

# DT

## Year 4 Knowledge Organiser

### Key Skills

- to design a stable structure;
- to develop knowledge of net and frame structures;
- to select appropriate materials to build a sturdy structure;
- to create a triangular frame structure for support;
- to create a design;
- how to adapt and improve a structure .

### Key Vocabulary

**catapult** a machine worked by a lever and ropes for hurling large stones or other missiles

**forces** energy caused by a physical action

**energy** the strength required for physical and mental activity

**missile** an object which is forcibly propelled at a target, either by hand or from a mechanical weapon

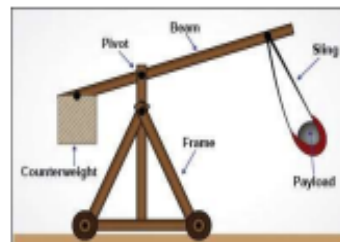
### Key Knowledge

A **catapult** is a mechanism to **launch a missile**, such as a stone or spear, over a distance. In ancient times a catapult was used as a military weapon.



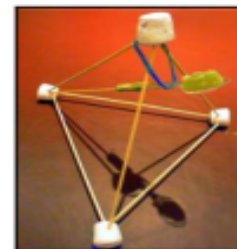
An ancient catapult involves the sudden release of tension to propel the missile.

The ancient Greeks and Romans used a crossbow-like weapon called a ballista which launched arrows, darts or stones at enemy soldiers.



A medieval trebuchet uses gravity and a heavy counterweight to launch the **missiles**.

### Technical Knowledge



**Triangulation** involves the use of triangular shapes to give stability to a structure. This can be seen on bridges or towers, such as the Eiffel Tower in France.



**Triangulation** can relate to hinged or pinned structures, these types of structure usually offer no resistance to bending movements when a force is applied.

**Triangulation** allows the force to be spread.

