DT Golden Threads and Sticky knowledge

Bluebell	Fern	Bramble	Laurel
Junk modelling Food tech – Christmas foods Sewing	**Mechanisms and products** Making Fire Engine (wheels, axels and chassis) Moving pictures (sliders, levers and wheels) kites **Textiles** Delightful decorations **Cooking and nutrition** Eat more fruit and vegetables. Teddy Bear's picnic	**Mechanisms and products** Moving monsters (pneumatic systems) Light up signs (electrical systems) British inventors **Textiles** Functions of fabric **Cooking and nutrition** Sandwich snacks Seasonal food	**Mechanisms and products** Building bridges Programming pioneers (electrical systems and computer programming) Moving toys (cam systems) **Textiles** Fashion and textiles **Cooking and nutrition** Great British dishes Burgers

Golden Thread:

1. Making for purpose – Design, make and Evaluate
2. Technical vocabulary
3. Cooking and Nutrition

Sticky Knowledge linked to the Golden Threads

Bluebell - Reception

Golden Thread	Why it's good to be me?	How can we make the world a better place?	How do we show kindness to people and places?
Making for purpose – Design, make and Evaluate	**Children will know:** How to manage tools and equipment safely to create new items e.g. cutting and sticking Christmas cards or junk modelling.	**Children will know:** How to manage tools and equipment safely to create new items e.g. cutting and sticking or junk modelling.	**Children will know:** How to manage tools and equipment safely to create new items e.g. cutting and sticking or junk modelling.

		How to do a simple running stich on pre-cut holes.	How to share their creation, explaining the process they have used.
Technical vocabulary	**Children will know:** Basic vocabulary around making e.g. construct, mix, bake, stick, join, fold	**Children will know:** Sew, stitch, needle, thread, taste, try, sweet, sour, bitter	**Children will know:** Mould, decorate, sculpt, pinch, flatten, roll
Cooking and nutrition	**Children will know:** That food is made from ingredients and will be able to mix simple ingredients together to create food e.g. peppermint creams or Christmas cakes That they need to wash their hands before and after cooking to stop germs spreading.	**Children will know:** That different fruits are grown in different climates, but can be bought the world over.	

Fern - Year 1/2

Golden Thread	What makes a hero? **Planbee Unit: Delightful decorations**	Do we value what we've got? **Planbee Unit: Making Fire Engines**	What is a leader? **Planbee Unit: Eat more fruit and vegetables**	Where does our food come from? **Planbee Unit: Teddy bear's picnic**	What is play? **Planbee Unit: Moving pictures**	How has communication changed (and stayed the same) through history? **Planbee Unit: Kites**
Making for purpose –	*Children will know:*	*Children will know:*			*Children will know:*	*Children will know:*

Design, make and Evaluate	• What a vehicle is • What an axle, wheel and chassis is and how they work together. • How to choose materials to create their design • How to read evaluation statements and self-assess whether their vehicle met that criteria	• What a vehicle is • How to use their knowledge of existing products and their own experience to design their own fire engine. • What an axle, wheel and chassis is and how they work together. • How to choose materials to create their design. • How to practice their ideas by making prototypes. • How to with help, measure and mark out • How to cut, shape and			• how to use drawing, cutting and joining skills to create a sliding picture mechanism • how to make a lever mechanism to create a moving picture • how to follow simple instructions with adult support • how to cut paper accurately to create a wheel mechanism for a moving picture • design a moving	• How to name different types of kite • how to explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations • how to select from a range of materials, textiles and components according to their characteristics • how to explore what materials products are made from; • as they work, start to identify strengths and possible changes they might make to refine their existing design

		score materials with some accuracy • How to assemble, join and combine materials. • How to explain positives and things to improve for existing products			picture using a taught mechanism of their choice • how to talk about their design ideas and what they are making	•explain how their products will look and work through talking and simple annotated drawings;
Technical vocabulary	Running stitch, back stitch, applique, calico, embellish, cut, button, needle, eye loop, thread	Axel, wheel, chassis, vehicle, movement, evaluate, join, strong, weak, stable, unstable, stiff, flimsy	Table, plate, blend, preserve, flavours, savoury, sweet, modern, bland, mix, flavourful, measure, hygiene, safety, fruit, vegetable, portions, ingredients	Grown, animal, plant, mix, spread, knife, chopping board, skewer, farm, healthy, unhealthy, seasons, produced, caught, grown, hygiene	Sliders, pivoting point, lever, fixed beam, split pin, wheel mechanism, split pin, join,	Diamond kite, inflatable kite, sled kite, rokkaku kite, box kite, parafoil kite, novelty kite, materials, nylon, metal, plastic, wood, weather conditions, light, heavy, carp kite, strong, weak, crepe paper, colour, pattern, streamers, shape
Cooking and nutrition			*Children will know:* • that everyone should eat at least	*Children will know:* • How to wash their hands thoroughly		

