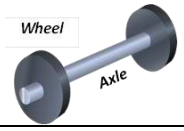
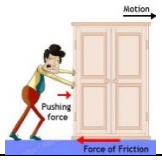
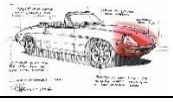
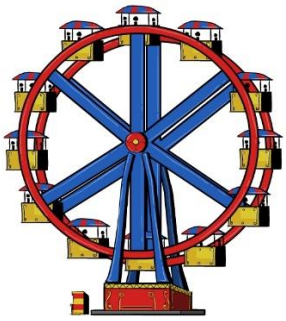
DT Knowledge Organiser — Incredible Vehicles — Year 2 and 3 — CYCLE 2

Key Vocabulary		Definition
1.	Mechanism	**The parts that make something work. Mechanisms are all around us!** Most objects that help us in our lives are made up of different mechanisms.
2.	Wheel	A circular object that rolls on the ground helping vehicles and other objects to easily move.
3.	Axle 	A rod that helps wheel to rotate. The axle goes through the wheel. The wheel can either rotate freely on the axle, or be attached to (and turn with) the axle.
4.	Axle holder 	Helps to guide the axle into the correct hole.
5.	Friction 	**Friction is** a force between two surfaces that are sliding, or trying to slide, across each other.
6.	Dowel 	A circular rod usually made from wood, plastic or metal used to attach things together.
7.	Chassis 	The frame or base on which the vehicle is built. A chassis should be strong and rigid enough to hold the vehicle. The chassis should include axle holders.
8.	Design 	A drawing of something that you plan to make. Adding labels can help you think about what you will need.
9.	Washer 	A small flat metal, rubber, or plastic ring fixed between two joining surfaces.
10.	Evaluate	Designers evaluate their finished products or prototypes in order to test whether they work well and if the design can be corrected or improved. Whatever you have designed it is important to evaluate your work constantly during the project.

Examples of Mechanisms



A **Ferris Wheel** is an example of a wheel and axle mechanism in action. Normally, Ferris wheels are fixed to the axle. Force is applied to the axle which makes it spin. This makes the giant wheel spin too!

Roller skates are another example of wheel and axle mechanisms. Obviously there are 4 wheels instead of one, and the wheels are much smaller. Often, the wheels rotate free from the axle, but sometimes they are fixed.

Toy cars (and real cars) use wheel and axle mechanisms to move. On toy cars, the wheel is normally fixed to the axle, meaning both the wheel and axle spin. This makes it really important that there is not too much friction on the axle, or the wheel will not move!

HEALTH AND SAFETY

Remove any jewellery and tie back long hair	Wear an apron and roll up your sleeves	Walk safely and calmly around the classroom	Keep your work area and floor area clean	Follow the teacher's cutting instructions	If you need to move around with scissors, hold around the closed blade, face down.

Finally, report all spillages and clean up properly after yourself, leaving the classroom tidy.