



Earth Spin - Why don't we feel the earth moving?

Fact

- We don't feel the earth moving because the human body can't sense speed unless the speed changes and because we're on earth we're moving at the same speed it's moving.
- This is called relativity (rell-a-tiv-it-ty)
- If the speed that earth was travelling at changed, we'd notice the difference.

Do you know

- The path Earth takes as it orbits around the sun is 942 million kilometres long and it takes one year to travel that far, which means it travels at 107 kilometres an hour or 30 kilometres a second!
- Earth also spins and it takes one whole day (24 hours) to complete one spin which is 1670 kilometres an hour or 500 metres a second.
- Some scientists believe that Earth was formed when gravity on a huge cloud of dust and gas started the dust and gas spinning slowly. As the gravity pulled all the dust and gas together tightly and the spinning got faster.
- This is called Conservation of Angular Momentum and you can see it in action when you watch an ice skater pull their arms and legs in tight against their body as they spin on one leg.

Experiments you can do

Next time you're out in your car with your family going down a suburban road at 50 kilometres an hour. Sit still and see if you can feel how fast you're going. Does it feel very fast? Close your eyes and see if it feels like you're going very fast. Then wind down the window so you can feel the air rushing past and into the car. Does that make a difference in how fast you feel the car is going?

You can try this experiment when you're travelling in any kind of vehicle – a train, a bus, a plane, a boat – just not when you're the driver!!

Other Investigations

If you ever get a chance to sit in a swivel chair (one that spins right round) first ask the grown up who owns the chair if you can test the theory of "Conservation of Angular Momentum" This will impress them with your politeness and your science knowledge and they're bound to say yes straight away 😊

Then make sure the chair is in the middle of the room, so you won't hit anything with the chair or your legs or arms. Spin the chair using your feet pushing on the ground then quickly pull your arms and legs in tight. You should feel the spin of the chair speed up slightly. Try it again starting with your legs and arms out at your sides and see if that makes a difference.

Jokes

Why did the earth stop spinning? It was getting dizzy