



Class	Cycle, Term & Topic	Stable Structures
Acorn Y1 and Rec	Cycle A Spring 2 Castles (Castles & Knights)	<ul style="list-style-type: none"> I know what a medieval catapult is and its purpose I know how and why a catapult needs to move I can discuss the design of a catapult and why it will be effective I can describe a variety of medieval tools and weapons, knowing how they are designed for purpose I can design a bow and arrow I can plan, design and make a catapult I can discuss ways in which I could make my catapult move I can evaluate my bow and arrow I can evaluate my catapult I can select appropriate materials to make a castle I can design and make a motte and bailey castle I can cut and join different materials carefully I can evaluate my castle
	Cycle B Autumn 2 Moving Pictures (Traditional Tales)	<ul style="list-style-type: none"> I can identify the direction of movement in a sliding mechanism I can investigate different ways of making sliders I understand the terms 'lever' and 'pivot' I can combine and join materials to make lever mechanisms I can generate ideas for different ways of using lever mechanisms in moving pictures I can describe what a pivot is I can cut out and join components to create a wheel mechanism I can discuss ideas for how I could incorporate moving mechanisms into pictures I can draw on previous experience of moving mechanisms to design a moving picture I can convey in pictures and words how I will create a moving picture I can follow a design to create a picture with a moving mechanism I can work safely with a variety of tools and materials to create a moving mechanism I can evaluate my own moving picture and say what I think and feel about it I can identify what I have done well and suggest how I could make improvements I can give my opinion about the work of other children and give positive feedback I can evaluate my work and identify areas for future development
Sapling	Cycle A Summer 1 Light Up Signs (Cocoa Loco)	<ul style="list-style-type: none"> I can identify potential audiences and purposes for a product design I can make practical considerations about how to fit essential components in/on a product I can consider tools and techniques I may need to use when constructing a product of my own design I can identify ways in which my existing designs could be adapted for the materials available I can identify ways in which I can work safely while constructing my design I can select materials, tools and components to create a free-standing structure. I can make a stable, free-standing structure to house an electrical circuit.
	Cycle B Spring 2 Making Mini Greenhouses (Survival of the Fittest)	<ul style="list-style-type: none"> I know what a greenhouse is and how they work. I can explore a range of different greenhouses. I know how greenhouses are used today. I can explain how the shape of a structure affects its stability. I know that the weight of the structure needs to be evenly spread on the base to make it secure. I know that the wider a structure's base is, the more stable it will be. I can use 3D nets to explore potential structures for a greenhouse, assessing their stability. I can investigate ways of making a structure more stable, e.g. by inserting dowelling or adding triangles at the joins. I can experiment with a range of materials to test which would be most appropriate for making the structure of a mini greenhouse. I can design a mini greenhouse using specific design criteria. I can select appropriate tools and materials to make a mini greenhouse. I can follow my design to make a mini greenhouse. I can evaluate my finished mini greenhouse for stability, effectiveness and visual appeal.
	Cycle B Summer 2 Under the Sea (Exploring our Planet)	<ul style="list-style-type: none"> I know what an aquarium is and which animals live inside them I can design a model aquarium and plan how I will create it I can select appropriate tools to make an aquarium I can work safely and sensibly with a range of materials and tools I can evaluate my work and say what I think and feel about it
	Cycle C Spring 2 British Inventors (The Titanic)	<ul style="list-style-type: none"> I can explain how concrete is used to make structures more stable. I can create a structure strong enough to hold a dictionary using just newspaper and tape.



