



# Design and Technology

## Year 5 Autumn – Scream Machines



As part of your Scream Machine learning, you will be creating a prototype of a fairground ride using mechanisms and electrical components.

**Mechanisms and Structures** - Designers need to consider how to ensure their structure is strong enough for its purpose (What does it do?) and which type of mechanism is most appropriate to use.

### What we know so far

- In Year 1, we made moon buggies with moving wheels.
- In Year 2, we used a winding mechanism to make a functioning draw bridge.
- In Year 3, we used screws and string to make a puppet move.
- In Year 4, we considered how to best choose materials for different structures ensuring they were strong enough for their purpose.

### Key Vocabulary

**Levers** – Strong bars that are used to lift and move something heavy.

**Pulley** – Simple machine for moving heavy objects up or down, consisting of a small wheel over which a rope or chain is attached to the object.

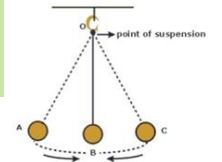
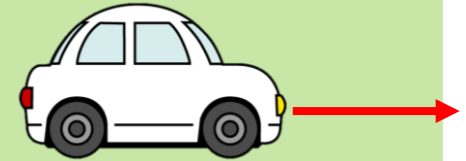
**Gears** – Part of machines that meshes with another toothed part to make things move or to change speed or direction.

**Motor** – An electric motor converts electrical energy into physical movement.

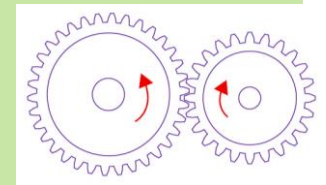
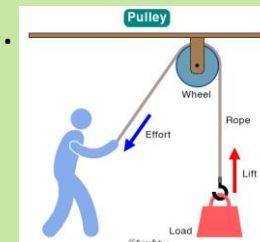
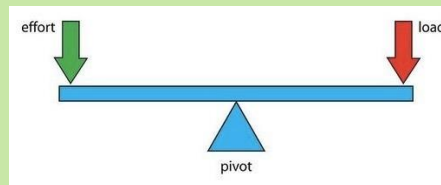
### New Knowledge

There are 3 main types of motion:

- Linear: movement along a straight line, in one direction.
- Oscillating: repeating the same movement over and over, backwards and forwards.
- Rotary: movement of any object about an axis.



There are 3 main types of mechanism: levers, pulleys and gears.



A motor can be used to make a gear work and therefore creating a rotating part.