Design and Technology – Year 6

Autumn 2 – **Design, make and evaluate a fairground ride using pulleys and gears**

In Design & Technology I have already learnt:

To use a simple circuit with a switch for an electrical product.
There are different types of movement including rotary, oscillating and reciprocating movement.
To make a 3D chassis from a simple 2D net.
To use ribbing, laminating and corrugating techniques to strengthen a product.
To use junior hand tools safely.

Design, make, evaluate, user, purpose, ideas, design criteria, product, function, vehicle, wheel, axle, axle holder, chassis, dowel, body, cab, assemble, shape, finish, free, moving, mechanism, shell structure, shape, net, 3D, three dimensional, marking out, scoring, tabs, adhesives, corrugating, ribbing, laminating, correflute, ccircuit, fault, connection, switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, frame structure, reinforce, stability

I can explore a range of switches including a push to make switch, a push to break switch, a toggle switch, a micro switch and a reed switch.

I can use each type of switch in a simple circuit so that I understand how the user operates them and how they work.

I can investigate and analyse existing products and toys that incorporate gear or pulley systems.

I have strengthened by knowledge of frame and shell structures and will select the structure most appropriate to my design.

I can use construction kits to make working models to investigate movement.

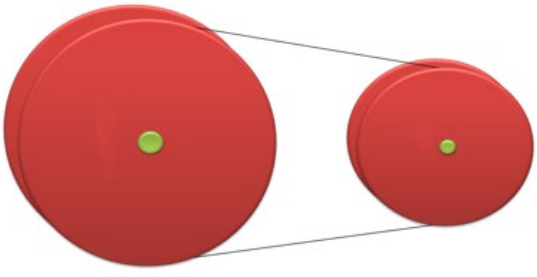
I can investigate different sized pulleys to learn about direction and speed of rotation.

I can explore combinations of two different sized gears meshed together.

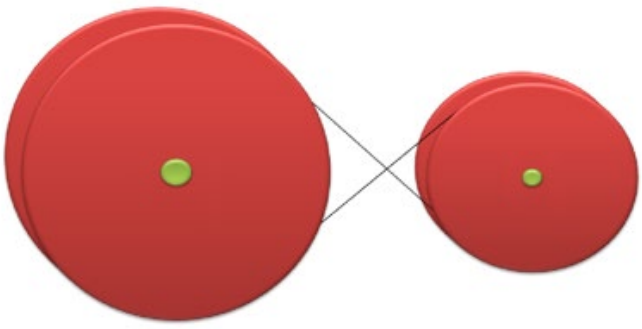
I understand how the size of the driver gear affects the speed of the follower gear.

New Design & Technology words:

a push to make switch, a push to break switch, a toggle switch, a micro switch, reed switch, series circuit, parallel circuit, input device, output device, **chassis**.



A pulley system with the same direction of rotation



A pulley system with opposite direction of rotation