Year	Autumn	Spring	Summer
5	**5.1 Structures**	**5.2 Pulleys and Gears**	**5.3 Combining Fabrics**
Overview	In this term, year 5 students will undertake several small design and make activities to teach them about structures and the application of techniques to strengthen, stiffen and reinforce more complex structures.	Student will be taught what pulleys and gears are and how they are used in mechanisms to provide a mechanical advantage, making things easier to lift and move and to control speed and power.	Students will be introduced to joining and embellishment techniques used in the production of textile products. They will undertake a design and make task in which they will make a final product demonstrating their newly learned production skills.
6	**6.1 Mechanisms**	**6.2 Systems and control**	**6.3 Climate, Sustainability and Inclusive Design**
Overview	In this term, students will learn how different mechanisms can change the direction and magnitude of force. They will look at a series of different mechanisms and make small example mechanisms to investigate this idea.	Students will learn how basic electrical circuits are comprised of components and how different components can be linked to change the inputs, process and output in a system.	Students will be set the challenge of looking at ways in which they can promote the idea of eco awareness and conscious consumerism. They will also consider ways that we can design our environment to be more accessible for everyone.
7	**7.1 Principles of Materials and Manufacturing**	**7.2 Promotional Displays**	**7.3 Tidy Workspaces**
Context	**Building Practical Skills**	**DInosuit**	**Bang Creations**

Overview	Pupils will handle, shape and join sheet materials using different manufacturing processes. They will test and experiment with different mechanical fixing methods and adhesives and then use this knowledge to explain which choices are suitable and why.	Dinosuit is the brainchild of design teacher Ross Padgett, who creates and sells a range of dinosaur-themed wearable fossil kits. This context asks you to consider 'Designing promotional display items for Dinosuit'.	Bang Creations are a UK based design consultancy. This context asks you to consider: 'Creating a tidy workspace'.
8	**8.1 Toys to Teach**	**8.2 Accessible Controllers**	**8.3 Banish Plastic Waste**
Context	**Yoto**	**Scalextric**	**Fussy**
Overview	Yoto are a UK-based company that design and create screen free audio players for children. This context asks you to consider the design context of 'Toys to teach'.	Scalextric are an industry leader in slot car racing since the 1950's. This context asks you to consider the design of 'Accessible controllers'.	Fussy are manufacturers of natural and sustainable body care products. This context asks you to consider 'banish single-use plastic from your bathroom.'
9	**9.1 Making life easier for new parents**	**9.2 Wearable Technology**	**9.3 Short Term Shelters**
Context	**Mammas & Pappas**	**Thrive Wearables**	**RAF**
Overview	Mamas & Papas is a much-loved baby brand, based in Huddersfield, UK. They are a major designer and manufacturer of products aimed at new parents. This context asks you to consider 'Making life easier for parents'.	Wearable technology covers a wide range of applications, from health-care, leisure and communication. This context asks you to consider one such area and explore 'Supporting an athlete with wearable technology'.	The Royal Air Force (RAF) is one branch of the British armed forces. Unlike many companies and organisations looking for opportunities, The RAF engineer solutions to real world issues as they arise. One such area that has been tackled before, and the focus of this context is 'Short-term shelter'.

10	10.1 Product Analysis	10,2- Systems Approach to Designing	10.3- Iterative Design	10.4- Investigate and Research	10.5- Iterative Design	10.6- Inclusive Design	10.7- Case Study
Context	**Encouraging Healthy Lifestyles**	**A Sustainable Future**	**Nature**	**A High-Profile Event**	**Student Living**	**An Aging Population**	**Supporting Developing Countries**
Overview	Pupils will analyse products to identify features in the products. They will also identify the materials, material properties and manufacturing processes used to create the products. They will conduct functional tests to collect and analyse data to inform design decisions.	Pupils will develop knowledge of electronic components and a systems approach to designing. They will learn about different components and use these to build and test circuits for different purposes. They will design a system to control a greenhouse environment, considering the different variables.	Pupils learn about biomimicry and innovation. They will learn how to use sources of inspiration to create a range of ideas for a product encouraging children to grow vegetables. The pupils will develop ideas and manufacture a prototype. Variation allows for different material outcomes.	Pupils will identify a client and investigate the client's needs and wants. They will use and develop different research techniques. They will learn about the economic viability of designs to design a product for a high-profile event.	Pupils will use disassembly to investigate an existing piece of flat-pack furniture, including material sources. They will use this information to inform designs. Pupils will focus on user-centred design to create and develop ideas and then plan the manufacturer for a product.	This unit develops pupils' ability to empathise when designing. Pupils will evaluate existing products through immersive experiences that mimic challenges some people may encounter. They will use this experience to influence the design of a clothes peg for people with limited dexterity.	This unit develops pupils' knowledge of technology in the world around us. The pupils consider a case study 'The Washing Machine Project' to empathise with issues faced by people in developing countries. Pupils develop knowledge of moral and social issues alongside empathy.

11	11.1 Core Principles	11.2 Technical Principles	11.3 Designing and Making Principles	11.4 Iterative Design Principles
Overview	In this unit pupils will develop core principles knowledge with an explicit focus on exam technique.	In this unit pupils will develop technical principles knowledge with an explicit focus on exam technique.	In this unit pupils will develop designing and making principles knowledge with an explicit focus on exam technique.	In this unit pupils will reflect and build upon designing and making principles to which they have been introduced previously. this will be assessed in the Non-Examined Assessment.