

	Term 1	Term 2	Term 3
Unit of work	Food - Celebrating culture and seasonality		Mechanical Systems - Pulleys and Gears
Composite Knowledge	Design, make and evaluate a cereal snack for a consumer for _____ (purpose)		How do gears help to change the speed or direction of movement of an object? What are the inputs, processes, and outputs for a particular object?
Component knowledge	Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Write a step-by-step recipe, including a list of ingredients, equipment and utensils Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. Evaluate the final product with reference back to the design brief and design specification, considering the views of others when identifying improvements.		Explain and demonstrate how gears help to change the speed and direction of movement of an object Demonstrate the inputs, processes and outputs for an object
National Curriculum KS2 (skills)	Design use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world Technical knowledge		

	apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.		
Vocabulary	ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, design specification, innovative, research, evaluate, design brief		pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram annotated drawings, exploded diagrams mechanical system, electrical system, input, process, output design
Links to prior knowledge	Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. Y3/4 Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients. Y1/2		Experience of axles, axle holders and wheels that are fixed or free moving. Basic understanding of electrical circuits, simple switches and components. Experience of cutting and joining techniques with a range of materials including card, plastic and wood. An understanding of how to strengthen and stiffen structure.