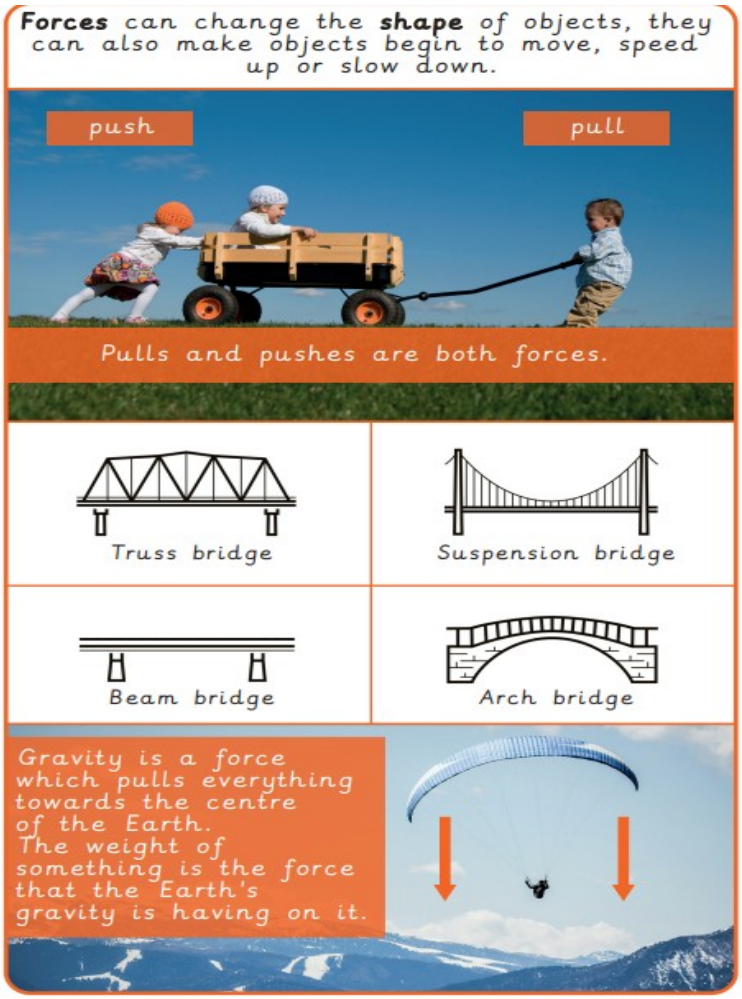
Year 5 Thinking like an designer



Structures - Bridges

Accurate	Neat, correct shape, size and pattern with no mistakes.
Arch bridge	A bridge which is built with a curved arch.
Beam bridge	A bridge which is built with horizontal beams and vertical pillars.
Bench hook	A tool which hooks onto the edge of the workbench. It's used to hold woodwork still when sawing.
Compression	A squashing force caused when parts of a structure are pushed together.
Coping saw	A saw with a narrow D-shaped metal blade, used for cutting curves in wood.
File	A tool used to smooth down rough edges on wood or metal materials.
Mark out	To measure and mark where a piece of material needs to be cut or shaped.
Reinforce	To make a structure or material stronger, especially by adding another material or element to it.
Sand paper	Strong paper with sand on one side to smooth or polish woodwork.
Set square or Try square	A right-angle triangular plate, wood or metal tool used for drawing lines at 90°, 45°, 60°, or 30°.
Shape	The form of an object.
Structure	Something which stands, usually on its own.
Suspension bridge	A bridge which is supported by vertical cables and suspended by cables which run between pillars that are connected onto either end of the bridge.
Tenon saw	A saw with a flat blade, used for cutting wood in straight lines or angles.
Tension	A stretching force caused by two parts of a structure being pulled apart.
Truss bridge	A bridge which is built from a series of triangular beams.

Learning Questions

What are the key features and components of different types of bridges?

How do bridges use structural features to support loads and span distances?

How can you use materials, tools and construction techniques to create a bridge structure?

How do different bridge designs, shapes and materials affect strength and stability?

How can you investigate and compare bridge structures to determine which design is most effective?

How well does your bridge meet the design criteria for strength, stability and purpose?

How can you design and construct a bridge that effectively meets the needs of a specific user or scenario?