

Year 3 Design Technology Subject Map

DRIVER WORDS

EYFS	Year 1	Year 2	Year 3	Year 4
Explore Create Make	Design Generate Develop	Model Select Build	Investigate Evaluate	Apply our understanding

		Structure-Constructing a Castle	Digital World-Electronic Charm	Mechanism-Pneumatic Toys	DESIGN TECHNOLOGY VOCABULARY
SKILLS	<i>Design</i>	1.Designing a castle with key features to appeal to a specific person/ purpose. 2.Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours. 3. Designing and/or decorating a castle tower on CAD software.	16.Problem solving by suggesting potential features on a Micro: bit and justifying my ideas. 17.Developing design ideas for a technology pouch. 18. Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge.	33.Designing a toy which uses a pneumatic system. 34.Developing design criteria from a design brief. 35.Generating ideas using thumbnail sketches and exploded diagrams. 36.Learning that different types of drawings are used in design to explain ideas clearly.	user, purpose, design, model , evaluate, prototype , annotated sketch , functional , innovative , investigate, label , drawing , function, planning, design criteria, appealing , make, ideas, product,
	<i>Make</i>	4.Constructing a range of 3D geometric shapes using nets. 5.Creating special features for individual designs. 6.Making facades from a range of recycled materials.	19.Using a template when cutting and assembling the pouch. 20.Following a list of design requirements 21.Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch 22.Applying functional features such as using foam to create soft buttons. 23.Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.	37.Creating a pneumatic system to create a desired motion. 38.Building secure housing for a pneumatic system 39.Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. 40.Selecting materials due to their functional and aesthetic characteristics. 41.Manipulating materials to create different effects by cutting, creasing, folding and weaving.	
	<i>Evaluate</i>	7.Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design. 8.Suggesting points for modification of the individual designs.	24.Analysing and evaluating an existing product. 25.Identifying the key features of a pouch.	42.Using the views of others to improve designs. 43.Testing and modifying the outcome, suggesting improvements. 44.Understanding the purpose of exploded-diagrams through the eyes of a designer and their client.	
KNOWLEDGE	<i>Technical</i>	9.To understand that wide and flat based objects are more stable. 10.To understand the importance of strength and stiffness in structures.	26.To understand that, in programming, a 'loop' is code that repeats something again and again until stopped. 27.To know that a Micro:bit is a pocket-sized, codeable	45.To understand how pneumatic systems work. 46.To understand that pneumatic systems can be used as part of a mechanism. 47.To know that pneumatic systems operate by	
	<i>Additional</i>	11.To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose. 12.To know that a façade is the front of a structure. 13.To understand that a castle needed to be strong and stable to withstand enemy attack 14.To know that a paper net is a flat 2D shape that can become a 3D shape once assembled. 15.To know that a design specification is a list of success criteria for a product.	28.To know what the 'Digital Revolution' is and features of some of the products that have evolved as a result. 29.To know that in Design and technology the term 'smart' means a programmed product. 30.To know the difference between analogue and digital technologies. 31.To understand what is meant by 'point of sale display.' 32.To know that CAD stands for 'Computer-aided design'.	48.To understand how sketches, drawings and diagrams can be used to communicate design ideas. 49.To know that exploded-diagrams are used to show how different parts of a product fit together. 50.To know that thumbnail sketches are small drawings to get ideas down on paper quickly.	