Design & Technology Progression of Knowledge & Skills 2025-26

Community	Christianity	Aspirations	Perseverance

	Autumn 2 Structures	Spring 2 Mechanisms	Summer 2 Food
EYFS	**Building a Bridge, Billy Goats Gruff.**	**Exploring parts that move - *continuous provision*** ,	**Fruit and Veg Kebabs.**
Knowledge	• I know what a bridge is for. • I know that abutments are the elements at the end of a bridge, which provide support for the beam. • I know there are different types of bridges such as beam, suspension and arch. • I know bridges can collapse if they are not strong enough or if they are put under too much force. • I can design a bridge for a purpose explaining simple criteria.	• I know what a slider mechanism is and can identify some simple sliders used in the world (e.g volume control on a radio, air vents in cars, front office sliding window, patio doors) • I can explain that sliders are mechanisms that provide movement (usually up and down or L to R) • I know and can use some technical vocabulary relating to sliders (see notes) • I can select the tools and materials to create a simple slider and demonstrate how they work. • I know and understand that I can use specific techniques and materials to create an Easter card with a sliding mechanism	• I know where different fruit products come from. • I am able to identify a range of fruit and discuss the shape, colours, textures & characteristics. • I understand basic principles of a healthy and varied diet, including how fruit is part of a healthy diet. • I know how to prepare several fruit in a safe way and name some basic food preparation skills. • I know how to make a fruit kebab by cutting, peeling and preparing a range of fruit and threading it onto a skewer in a particular sequence.
Skills	• I can identify a bridge • I can investigate abutments and a beam showing an understanding about the position and symmetry of the abutments. • I can join materials to make a bridge • I can sort materials into ones that are	• I can investigate a range of slider mechanisms • I can generate ideas in my sketch book for making an Easter card • I can make a slider mechanism for my card following step by step instructions. • I can select and cut materials to size to	• I can generate initial ideas and design criteria through investigating a variety of fruit. • I can describe the texture and appearance of different • fruit using sensory vocabulary. • I can select from a range of fruit according

	strong enough to hold weight and ones that can't and then select an appropriate material to make a bridge. • I can evaluate my bridge according to different design and techniques used	decorate my card • I can test my slider mechanism and then evaluate, adapt and refine my work.	to their • characteristics e.g. colour, • texture and taste to create • a chosen design. • I can use a lollipop stick to practice the bridge hold to cut soft fruits. • I can taste and evaluate my fruit kebab against the design criteria and explain why it is good and how it can be better.
Vocabulary	Bridge, Design, Structure, Arch Bridge, Beam bridge, Abutment	Join, Split, Attach, Pop up, Connect, Fold, Slit	Peel, Varied diet, Texture, Hygiene, Healthy
Year 1	**Three little pigs, building houses and structures and dens.**	**Creating Spring Sliders (flowers, faces, animals, Easter Bunnies, mini beasts)**	**Smoothies**
Knowledge	• I know what a den is • I understand how the properties of different materials make them useful for different purposes in a shelter • I understand what a good den needs to provide • I can plan a den for a purpose, thinking about materials carefully. • I can make a den fit for a purpose.	• I know what a slider mechanism is and can identify some simple sliders used in the world (e.g volume control on a radio, air vents in cars, front office sliding window, patio doors) • I can explain that sliders are mechanisms that provide movement (usually up and down or L to R) • I know and can use some technical vocabulary relating to sliders (see notes) • I can select the tools and materials to create a simple slider and demonstrate how they work. • I know and understand that I can use specific techniques and materials to create an Easter card with a sliding mechanism	• I can name a variety of fruit and understand that they grow on trees, bushes and vines. • I am able to identify a range of fruit and discuss the characteristics and qualities. I know which smoothies I like, dislike and can explain why. • I understand basic principles of a healthy and varied diet, and that there are 5 different categories of food (dairy, protein, fruit, sugar, fat and carbohydrates) • I know how to make a fruit smoothie by cutting, chopping, slicing, dicing, squeezing and blending a range of fruit • I am able to make and present my seasonal fruit smoothie that ties in with a celebration.

