

Mechanisms: Fairground Wheels

What I should already know

- I should know that wheels need to be round to rotate and move.
- I should understand that for a wheel to move it must be attached to a rotating axle.
- I should know that an axle moves within an axle holder which is fixed to the vehicle or toy.
- I should know that the frame of a vehicle (chassis) needs to be balanced.
- I should know some real-life items that use wheels.

What I will learn (Sticky knowledge)

- I can explore wheel mechanisms and design a wheel.
- I can select appropriate materials.
- I can build and test a moving wheel.
- I can make a structure with a rotating wheel.
- I can evaluate my design.

What I will learn next

- I will learn how pneumatic systems work.
- I will design a toy that has a pneumatic system.
- I will create a pneumatic system.
- I will test and finalise my design.

The features of a ferris wheel.



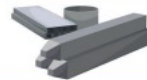
Materials have different properties. Your **ferris wheel** design will need to be **stable** and **strong**. Which materials could you use?



Bricks are made from clay. They are stiff and **strong**.



Wood comes from trees. It is **strong** and flexible.



Metal comes from ore, that is mined underground. It is **strong** and hard.



Key Vocabulary

Axle	A long straight piece of material which connects to a rotating component (e.g. the wheels of a car)
Decorate	To add details to a design to improve its appearance.
Evaluation	When you look at the good and bad points and think about how you could improve them.
Ferris Wheel	A ride at a fairground that carries passengers around a large vertical wheel.
Ferris wheel pod	The container which carries passengers around the ferris wheel.
Mechanism	The parts of an object that move together as part of a machine.
Stable	An object that does not easily topple over.
Strong	Something that is not easily broken.
Test	To find out if something works as it should.
Waterproof	Material that does not allow water to pass through it.
Weak	Something that is easily broken.

Did you know?

The first **ferris wheel** to be built was called the Chicago wheel, in 1893 over 100 years ago!

It was over 80 metres tall.