Class	Cycle, Term & Topic	Stable Structures
Oak	Cycle A River deep, mountain high Building bridges Autumn 1	<ul style="list-style-type: none"> • I know what beams and pillars are and how they are used in bridge construction. • I can predict which beams will be strongest from their cross-section. • I can test the strength of different beam shapes using paper and card. • I can explain what a truss is and how trusses make bridges stronger. • I can identify the three types of trusses commonly used in bridge design. • I can build a truss bridge spanning a width of 40cm using paper straws. • I can use a fair test to evaluate the strength of my truss bridge. • I can explain how arches work to make bridges stronger. • I can test the arch heights to see which can bear the most load. • I can make an arch frame. • I can explain how suspension bridges use tension forces to work. • I can design, make and evaluate a prototype suspension bridge using a scale of 1:100 according to specific design criteria.
	Cycle B Out of Africa Making African Instruments Autumn 2	<ul style="list-style-type: none"> • I can name a variety of traditional African musical instruments. • I can identify suitable materials to make the keys of a kalimba. • I can generate a success criteria based on research and observations. • I can identify how a kalimba makes sound and how the pitch is changed. • I can follow a design to create a kalimba. • I can select appropriate materials and tools to use. • I can describe what a percussion instrument is and how it is played. • I can identify areas in a design that will need to be strengthened. • I can create an effective overall decoration for an African-inspired instrument. • I can evaluate an overall end product. • I can consider the views of others when evaluating a product.



Class	Cycle, Term & Topic	Cooking and Nutrition
Acorn Y1 and Rec	Cycle A Summer 2 Seaside Snacks (At the Seaside)	<ul style="list-style-type: none"> I can select appropriate ingredients I can effectively and safely use tools I can talk about what I have made I can name different foods I can manipulate materials I can name and describe a variety of fruits I can manipulate and shape fruits into animals and pictures I know why I should eat fruit I can join items together I know what ice is made from I can combine ingredients I know what a balanced meal is I can select ingredients to make a balanced picnic
	Cycle B Summer 2 Eat more Fruit and Vegetables (There's No Place Like Home)	<ul style="list-style-type: none"> I can name a variety of fruits and vegetables. I can use adjectives to describe the taste, smell and texture of a variety of fruits and vegetables. I know that some fruits and vegetables need to be washed, cut, cored, peeled or grated before they can be eaten. I understand basic food hygiene, e.g. washing hands, tying long hair back and keeping surfaces clean. I can use a knife to cut some fruits and vegetables in different ways. I can grate an apple and a carrot. I can peel a banana, apple and cucumber.
Sapling	Cycle A Autumn 1 Perfect Pizza (Home and Away)	<ul style="list-style-type: none"> I can name a variety of pizza toppings. I can use the model of the balanced plate to evaluate how healthy different pizzas are. I can explore different types of bread and evaluate which would work best for a pizza base. I can identify which food group a variety of pizza toppings belong to. I can sort pizza toppings into groups based on different criteria, e.g. animal vs plant products. I can explain why each of the food groups is important for a balanced diet. I can design and make a healthy pizza following given criteria. I can evaluate my finished pizza, saying what I think and feel about it.
	Cycle B Autumn 2 Seasonal Food (Eastern Spice)	<ul style="list-style-type: none"> I can explain what the term 'seasonal food' means. I know that different parts of the world have different seasonal food. I can discuss the benefits and problems of unseasonal food being available in shops all year round. I know that some foods, like wheat, are available all year round in the UK. I can practise cooking skills including slicing, dicing, beating, whisking, folding, sieving, rolling and grating. I can follow a recipe to make fairy cakes. I can describe the cycle of wheat production in the UK. I can distinguish between fruits that are grown in the UK and those that are grown abroad. I know how food producers can speed up or slow down the ripening process to make fruits and vegetables available all year round. I can follow a recipe to make fruit tarts using seasonal fruit. I can follow a recipe to make stuffed peppers. I know some of the nutrients we get from fruits, vegetables, meat, fish and dairy products. I know when certain meats are in season in the UK and which are available all year round. I can follow a recipe to make meatballs. I know some vegetarian options that provide the same nutrients as meat. I can explain how fish are caught or reared, processed and used in healthy meals. I can use what I have learnt about seasonal food to design healthy meals and menus.
Oak	Cycle B Trade and economics Burgers Summer 2	<ul style="list-style-type: none"> I know that most foods we buy have nutrition labels to help us make informed choices about what we eat. I know that calories come from fats, proteins and carbohydrates. I can evaluate how healthy a burger is based on its nutrition label. I can compare different burgers and assess which is healthiest. I can explain some of the different ways in which burger patties are cooked. I can follow a recipe to make a beef, turkey or vegetable burger patty. I can add ingredients to a basic burger patty to reflect global cuisine. I can follow a recipe to make different burger sauces, including salsa, tzatziki and barbecue sauce. I can design a burger menu to incorporate different patties, sides and sauces. I can explore, taste and assess different types of bread and their suitability for a burger bun. I can offer suggestions for some alternatives for bread. I can add mixtures of herbs and spices to a basic bread dough to make flavoured burger buns. I can design a burger for a particular purpose. I can design a burger for someone with particular dietary requirements. I can make and evaluate a burger, following my recipe and design