			five portions of fruit and vegetables every day and start to explain why • How to describe flavours of food • That some fruits and vegetables have to be prepared before eating • How to use a safety knife correctly and safely. • use what they know about fruits and vegetables to design a salad or smoothie	before handling food. • To taste food and record their preferences before design a sandwich. • How to use a knife safely to prepare and cut food. • How to keep food fresh by sealing and refrigerating it. • that food has to be farmed, grown elsewhere (e.g. home) or caught • that all food comes from plants or animals		

			• as they work, start to identify strengths and possible changes they might make to refine their recipe	• with support, follow a simple plan or recipe		

Bramble – Year 3/4

Golden Thread	What does it mean to be human? **Planbee Unit: Light Up Signs**	What is respect? **Planbee Unit: Sandwich Snacks**	What's worth fighting for? **Planbee Unit: Functions of Fabric**	What is justice? **Planbee Unit: Moving Monsters**	Is it ever ok to break the rules? **Planbee Unit: British Inventors**	What is a fair society? **Planbee Unit: Seasonal Food**
Making for purpose – Design, make and Evaluate	*Children will know:* • how explain how particular parts of light up products work • how to explore and evaluate existing products, explaining the purpose of		*Children will know:* • how to join textiles with an appropriate sewing technique • how to measure, cut, shape and join fabric with	*Children will know:* • That air can be used to make products work • That pneumatic systems use air pressure to make them move or work properly	*Children will know:* • how identify the design features of current and past products (phones) • how to evaluate the key	

	the product and whether it is designed well to meet the intended purpose • how to incorporate a simple electrical circuit within their product • how to design a product following a design criteria • how to learn to use a range of tools and equipment safely, appropriately and accurately • with growing independence, measure and mark out to the nearest cm and millimeter • how to assemble, join and combine material and		some accuracy to make a simple product • how to describe and use different stitches • the differences between natural and synthetic fabrics • how to sew a button onto fabric • the names of a variety of different fabrics • how to sew a product using a design criteria	• How to make a prototype pneumatic system • How to evaluate and draw design ideas from existing pneumatic systems • How to use annotated sketches and cross-sectional drawings to develop and communicate their ideas • when planning, start to explain their choice of materials and components including function and aesthetics • how to cut, shape and score materials with	events, including technological developments, and designs of individuals in design and technology that have helped shape the world • how to assemble, join and combine material and components with some degree of accuracy • how to select materials and explain their choices	

	components with some degree of accuracy • how to select and use tools, equipment, materials and components to make the enclosure of a decorative illuminated sign. • How to evaluate their product against their original design criteria			some degree of accuracy • how to evaluate their product against their original design	• how to design innovative and appealing products that have a clear purpose and are aimed at a specific user	
Technical vocabulary	Light-up signs, neon, bulb, wire, crocodile clip, battery, resistor, electrical circuit, product, purpose, incandescent bulb, design criteria, LED, filament, electricity, cuboid, light box, saw, vice, measure, cladding, switch,	Fats and sugar, dairy, protein, carbohydrates, balance, fibre, energy, starch, vitamins, minerals, antioxidants, vegetarian, soya, lentils, tally, texture, hygiene,	Fabric, clothing, furnishing, cotton, polyester, silk, fleece, velvet, organza, nylon, linen, leather, woven, knitted, tanning, yarn, dying, durability, loom, natural, synthetic, absorbent,	Air, pneumatic system, air pressure, syringe, tube, investigate, prototype, sketches, evaluate	Invention, communicate, telegram, morse code, Alexander Graham Bell, transmitted, demonstrate, microphone, World Wide Web, Tim Berners Lee, reinforced concrete, versatile,	Seasonal, whisking, whipping, kneading, baking, heat source, produce, preserve, folding, sieving/sifting, grating, hygiene, ingredients, recipe, weighing, scales, hemisphere

