



### As a Year 4 Designer I will know...

Unit title <b>Pavilions</b>  FOCUS: Structures	To understand what a frame structure is.	To know that a 'free-standing' structure is one that can stand on its own.	To know that a pavilion is a decorative building or structure for leisure activities.
	To know that cladding can be applied to structures for different effects.	To know that aesthetics is how a product looks.	To know that a product's function means its purpose.
	To understand that the target audience means the person or group of people a product is designed for.	To know that architects consider light, shadow and patterns when designing.	
Unit title <b>Making a sling shot car</b>  FOCUS: Mechanisms	To understand that all moving things have kinetic energy.	To understand that kinetic energy is the energy that something (object/person) has by being in motion.	To know that air resistance is the level of drag on an object as it is forced through the air.
	To understand that the shape of a moving object will affect how it moves due to air resistance.		



Unit title <b>Torches</b>  FOCUS: Electrical systems	To understand that electrical conductors are materials which electricity can pass through.	To understand that electrical insulators are materials which electricity cannot pass through.	To know that a battery contains stored electricity that can be used to power products.
	To know that an electrical circuit must be complete for electricity to flow.	To know that a switch can be used to complete and break an electrical circuit.	



## As a Year 4 Designer I can...

### Structure: Pavilions

- ✓ Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect.
- ✓ Building frame structures designed to support weight.
- ✓ Creating a range of different shaped frame structures.
- ✓ Making a variety of free-standing frame structures of different shapes and sizes.
- ✓ Selecting appropriate materials to build a strong structure and for the cladding.
- ✓ Reinforcing corners to strengthen a structure.
- ✓ Creating a design in accordance with a plan.
- ✓ Learning to create different textural effects with materials.
- ✓ Evaluating structures made by the class.
- ✓ Describing what characteristics of a design and construction made it the most effective.
- ✓ Considering effective and ineffective designs.

### Mechanisms: Making a sling shot car

- ✓ Designing a shape that reduces air resistance.
- ✓ Drawing a net to create a structure from.
- ✓ Choosing shapes that increase or decrease speed as a result of air resistance.
- ✓ Personalising a design.
- ✓ Measuring, marking, cutting and assembling with increasing accuracy.
- ✓ Making a model based on a chosen design.
- ✓ Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.



## As a Year 4 Designer I can...

### Electrical systems: Torches

- ✓ Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.
- ✓ Making a torch with a working electrical circuit and switch.
- ✓ Using appropriate equipment to cut and attach materials.
- ✓ Assembling a torch according to the design and success criteria.
- ✓ Evaluating electrical products.
- ✓ Testing and evaluating the success of a final product.