Skills	• I can investigate how to make a simple stable frame • I can investigate which materials are the most suitable • I can join materials in different ways • I can build a den demonstrating my knowledge of key features including design, construction and stability • I can evaluate and adapt my design	• I can investigate a range of slider mechanisms • I can generate ideas in my sketch book for making an Easter card • I can make a slider mechanism for my card following step by step instructions. • I can select and cut materials to size to decorate my card • I can test my slider mechanism and then evaluate, adapt and refine my work.	• I can generate initial ideas and design criteria through investigating a variety of fruit. • I am able to identify fruit that has been used in different smoothies through tasting them. • I can design my smoothie using seasonal fruit that fits in with the brief of a celebration. • I can use a bridge hold to cut fruits. • I can use a claw grip to slice and dice fruits. • I can squeeze fruits to make juice. • I can make, taste and evaluate my smoothie against the design criteria and explain why it is good and how it can be better.
Vocabulary	Den, Stable, Structure, Flexible	Lever, Mechanism, Slider, Slot, Guide or Bridge	Seasonal fruits, Claw grip, BLend, Ingredients
Year 2	**Structures that float - Eddie the Explorer**	**Wheels and axle mechanisms**	**Dips and Crudites**
Knowledge	• I know some materials float and some sink and that buoyancy is a keep component of floating,. • I know shell structures can come in different shapes and sizes. • I know how to join materials using string. • I know how to design a floating structure. • I know how to create a prototype of a structure that floats.	• I can explain the different parts of a moving vehicle and that force is needed to make it move. • I understand the different ways I can attach axles to the chassis. • I know wheels can be made from a variety of materials and can be used for different purposes. • I know how to carefully measure and cut materials for making my moving vehicle. • I know and understand that I can use specific techniques and materials to create a moving vehicle.	• I can name a variety of vegetables and understand how they keep us healthy? I know that food has to be farmed, grown elsewhere or caught. • I know what dips I like and dislike and can explain why. • I can explain how to prepare ingredients in a hygienic environment. • I know how to make a dip by cutting, chopping, slicing, grating, dicing, peeling and blending a range of vegetables. • I know how to create a dip and evaluate the process.

Skills	• I can experiment with different materials and structures to make a variety of materials float. • I can choose appropriate materials that are waterproof. • I can join materials to make a balanced floating structure. • I can use my knowledge of materials and joins to design a balanced waterproof that floats. • I can evaluate and adapt my work.	• I can label the chassis, axel and the materials used to make the vehicle. I can show the force making it move. • I can choose the appropriate object for the chassis depending on the way I want to attach the axle. • I can design my moving vehicle choosing the appropriate methods and materials. • I can follow step by step instructions to make my moving vehicle. • I can test my moving vehicle and then evaluate, adapt and refine my work.	• I can explain how a healthy diet is important to me. • I can suggest the vegetables used in the different dips. • I can choose and use the appropriate equipment to prepare the ingredients. • I cut vegetables using a bridge hold. I can slice vegetables using a claw grip • I can combine the ingredients, method and blend my dip.
Vocabulary	Floating structure, Buoyancy, Shell structure, Prototype	Vehicle, Wheel, Axle, Chassis	Slice, Texture, Grating
Year 3	**Design and make a chair using different structure techniques.**	**Levers and pneumatics:**	**Couscous**
Knowledge	• I know that there are many different chair designs and structures that suit different purposes. • I know and understand features of structures and the stability of different shapes related chair design. • I know that a chair structure needs to have a framed structure to support a person (object). • I know that a chair needs a seat and backrest that will support a person (object) and will be comfortable. • I know and understand that I can use specific techniques, structures to create a chair that is fit for purpose.	• I know what a lever is. I know that a lever has a rigid rod, and a pivot somewhere along its length. • I know that a pivot point is called a fulcrum, and a lever can either balance or turn about the fulcrum • I know that a force at one end of the lever leads to movement at the other and the movement will be in the opposite direction to that of the force. • I know the force is called the input and the resulting movement is called the output. • I can construct a catapult (trebuchet, ballista, mangonel, onager) using appropriate materials.	• I know that all food that we eat has to be grown, reared or caught & that it is produced all around the world. • I understand that there is of a range of factors that determine what people eat. • I can explain the importance of hygiene in food technology. I know that food can be spoiled due to poor hygiene. • I know how to measure ingredients for couscous. • I know how to make couscous and evaluate the process.

