

**Year Group 5**  
spring

**Knowledge Organiser:** Design & Technology

**Theme:** Space Race



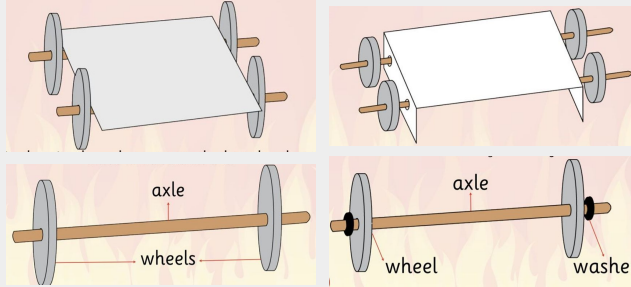
**Strands:**

Mechanisms:  
Wheels & Axles

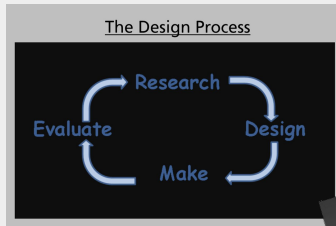
**What have I learnt already:**

In KS1, you learnt to name the parts of a vehicle and understood how wheels move.

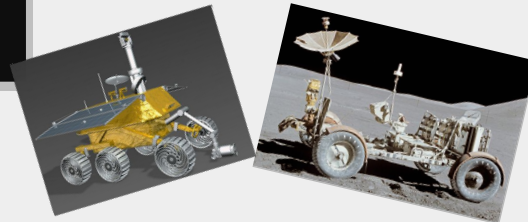
**Key knowledge**



To know that wheels and axles can work together in two different ways and they may be assembled as either fixed or free axles.



To follow the Design Process to create a Space Rover for NASA's next exploration of Mars.



**Key Vocabulary:**

Fixed axle	The axle does not rotate so the wheels need to rotate freely around it
Free axle	The axle is free to rotate so the wheels need to be fixed to, and turn with, the axle
Axle holder	The component through which an axle fits and rotates
Chassis	The base frame and working parts (wheels & axles) of a vehicle
Friction	Resistance which is encountered when two things rub together