Electrical systems							
	EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Design	N/A KS2 only	N/A KS2 only	N/A KS2 only	• Designing a game that works using static electricity, including the instructions for playing the game Identifying a design criteria and a target audience	• Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas	• Designing an electronic greetings card with a copper track circuit and components • Creating a labelled circuit diagram showing positive and negative parts in relation to the LED and the battery • Writing design criteria for an electronic greeting card • Compiling a mood board relevant to my chosen theme, purpose and recipient	• Designing a steady hand game - identifying and naming the components required • Drawing a design from three different perspectives • Generating ideas through sketching and discussion • Modelling ideas through prototypes • Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'
Make				• Making an electrostatic game, referring to the design criteria • Using a wider range of materials and equipment safely • Using electrostatic energy to move objects in isolation as well as in part of a system	• Making a torch with a working electrical circuit and switch • Using appropriate equipment to cut and attach materials • Assembling a torch according to	• Making a functional series circuit • Creating electronics greeting card, referring to a design criteria • Mapping out where different components of the circuit will go	• Constructing a stable base for a game • Accurately cutting, folding and assembling a net • Decorating the base of the game to a high quality finish • Making and testing a circuit

					the design and success criteria		Incorporating a circuit into a base
Evaluation				• Learning to give constructive criticism on own work and the work of others • Testing the success of a product against the original design criteria and justifying opinions	• Evaluating electrical products • Testing and evaluating the success of a final product and taking inspiration from the work of peers	• Evaluating a peer's product against design criteria and suggesting modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of circuit component • Stating what Sir Rowland Hill invented and why it was important for greeting cards • Analysing and evaluating a range of existing greeting cards.	• Testing own and others finished games, identifying what went well and making suggestions for improvement • Gathering images and information about existing children's toys • Analysing a selection of existing children's toys
Technical knowledge				•Understanding what static electricity is and how it moves objects through attraction or repulsion • Generating static electricity independently • Using static electricity to make objects move in a desired way	• Learning how electrical items work • Identifying electrical products • Learning what electrical conductors and insulators are •Understanding that a battery contains stored electricity and can	• Learning the key components used to create a functioning circuit • Learning that copper is a conductor and can be used as part of a circuit • Understanding that breaks in a circuit will stop it from working • Explaining how a series circuit will work in my card	• Learning that batteries contain acid, which can be dangerous if they leak • Identifying and naming the circuit components in a steady hand game

					be used to power products • Identifying the features of a torch • Understanding how a torch works • Articulating the positives and negatives about different torches	• Identifying the negative and positivee leg of an LED • Drawing a series circuit diagram and symbols	