Year 4 Design Technology Knowledge Organiser **Golden Thread: Freedom**

Objectives and Sticky Knowledge

Previous Knowledge:

Draw accurate diagrams with correct labels, arrows and explanations.
Correctly identify definitions for key terms.
Identify five appropriate design criteria.
Communicate two ideas using thumbnail sketches.
Communicate and develop one idea using an exploded diagram.
Select appropriate equipment and materials to build a working pneumatic system.
Assemble their pneumatic system within the housing to create the desired motion.
Create a finished pneumatic toy that fulfils the design brief.

Land Objectives and Sticky Knowledge:

Research either a mechanism that can move	**- Design and make either a mechanism that can move – slingshot car**
1.Identify the key features of an effective mechanism. 2.Know that pulleys can be used to lift a heavy mass.	1.Identify the equipment needed to build the structure. 2.Join materials effectively to create a stable structure. 3.Measure, cut and assemble equipment to create a working model.

Sea:

Links with 'Freedom' Golden Thread

Links to CST and CKA values:

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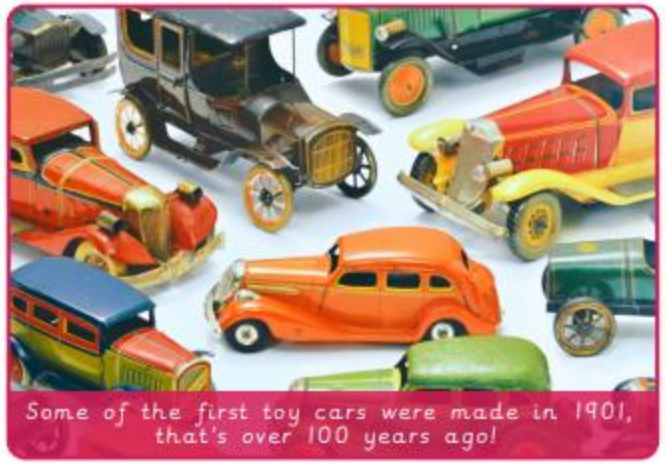
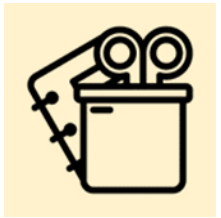
Key Vocabulary

Aesthetic	How an object or product looks.
Air resistance	The level of drag on an object as it is forced through the air.
Chassis	The body of a car.
Design	To make, draw or write plans for something.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Function	The purpose of an object (for example a chair needs to hold a person when sitting down); or how the product works (for example a torch needs to provide light in a dark space).
Graphics	Images which are designed to explain or advertise something.
Kinetic energy	The energy that causes an object to move.
Mechanism	The parts of an object that move together as part of a machine.
Net	A flat 2D shape, that can become a 3D shape once assembled.
Structure	Something that has been made and put together and can usually stand on its own (eg a building, a bridge, a chair).

Did you know?





Sky Objectives:

1. Designing a stable structure that is aesthetically pleasing and selecting materials to create a desired effect
2. Measuring, marking, cutting and assembling with increasing accuracy.
3. Describing what characteristics of a design and construction made it the most effective