

# Term 6: Designing a catapult for a village siege

## Key Knowledge

What is a catapult?

- A catapult is a simple machine that uses force to throw or launch objects over a distance.
- Vikings used catapults as weapons during battles and sieges to throw stones, burning materials, or other items at enemies or fortifications.
- Early Viking catapults were often smaller and simpler than those used by later armies, built from wood, rope, and natural materials.

Word	Meaning
Catapult	A machine used to throw or launch things a long way
Force	A push or pull that makes something move, stop, or change speed/direction
Energy	What is needed to make things happen or move
Elastic	Material that stretches and goes back to its original shape
Pivot	The point where a part turns or moves around
Stable	Sturdy, not likely to fall over
Siege	When an army surrounds a place to try and capture it
Evaluate	To look at how well something works and how it could be better

## How does it work?

- Uses **stored energy** (elastic potential energy) – when you bend, stretch, or twist a material, it stores energy, which is released to launch the object.
- Key forces involved:
  - **Push / Pull:** To prepare the catapult and release the object.
  - **Elastic force:** From materials like elastic bands, twisted rope, or bent wood.
  - **Gravity:** Pulls the object back down to the ground after launch.
  - **Friction:** Can slow movement – we reduce it where parts move, and use it for grip.

## Viking Design Tips

- Vikings used **triangles** in their frames – triangles are very strong shapes.
- They used **lashing** (tying tightly with rope or cord) to join wood pieces together, instead of nails.
- They made things simple but effective – fewer moving parts meant less to go wrong!