Skills	• I have explored how chair designers use different techniques to design and construct a chair. • I can use different connection techniques (CQ p.369) when using paper straws to make a frame. • I can use specific connection techniques to create a strong frame and/or legs. • I can use specific connection techniques and the joining of different shapes to construct a seat and backrest for a chair. • I can create a prototype, test it's suitability and make improvements that are fit for purpose.	• I can use my hands and fingers when measuring, cutting, joining when creating my lever. • I can create an annotated diagram of a lever. • I can investigate different types of levers - seesaw style, pullback (using elastic) using cardboard and other appropriate materials. • I can use lever construction techniques to create a prototype catapult, • I can use testing techniques (test, modify, explain) to test my lever.	• I can correctly identify seasonally grown food • I can look at and taste various couscous dishes explaining the health benefits (eatwell guide). • I can show the importance of hygiene. • I can chop, slice, grate vegetables using both the claw grip and bridge hold. I can weigh and measure accurately. • I can create my couscous and evaluate my findings.
Vocabulary	Stable, Structure, Function, Prototype	Rigid, Pivot, Fulcrum, Force	Couscous, Grate, North Africa
Year 4	**Why do we build towers?**	**Electronic Circuits: Create a lantern**	**Dal**
Knowledge	• I know that towers need strong foundations (if the base is not secure, it will not be able to support the structure). • I know that the shape of a tower can affect its stability (a wider base is more stable). • I know that materials can be selected for strength and reinforced for additional strength. • I can use my knowledge of strength and	• I know that there are many different types of lanterns and they all provide light. • I understand what a frame structure is and that some shapes are more rigid than others (triangulation) • I understand that a frame can be made stronger by using a strut or joining frame. • I know the components of a circuit and can explain why a circuit is not working and how to make it work. • I know and understand that I can use	• I know that there are many different types of foods that can be hydrated to add to a recipe • I understand that when soaked, the ingredients can have flavour added to make them more appealing to the palate • I understand how to prepare food ensuring that hygiene is of paramount importance. I know that food needs to be stored & use within a date. • I know the components of a recipe that will

	stability to design the tallest tower strong enough to hold an egg. • I can use my knowledge of materials and joins to create the tallest tower strong enough to hold an egg.	specific techniques, a frame structure and a circuit to create a lantern that provides light.	make a dahl as a warm and tasty alternative to a sandwich. • I know and understand that I can use specific techniques to • prepare, cook and serve a warm dish
Skills	• I can investigate how to create a solid base. • I can investigate which shapes are the most stable. • I can join materials in different ways. • I can use triangulation to strengthen a structure. • I can evaluate and adapt my design.	• Explore joining techniques- how can you join two pieces of wood? How can you join wood to paper? • Design ideas for lanterns in sketch books. Think about shape and use of materials. • I can construct the frame for my lantern using chosen materials and suitable joins. • I can create a circuit to light up my lantern. I can add a switch. • I can evaluate and adapt my work.	• Taste a variety of foods that have hydrated ingredients including houmous, couscous, polenta, rice • Cook ingredients such as onions, aubergine tomatoes and add prepared soaked lentils, couscous or chickpeas • Looking at different recipes and identifying a favoured taste, design a dish with either lentils, chick peas or couscous as an alternative to a sandwich • I can create a dahl by combining my ingredients correctly and following my recipes. • I can evaluate and make suggestions to develop my recipe and take feedback from others.
Vocabulary	Tower, Foundations, Stability, Triangulation. Strength	Lantern, Battery, Electricity, Bulb, Electrical Circuit, Energy, Switch	Dahl, Legume, Pulse, Hydrated, Soaked, Components
Year 5	**Structures that can fly**	**Cams & split pin levers: Creating a moveable scene inspired by a book.**	**Samosas.**
Knowledge	• To understand how gravity and forces affects a object flying. • To understand how air resistance aids flying structures.	• I can identify a cam and split pin lever and know how they work. • I can explain how different cam shapes determine a different movement of the moving part.	• I can identify a samosa, where they originate from and what fillings are with a samosa. • I understand that food is grown, reared and caught in the UK, Europe and the

