DT PROGRESSION UPPER KS2 Selby Community Primary School

DESIGNING	
Understanding contexts, users and purposes	pupils should: • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups *• develop a simple design specification to guide their thinking*
Generating, developing, modelling and communicating ideas	pupils should: • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • generate innovative ideas, drawing on research *• make design decisions, taking account of constraints such as time, resources and cost*
MAKING	
Planning	pupils should: • select tools and equipment suitable for the task *• explain their choice of tools and equipment in relation to the skills and techniquesthey will be using* • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities *• produce appropriate lists of tools, equipment and materials that they need* *• formulate step-by-step plans as a guide to making*
Practical skills and techniques	pupils should: • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design *• use techniques that involve a number of steps* • demonstrate resourcefulness when tackling practical problems

EVALUATING	
Own ideas and products	pupils should: • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make *• evaluate their ideas and products against their original design specification*
Existing Products	pupils should investigate and analyse: • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose
Key events and individuals	pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products
TECHNICAL KNOWLEDGE	
Making products work	pupils should know: • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients

COOKING AND NUTRITION	
Where food comes from	pupils should know: • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking
	pupils should 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 use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking *• that recipes can be adapted to change the appearance, taste, texture and aroma* • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health