



Wheels - Why do the wheels on my skateboard have to be round?

Fact

- Well, it wouldn't go very fast if they weren't round.
- Round wheels move really easily over a surface – they roll.
- Only a tiny section of a round wheel touches the road at one time. This means round wheels create very little friction. The shape makes the least path of resistance.
- Wheels with lots of sides or that have a rough surface create more friction so they won't roll easily. They create a lot of resistance and would make the ride really bumpy.

Do you know

- The wheel was invented thousands of years ago.
- Before the wheel people moved heavy things on rollers made out of logs.
- And before that people used to drag or push their heavy loads along the ground.
- Wheels are now used in all kinds of machinery and equipment like winches, pulleys and cogs.
- The oldest wheel ever found would have been made thousands of years ago.

Experiments you can do

Reinvent the wheel

What you need:

A toy with wheels

Plastercine or play dough

A board – like a chopping board

An empty cereal box.

What you do:

Prop one end of the board up on the empty chopping board to make a ramp. Hold your toy at the top of the board and watch how fast it runs down the ramp to the bottom. Try it a few times and watch the wheels really closely to see how they work.

Then put a blob on plastercine or play dough on each wheel and make four triangle shaped wheels. Try running the toy down the board and see what happens. Try square shaped wheels with the play dough. Do any of the shapes work as well as the round wheels?

Other Investigations

Use your plastercine blobs to make round wheels around the wheels on the toy. Run the toy down the chopping board ramp. Do these wheels work as well as the toy's wheels? Probably not. That's because of friction.

Stretch a rubber band around the wheels on one side of the toy. Does that change how the wheels move?

Try the experiments on the friction fact sheet.