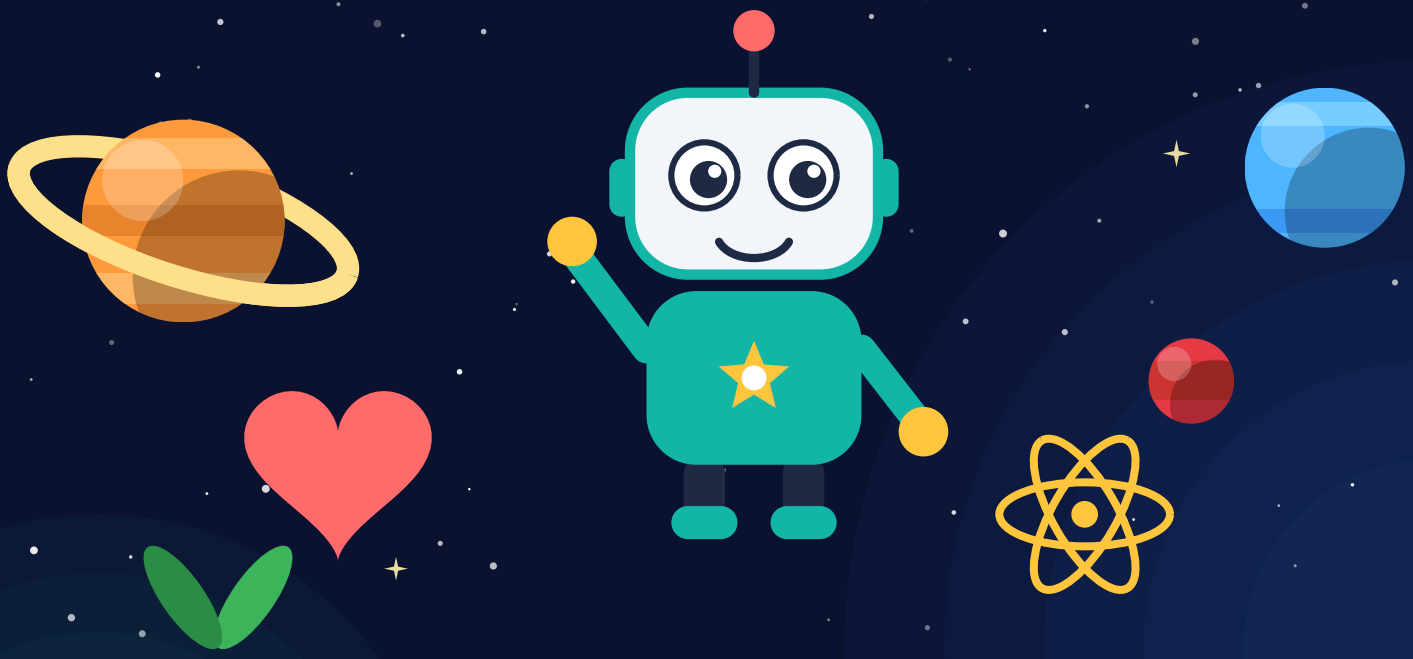
FOR CURIOUS KIDS - AGES 6 TO 12

KIDS SCIENCE & STEM BOOK



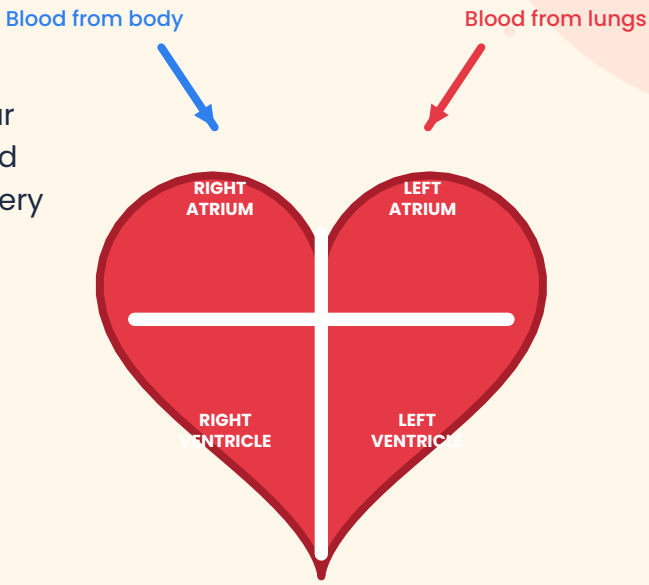
by Tasvir Ahmed

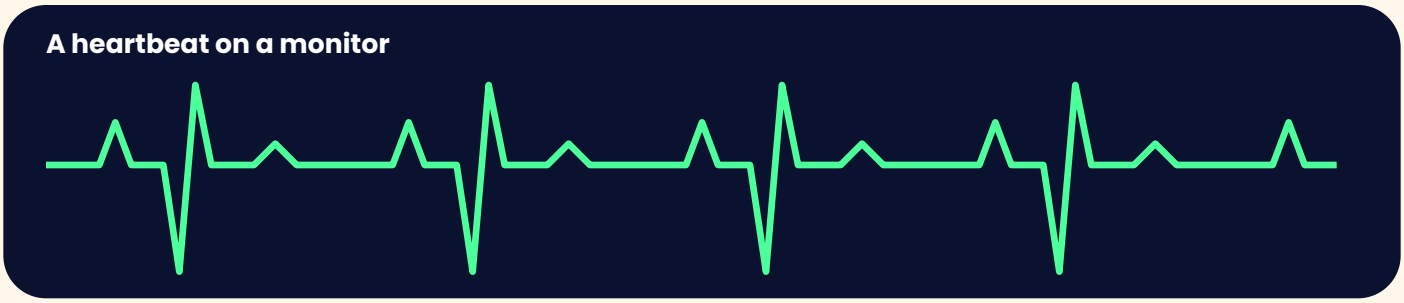
Human Body | Space & Planets | Plants & Animals

Easy Science Experiments | Fun Facts | Puzzles

Heart & Blood

Your heart is a strong muscle about the size of your **fist**. It never takes a break! Every beat pushes blood around your body, carrying oxygen and food to every cell.





