

**Caroline Haslett Primary School - DT**

Topic: Mechanisms

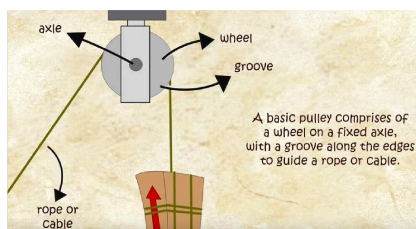
Year 3 - Spring term

Stone Age pulley

**Knowledge**

Pulleys are made by looping a rope over one or more wheels. They are often used to lift heavy objects: pulling down on one end of the rope creates an upward pull at the other end. Looping the rope over more wheels increases the upward force.

Pulleys can be used to change the speed, direction or force of a movement.



Stonehenge is an ancient monument of giant stones built over hundreds of years. Work began around 3000 BC.

**Vocabulary**

- Pulley-a wheel on an axle designed to support movement.
- Upward pull-a force of upward movement.
- Downward pull- a force of movement going down.
- Groove-a long narrow cut or depression into hard material.
- Looped rope- a shape produced from a curved rope that bends around and crosses itself.

**Skills**

- Disassemble examples of pulleys to see how they work.
- Design with a purpose.
- Select appropriate tools, materials, equipment and components to make their pulley.
- Set up equipment safely and use it effectively.
  - Wheels
  - Axles
  - String
  - Hook

**Design, make, evaluate.**

1. Children to research the making of Stonehenge. How could various mechanisms be used to move the stones? Think about levers and wheels and what mechanisms could be created using various parts.
2. Look at examples of pulleys in everyday life. Construct and disassemble examples using construction equipment and or toys, e.g. Lego, knex etc.
3. Design a pulley system that will be able to lift a weight.
4. Make a pulley system. There must be no damage to the pulley system or weight as the weight is lifted.
5. Evaluate, refine work and techniques as work progresses.

Skills	
Design	<p>Begin to research others' needs.</p> <p>Show design meets a range of requirements.</p> <p>Describe purpose of product.</p> <p>Follow a given design criteria.</p> <p>Have at least one idea about how to create a product.</p> <p>Create a plan which shows order, equipment and tools.</p> <p>Describe design using an accurately labelled sketch and words.</p> <p>Make design decisions.</p> <p>Explain how the product will work.</p> <p>Make a prototype.</p>
Make	<p>Select suitable tools/equipment, explain choices; begin to use them accurately.</p> <p>Select appropriate materials, fit for purpose.</p> <p>Work through the plan in order.</p> <p>Consider how good the product will be.</p> <p>Begin to assemble, join and combine materials and components with some accuracy.</p>
Evaluate	<p>Look at design criteria while designing and making.</p> <p>Use design criteria to evaluate the finished product.</p> <p>Say what they would change to make design better.</p> <p>Begin to understand by whom, when and where products were designed.</p> <p>Learn about the inventors of the pulley system.</p>
Mechanisms	<p>Select appropriate tools/techniques.</p> <p>Alter product after checking, to make it better.</p> <p>Use pulleys to create movement and lift a weight.</p> <p>Construct and disassemble examples using construction equipment.</p>
Construction and materials	<p>Use appropriate materials.</p> <p>Continue working on a product even if the original didn't work.</p>