Class	Cycle, Term & Topic	Programming and Electrical Systems
Sapling	Cycle A Summer 1 Light Up Signs (Cocoa Loco)	<ul style="list-style-type: none"> • I can explore and analyse illuminated signs. • I can create a simple circuit with incandescent bulbs and a switch. • I can describe the difference between an LED and an incandescent light bulb. • I can create a simple circuit with an LED bulb and a resistor. • I can make a circuit with a string of LED lights. • I can strip, twist and join wire to make permanent connections.
Oak	Cycle A Destination out of Space Programming pioneers Summer 1	<ul style="list-style-type: none"> • I can explain how computers and computer programs are used in a variety of products. • I can explain how modern memory chips work to store information. • I can write an algorithm to suggest how various appliances might work. • I know what a computer engineer is and what they do. • I can describe some examples of how computer hardware and software specialists work together to create new products. • I can develop and build a prototype pedestrian crossing using computer programming. • I can develop, model and communicate ideas for an embedded system which monitors and controls a door, room or both. • I can describe the typical design process for computer-controlled electronic products. • I can debug errors in an algorithm. • I can suggest ways to change an algorithm to improve a system. • I can select and use electronic components to construct a prototype of an embedded computer-controlled room system. • I can evaluate my design for a computer-controlled system and consider the views of others to improve my work

Class	Cycle, Term & Topic	Inventions and Achievements
Sapling	Cycle C Spring 2 British Inventors (The Titanic)	<ul style="list-style-type: none"> • I can explain about the invention of the mackintosh. • I can investigate ways of making fabric waterproof. • I can explain about the invention of the world wide web. • I can describe how the invention of the internet has changed the world.
Oak	Cycle A Destination out of Space Programming pioneers Summer 1	<ul style="list-style-type: none"> • I know that Charles Babbage created the first mechanical computer. • I know that Ada Lovelace is referred to as the world's first computer programmer. • I know that Steve Jobs and Steve Wozniak co-founded Apple, Inc. to make the first Apple computers.



Class	Cycle, Term & Topic	Mechanical Systems
Acorn Y1 and Rec	Cycle A Spring 1 Superheroes (Superheroes)	<ul style="list-style-type: none"> I can describe a variety of mechanisms found in pop-up books I can follow instructions to make a pop-up book I know what a valley and hill fold is and can use them when creating a fold-out book I can make a sliding, spring and flap mechanism I can choose which mechanisms I would like to add to my own pop up book I can evaluate my pop up book and say what I might do differently next time
	Cycle B Spring 2 Vehicles (Off on a Journey)	<ul style="list-style-type: none"> I can investigate a range of vehicles, identifying and labelling their features. I know what an axle is. I know what a chassis is. I can explore different ways of using axles, chassis and wheels to create a moving base. I can design a vehicle with wheels, axles and chassis, as well as a body. I can follow a design to make a moving vehicle. I can evaluate my finished moving vehicle.
Sapling	Cycle A Summer 1 Light Up Signs (Cocoa Loco)	<ul style="list-style-type: none"> I can design an illuminated light box against a set of design criteria. I can strip, twist and join wire to make permanent connections. I can insert an electrical circuit into a free-standing structure to create an illuminated light box. I can evaluate the effectiveness of my finished product against the design criteria.
Oak	Cycle A Exploring Eastern Europe Moving toys Spring 2	<ul style="list-style-type: none"> I know that a cam mechanism will change rotary motion into linear motion. I know how cam toys work. I can describe how cams work using appropriate vocabulary. I can explore how different shaped cams affect the movement of the follower. I can make suggestions for how different cams could be used for different kinds of toys. I know how to make a sturdy structure for a moving toy. I can use variety of materials, tools and techniques. I can design a moving toy with a cam mechanism. I can describe how to create a toy and what materials and tools will be needed. I can follow a design I can work safely with a variety of materials and tools I can identify areas that could be improved I can evaluate a finished product. I can recognize ways in which I have been successful.



