



Ambleside CE Primary School - Progression of Skills in DT



Core disciplines: mechanisms, structures, textiles, food and nutrition, understanding materials, electrical systems.

Mechanisms	Year 1 Know common uses of sliders. Know different methods to create card sliders. Know how sliders can create simple mechanisms. Be able to design and make a slider product. Be able to evaluate the success of their product and recommend improvements.
	Year 2 Know how wheels and axles work together. Know the size and position of wheels affects how they move. Be able to create a simple wheel mechanism. Be able to use wheel mechanisms to propel a simple vehicle.
	Year 3 Know types of levers and linkages. Know key terminology relating to levers and linkages. Know how levers and linkages can change the direction of movement. Be able to design and make simplistic lever and linkage products. Be able to evaluate the success of outcomes and recommend improvements. Know different types of energy. Know why designers need to carefully consider energy sources. Be able to identify how things are powered. Be able to suggest appropriate energy sources for design problems.
	Year 4 Know types of hinges and related terminology. Know common uses for hinges. Be able to make a variety of model hinges. Be able to make and evaluate hinged products using modelling materials.
	Year 5 Know technology can be used to program and control a product. Be able to combine elements of their design knowledge to fulfil a brief. Know types of gears and terminology relating to gears.

	<p>Know common uses of pulleys and gears. Know how pulleys and gears change the direction of movement. Be able to design and make products that use pulleys and gears to lift loads. Be able to evaluate the success of outcomes and recommend improvements.</p>
	<p>Year 6 Know types of pulley systems and gears. Know common uses of pulleys and gears. Know how pulleys and gears can create simple mechanisms and change direction of movement. Be able to design and make a model Ferris wheel powered by gears. Be able to evaluate the success of their outcomes and recommend improvements.</p>
Structures	<p>Year 1 Know a freestanding structure is a structure that stands on its own foundation or base without attachment to anything else. Be able to build structures that are freestanding using a range of different materials.</p>
	<p>Year 2 Know paper becomes stronger when it is folded. Know a load is the amount of weight a structure must carry. Be able to fold paper to increase strength and stability. Be able to test and record how much weight paper can hold.</p>
	<p>Year 3 Know bridges are structures that allow people and vehicles to cross over an open space. Know towers, piers and arches provide strength to a bridge. Be able to design and build a beam bridge that can hold the weight of 100 pennies. Be able to identify and name parts of a bridge.</p>
	<p>Year 4 Know triangles provide stability in a structure. Know structural engineers work with architects to ensure structures withstand forces. Be able to make triangles to form and join trusses. Be able to identify the forces that affect structures.</p>
	<p>Year 5 Know engineers use a range of methods to strengthen and reinforce structures. Be able to identify and describe ways that frames are strengthened and reinforced.</p>
	<p>Year 6 Know structures can be supported with guy lines and flying buttresses. Know the shorter the piece of spaghetti, the stronger it will be. Be able to construct a flying buttress to support a tower.</p>

	<p>Be able to use appropriate lengths of spaghetti to increase strength and stability.</p>
<p>Food and Nutrition</p>	<p>Year 1</p> <p>Know why colourful food can be healthier. Know how different foods can affect senses. Be able to peel, chop and grate a selection of vegetables. Be able to modify food to suit food senses. Know the importance of including a range of vegetables in a diet. Be able to peel, grate, season and breadcrumb a range of vegetables.</p>
	<p>Year 2</p> <p>Know why vegetables are so important to our health. Know what processed foods are. Be able to prepare a range of salad vegetables. Be able to shape and season a bread snack. Know the difference between fresh food and ultra-processed foods. Be able to shape and form ingredients to make delicious food. Be able to use a range of culinary techniques.</p>
	<p>Year 3</p> <p>Know what is meant by the term balanced. Know why fresh foods are better. Be able to make a fruit and yoghurt dessert. Be able to make homemade chips. Be able to flavour foods to increase their sensory qualities. Know food can help body and mind. Know how to prepare and cook a range of vegetables. Be able to peel and grate a range of vegetables. Be able to add flavour and texture to foods.</p>
	<p>Year 4</p> <p>Know processed foods have many added ingredients. Be able to make, roll and shape bread dough. Be able to make a soup. Know that cheap, processed food often contains additives, salt and sugar, which makes it less healthy than unprocessed food. Be able to peel, grate and chop vegetables to make economical, tasty and healthy food.</p>
	<p>Year 5</p> <p>Know some foods and key ingredients from other cultures. Know how other cultures' food can be nutritious. Be able to make, roll and cook a flatbread.</p>

	<p>Be able to prepare a range of vegetables. Be able to present food to a high standard. Know how food can be used as medicines. Know how eating foods from different countries can help us be healthy. Be able to roll and shape ingredients. Be able to slice and ribbon a range of vegetables. Be able to stir fry vegetables.</p>
	<p>Year 6 Know what street foods are. Know how snacks can be good foods to eat. Be able to make a burrito. Be able to make a roll bread dough. Be able to make a savoury pastry. Know the different between slow release and quick release carbohydrates. Know how food can improve mood and energy levels. Be able to dice, slice, peel, grate and cook a range of vegetables. Be able to make a sauce and a stock. Be able to use height and colour to improve the visual appeal of food.</p>
<p>Understanding Materials</p>	<p>Year 1 Know building materials have different properties which enable them to be used for different purposes. Be able to identify, sort and select materials that can be used in construction. Be able to combine materials.</p>
	<p>Year 2 Know materials can be modified to become waterproof. Know origami comes from the Japanese words: ori – folding and kami – paper. Be able to make paper waterproof. Be able to transform flat paper by folding and creasing to form a hat.</p>
	<p>Year 3 N/A</p>
	<p>Year 4 N/A</p>
	<p>Year 5 N/A</p>
	<p>Year 6 N/A</p>

Textiles	Year 1 Know fabric can be joined together using running stitch. Know the types and names of tools needed for sewing. Be able to create a running stitch. Be able to select tools for sewing. To be able to thread a needle.
	Year 2 Know how to cut out shapes which have been created by using a template. Know how to use a range of basic sewing skills. Be able to use a template to transfer a pattern. Be able to cut out and join fabric shapes using a template.
	Year 3 Know fabric can be stiffened. Know stiffened fabric can hold a form. Be able to select and apply solutions to stiffen fabric. Be able to make a box using stiffened fabric.
	Year 4 Know fastenings have different functions. Know shank provides a small amount of space between the button and fabric. Be able to select appropriate fastenings and attach them to fabrics. Be able to make a shank for a button.
	Year 5 Know how to waterproof cotton fabrics. Know which fabrics are both functional and hardwearing. Be able to use beeswax to waterproof cotton fabric. Be able to repurpose a pair of jeans.
	Year 6 Know plastic waste can be recycled and repurposed into practical, useful items. Be able to make a crochet hook out of a chopstick. Be able to use plastic bags and snack packets to create practical items.
	Electrical Systems
Year 1 N/A	
Year 2 N/A	
Year 3	

	N/A
	Year 4 Know a switch is an interruption in a circuit. Know switches are widely used in a range of products. Be able to incorporate different types of switches into circuits to perform a function.
	Year 5 N/A
	Year 6 Know more than one switch can be used to change the functionality of a product. Be able to use switches to adapt a product in response to a design brief.