	• To understand how • aerodynamics affects the length of flying distance. • I can use my knowledge of design and balance to design the fuselage and wings to aid flying time. • I can develop a criteria and • design a prototype of a flying structure.	• I know how to use tools safely. • I can write an explanation and draw annotated diagrams of the different tools I have used. • I know and understand that I can use specific techniques and materials that can create a cam operated movable scene.	wider world. • I can explain the importance of hygiene in food technology. I know the importance of cross contamination. • I know how to measure ingredients, follow instructions and fill a samosa. • I know how to create a samosa and evaluate the process.
Skills	• I can create paper aeroplanes to highlight different designs with a focus of gravity and force. • To know that air resistance design aids flying structures to glide back to earth through different designs. (parachute). • To know that steamline structures cut through the air reducing drag. Pupils can create their designs through exploring different materials and shapes. • I can use my knowledge to show that I can incorporate balance and specific wing lengths supported by the fuselage to aid the structure to fly longer distances. Pupils to use techniques to build a model flying structure with wings and main body. • I can create a flying structure, test it and make adaptations to improve	• Sketch ideas for a moveable scene and annotate which parts will move. • I can choose the correct cam that will mirror my design and explain my reasons why. • I can choose the right tool and use the correct techniques to drill a hole for the dowel. I can correctly measure and cut the follower. • I can construct my movable scene using chosen materials and suitable cams and split pins. • I can evaluate and adapt my work.	• I can correctly identify different samosa and annotate in books how they are made. • I can look at and taste the pastry and answer why filo is used. I can taste the fillings and discuss different combinations. • I can show the importance of hygiene and cut vegetables to the correct size for a samosa. • I can use my knowledge to choose the best filing which allows the samosa to be folded. • I can combine the ingredients, method and baking time to produce a samosa.

	its efficiency.		
Vocabulary	Aerodynamic, Gravity, Air resistance, Fuselage, Flying structure, Force	Follower, Spacer, Cam, Rotary motion, Oscillating movement, Reciprocating motion, Guide	Samosa, Asia, Food hygiene, Combine
Year 6	**Bridges revisited**	**Create a Pulley System:**	**Breads:**
Knowledge	• I know how pillars and beams are used to span gaps. • I know how trusses can be used to strengthen bridges. • I know how arches are used to strengthen bridges. • I know how suspension bridges are able to span long distances. • I know the criteria to • design a prototype bridge for • a purpose.	• I know what a pulley is and how it works and I can annotate a diagram of a working pulley. • I know how pulleys (and gears) can be used to speed up, slow down or change the direction of movement. • I can use electric motors, wires, crocodile clips, batteries, switches and gears to make my pulley move. • I know and use technical vocabulary relevant to my • project. • I know how to create an aerial transportation vehicle that uses pulleys to make it move.	• I know 5 different types of bread and how they are linked to different cultures. • I can describe how each bread looks and tastes differently. • I can explain the importance hygiene is in food tech. I know how yeast is used to make the bread rise. • I know how to measure ingredients, follow instructions and knead dough. • I know how to create a specific type of bread and evaluate the process.
Skills	• I can use simple beams and pillar techniques to create a test structure. • I know that trusses are used in bridge design to spread out compression forces and replicate by creating a test structure. • I know that arches are used to spread and redirect compression forces acting on bridges. Pupils use build techniques to build model arch bridges. • I know that suspension bridges use	• I can correctly measure lengths (wires, elastic bands, materials) and distances to create my project. • I can correctly cut materials to create my project. • I can use estimating techniques when planning for and creating my project. • I can use assembling and joining techniques to create my project. • I can use electronic motors - connecting wires, gears, switches and batteries	• I can correctly identify different bread and annotate in books how they are different. • I can look at and taste the crust as well as the centre of the bread to compare and evaluate to other breads. • I can show the importance of hygiene and compare the quantities of yeast and proving time of different breads, • I can use my knowledge by creating the dough ready to prove. • I can combine the ingredients, method

	tension to support bridge decks spanning large distances. Pupils use techniques to build a model suspension bridge. • I can create and evaluate my product according to design techniques I have used.		and baking time to produce bread.
Vocabulary	Abutments, Bridge bearing, Superstructure, Cantilever, Truss	Pulley, Gear, Mechanical system, Driver, Follower, Motor Spindle, Gondola Lift	Dough, Malleable, Prove, Yeast