			insulating, biodegradable, recycle, reuse, manufacture, fastening, back stitch, zigzag stitch, blanket stitch, over stitch,		mackintosh, waterproof,	
Cooking and nutrition		*Children will know:* • how to explain that a healthy diet is made up of a variety and balance of different food and drink and be able to apply these principles when planning and cooking dishes • that to be active and healthy, nutritious				*Children will know:* • That seasonal food is food that is available at certain times of the year. • How to learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedure • when, where and

		food and drink are needed to provide energy for the body • how to design a sandwich considering its health properties • how to prepare a sandwich safely and hygienically • how to consider their design criteria as they make progress and are willing to alter their recipe, sometimes considering the views of others if this helps				how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; • how to start to independently follow a recipe; • how to prepare ingredients using appropriate cooking utensils • how to use a range of techniques such as mashing, whisking, crushing,

		them to improve their sandwich				grating, cutting, kneading and baking • (with support) to use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven • How to measure and weigh ingredients to the nearest gram and millilitre

Laurel - Year 5/6

Golden Thread	Where do we come from? **Planbee Unit: Building Bridges**	Why do people take risks? **Planbee Unit: Great British Dishes**	What are rights and responsibilities? What does it mean to be free? **Planbee Unit: Moving Toys**	Is exploration always good? **Planbee Unit: Programming Pioneers**	What is friendship? **Planbee Unit: Burgers**	What is democracy? **Planbee Unit: Fashion and Textiles**
Making for purpose – Design, make and Evaluate	*Children will know:* • How to critically evaluate the quality of design, manufacture and fitness for purpose of bridges • How to cut a range of materials with precision and accuracy • How to shape and score materials with precision and		*Children will know:* • how to explain how mechanical systems, such as cams, create movement and use mechanical systems in their products • how to complete detailed analysis of products on the market that use a cam system • how to make cam prototypes to	*Children will know:* • how to critically evaluate the quality of design, manufacture and fitness for purpose • that mechanical and electrical systems have an input, process and output • how to apply their understanding of computing to program, monitor and control a product		*Children will know:* • how to critically evaluate the quality of design, manufacture and fitness for purpose of products • how to join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch • how to refine the finish

	accuracy • How to assemble, join and combine materials and components with accuracy • with growing confidence, select from a wide range of tools and equipment, explaining their choices • how to explain how particular parts of their products work • how to use research to inform and develop detailed		test their impact on movement • hot to use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas • how to design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user • learn to use a range of tools and	• how to programme a prototype using a bread board, raspberry pi and scratch • how to create step-by-step plans as a guide to programming		using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape. • how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product • How to consider the availability and costings of resources when planning out designs

	design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market		equipment safely • how to assemble, join and combine materials and components with accuracy • how to independently take exact measurements and mark out, to within 1 millimetre • how to evaluate their ideas and products against the original design criteria, making changes as needed			
Use Technical vocabulary	Pillars, beams, sturdy, clapper bridge, girder, tubular, foundations, load (weight), diagram,	National dish, locality, surfaces, equipment safety, raw, RDA (recommended daily allowance), grams,	Mechanical, linear movement, rotary movement, linkage system, dowel, cam, follower, hand saw, vice, triangular	Computer programme, electrical systems, electrical components, computer-controlled,	Calories, nutrients, guidelines, carbohydrates, fats, proteins, nutritious, patty, breadcrumbs, pan-	Textiles, cotton lint, yarn, bobbins, riveting, designer, trends, dressmaker's dummy, basting stitch, hem, seam,

	trusses, abutments, parapet, pier, compression, suspension bridge,	types of sugar, crumble, harvesting,	reinforcement, joins, decoration,	quartz timer, sensors, programmes, computer memory, memory chip, microprocessors, transistors, engineer, debugging, embedded system, microcontroller, CAD (computer aided design)	fried, barbequed, steamed, baked, dietary requirements, vegetarian, vegan,	applique, pattern pieces, pinning, drawstring cord
Cooking and nutrition		*Children will know:* • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to measure accurately and calculate ratios of ingredients to scale up or			*Children will know:* • how to complete detailed competitor analysis of other products on the market • how to use a range of cooking techniques, such as griddling, grilling, frying and boiling • that food is	

		down from a recipe • how to independently follow a recipe • how to adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma			processed into ingredients that can be eaten or used in cooking • that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes • how to measure accurately and calculate ratios of ingredients to scale	

					up or down from a recipe	