What is in your blood?

Red cells
Carry oxygen around your body.

White cells
Fight germs that make you sick.

Platelets
Plug cuts so you stop bleeding.

Plasma
The yellow liquid that carries it all.

FUN FACT

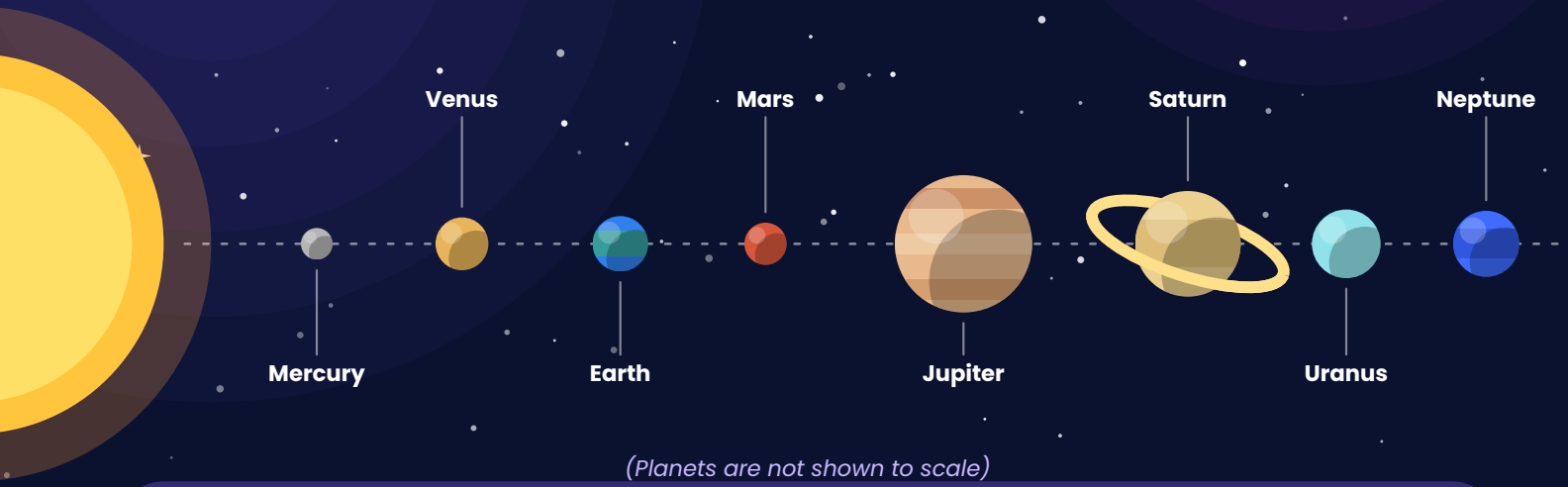
Your heart beats about **100,000 times** every day. Over a lifetime, it can beat more than 2.5 billion times!

TRY IT

Squeeze a tennis ball 60 times in one minute. That is how fast your heart works, and it never gets tired!