Class	Cycle, Term & Topic	Textiles
Sapling	Cycle A Spring 1 Prehistoric World (Stones and Bones)	<ul style="list-style-type: none"> • I can understand how and why the art of sewing began • I understand that stitches keep fabrics/materials together • I can describe the clothing that prehistoric people made and why • I know how awls were used to punch holes in animal skins and how leather and sinew were used. • I can discuss the Areni-1 shoe and understand that it is the oldest leather shoe known to man • I can design and make a simple prehistoric-style shoe • I understand the importance of the invention of needles • I can make a replica of a needle pouch • I can use stitches accurately to join two pieces of material together • I understand how sewing has changed since prehistoric times
	Cycle B Summer 2 Under the Sea (Exploring our Planet)	<ul style="list-style-type: none"> • I can explore and discuss a variety of colours and patterns found on tropical fish • I can plan and design a stuffed sea animal • I can select appropriate materials and tools to create a stuffed fabric fish/sea animal • I can work safely and sensibly with a range of materials and tools • I can evaluate my work and say what I think and feel about it
	Cycle C Autumn 2 Seasonal Stockings (The Gunpowder Plot)	<ul style="list-style-type: none"> • I can explain the difference between the function and visual appeal of a product. • I can evaluate the function and visual appeal of a variety of Christmas stockings. • I can use pins to temporarily fasten two pieces of fabric together. • I can use running stick, back stitch, overstitch and zigzag stitch to join two pieces of fabric together. • I can hide the finishing knot. • I can identify a variety of decorative techniques that have been used to decorate Christmas stockings. • I can sew a button, bead, sequin or pipe cleaner onto a piece of fabric. • I can embroider shapes and patterns into a piece of fabric. • I can use appliqué to add decoration to a piece of fabric. • I can design a Christmas stocking incorporating a range of decorative techniques. • I can use a template to cut out front and back pattern pieces. • I can follow a design to create a Christmas stocking. • I can evaluate the function and visual appeal of my finished Christmas stocking.
	Cycle BC Summer 1 Money Containers (Anglo Saxons, Picts and Scots)	<ul style="list-style-type: none"> • I know that money containers are designed for different purposes and users • I can identify features common to all money containers • I can draw, label and evaluate different money containers • I can name some different types of stitching? I can use a range of different sewing stitches • I know how to prepare and finish off my stitching • I understand that modelling can be used to try out different ideas • I can make a template including a seam allowance • I can mark out measurements accurately • I can write a simple specification for my design based on the intended user • I can produce a detailed design for my money container • I can explain how I will create my money container • I can follow my design to create a money container • I can use accuracy and control when working with textiles • I can finishing techniques to make my money container aesthetically pleasing • I can evaluate my own finished product • I can evaluate the work of others • I can suggest ways in which I could improve my work
Oak	Cycle B Changes in Britain Fashion and textiles Summer 1	<ul style="list-style-type: none"> • I can explain the process of turning raw cotton into cloth. • I know that products that are woven together are called textiles. • I know that different textiles have different properties, and can match these to their purpose. • I can identify straight stitch, zigzag stitch, whip/blanket stitch, blind stitch, buttonhole stitch and overlock stitch on a variety of ready-made garments. • I can describe what the job of a fashion designer entails. • I can sew a basting stitch. • I can sew a whip stitch. • I can sew a hem. • I can sew back stitch. • I can sew an appliqué decoration. • I can use back stitch to embroider. • I know what a pattern piece is and why they are important when designing a garment. • I can design a drawstring bag, including the necessary pattern pieces. • I can use pattern pieces to measure, mark, cut and sew fabric. • I can sew design elements according to design criteria. • I can join two pieces of fabric by hand sewing, using an appropriate stitch. • I can evaluate my finished product against a set of design criteria