

STICKMEN'S GUIDE TO SCIENCE AND TECHNOLOGY

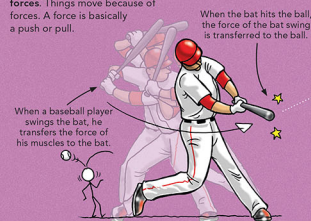
plus ENGINEERING and MATHS

Science

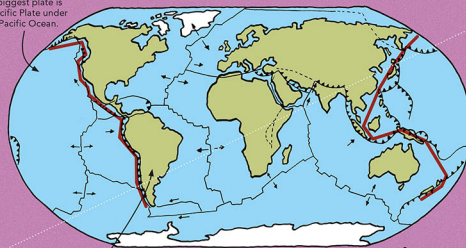
Scientists are people who explore the world and how it works. They study everything from how microbes grow to what happens when a volcano erupts, looking for patterns and rules to help understand why things happen and predict what might happen in the future.

Feel the force!

Physicists are especially interested in forces. Things move because of forces. A force is basically a push or pull.



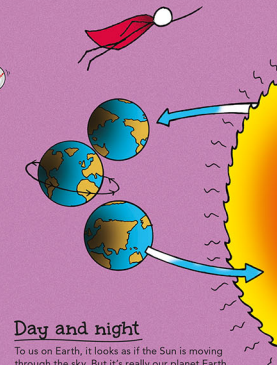
The biggest plate is the Pacific Plate under the Pacific Ocean.



All the other major plates carry continents.

World on a plate

Earth's surface is cracked into giant slabs of rock called **tectonic plates** that are forever shifting around the world, carrying the continents with them. There are seven gigantic plates, ten smaller plates, and dozens of "micro" plates.



Day and night

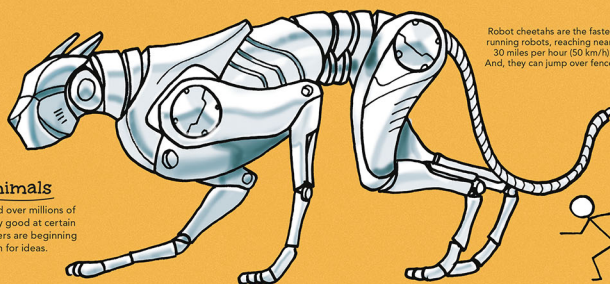
To us on Earth, it looks as if the Sun is moving through the sky. But it's really our planet Earth moving while the Sun stays still. Earth spins completely around every 24 hours. It turns us to face the Sun and then turns us away again, giving us day and night.

Technology

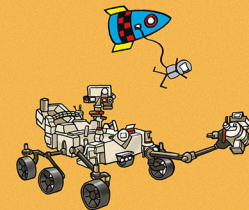
Technology is all about ingenious machines and processes, and getting things to work. It is what makes the modern world tick!

Robo-animals

Animals have evolved over millions of years to be especially good at certain things, so robot makers are beginning to look to them for ideas.



Robot cheetahs are the fastest running robots, reaching nearly 30 miles per hour (50 km/h). And, they can jump over fences.

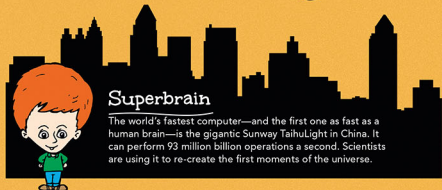


Space bots

At the moment, it is impossible for humans to go to Mars and come back. But robots, such as Curiosity Rover, can be landed there.

Superbrain

The world's fastest computer—and the first one as fast as a human brain—is the gigantic Sunway TaihuLight in China. It can perform 93 million billion operations a second. Scientists are using it to re-create the first moments of the universe.



Can't see me!

Scientists are developing devices to make things invisible. You may think an invisibility cloak is just Harry Potter magic. But scientists are now developing "meta" materials that divert light rays—and really could make you invisible.

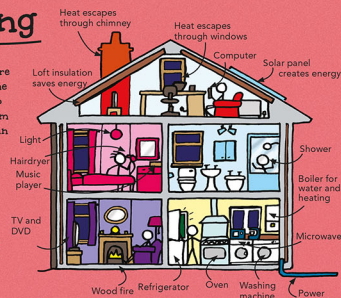


Engineering

Engineers design structures, machines, and materials. They are the people who come up with the directions that tell people how to build, make or shape things, from a giant road tunnel to the pipes in your house.

Electricity at home

We use a lot of electricity! The average home around the world uses 3,500 kilowatt hours each year. From the moment we get up, we start using electricity for heat, cooking, light, radios, and many other things.



Maths

Maths is one of the smartest of all human skills, and it can do amazing things. You use it everyday without even realizing it!

Big numbers

Big numbers are used both for things that are really big and things that are small. There is no limit to just how big a number can be but mathematicians have devised simple shorthands to make really big numbers easier to write down.

