working on product even if original didn't work.. Refer to the design criteria when designing.

Use and join appropriate materials and work accurately to make cuts and holes.

Refer to the design criteria when evaluating

Future Knowledge

Use research and exploration, such as the study of different cultures, to identify and understand user needs

Identify and solve their own design problems and understand how to reformulate problems given to them

Develop and communicate design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer-based tools

Investigate new and emerging technologies

Church Vale Values

Possibility – Engineer, electrician, welder, architect,

Community – Did we use Anderson Shelters in Warsop?

Self-Awareness - How can I change the world using my design and technology skills?