Our Solar System

Our solar system is a family of **8 planets**, plus moons, asteroids and comets, all circling the Sun. Gravity keeps everything in orbit.



(Planets are not shown to scale)

REMEMBER THE ORDER

My	Very	Educated	Mother	Just	Served	Us	Nachos
Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune

Say it out loud and you will never forget!

Rocky planets

Mercury, Venus, Earth, Mars. Small, solid, close to the Sun.

Gas giants

Jupiter and Saturn. Huge balls of hydrogen and helium.

Ice giants

Uranus and Neptune. Cold, with icy and watery layers deep inside.

★ FUN FACT

Jupiter is so big that all the other planets could fit inside it. A day on Jupiter is only about **10 hours** long, the shortest of all the planets!

Animal Groups

Scientists sort animals into groups based on what they have in common. Here are six big groups.



MAMMALS

Have fur or hair, feed milk to their babies, and are warm-blooded.

Examples: Cats, whales, humans, bats



BIRDS

Have feathers and wings, lay eggs, and have a beak.

Examples: Eagles, parrots, penguins



REPTILES

Have dry, scaly skin and lay eggs. They are cold-blooded.

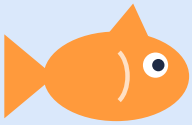
Examples: Turtles, snakes, lizards



AMPHIBIANS

Live part of life in water and part on land. Smooth, damp skin.

Examples: Frogs, toads, salamanders



FISH

Live in water, have gills to breathe, fins and scales.

Examples: Sharks, goldfish, salmon



INSECTS

Have 6 legs, 3 body parts, and usually 2 antennae.

Examples: Ants, bees, ladybugs

FUN FACT

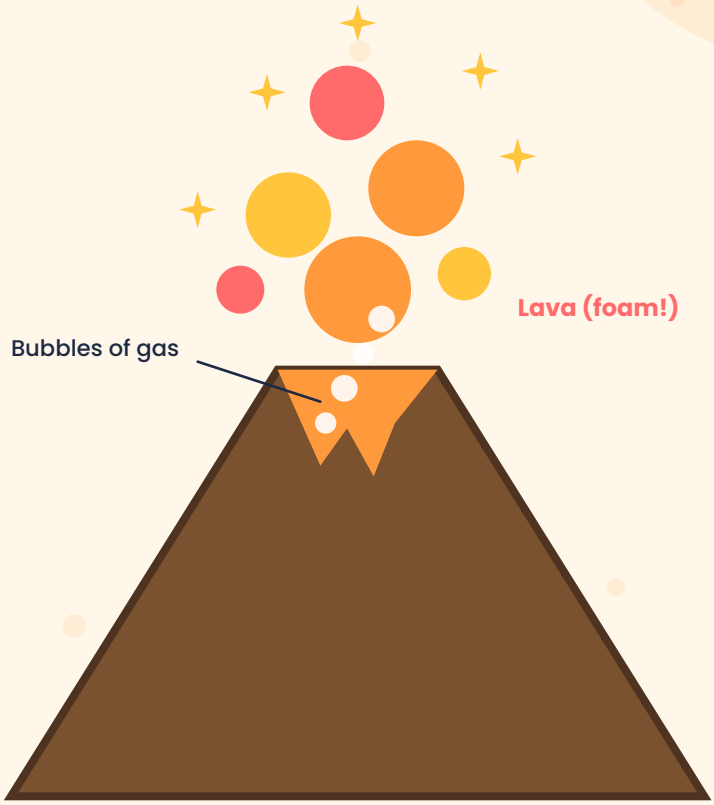
Scientists have named about **1.5 million** kinds of animals, and about 8 out of every 10 are insects!

Experiment 1: Volcano

Make an erupting volcano!

YOU NEED

- Small plastic bottle or cup
- 2 tablespoons baking soda
- 1/2 cup vinegar
- A squirt of dish soap
- Red food coloring (optional)
- A tray or baking dish



STEPS

1. Stand the bottle in the tray. Build a mountain of dirt, sand or clay around it.
2. Add baking soda, dish soap and a few drops of food coloring.
3. Pour the vinegar in quickly and step back. Whoosh!

★ THE SCIENCE BEHIND IT

Vinegar is an **acid** and baking soda is a **base**. When they meet they react and make **carbon dioxide gas**. The gas makes foamy bubbles that push up and out of the volcano! Real volcanoes erupt because hot melted rock (magma) and gas push up from deep inside Earth.

★ TRY MORE

Add more baking soda or use warm vinegar. Does the eruption get bigger? Write down what happens.

★ WHAT IF?

What happens if you use lemon juice instead of vinegar? Make a guess first!

My guess: _____ What happened: _____