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Astronomy - Out of this world!

created by

Basher

written by

Dan Green

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The Sun



- ✦ Yellow dwarf star halfway through a 10-billion-year life
- ✦ Mammoth ball of exploding gas, its heart burns at 15 million °C
- ✦ Its closest star is a puny Brown Dwarf, 40 trillion km away

I'm a total star – the centre of everything, baby! A fearsome fireball burning 600 million tonnes of hydrogen every second, I provide light and heat for the orbiting scraps of matter called planets. Holding onto a chunky 99.8 per cent of the mass of the Solar System, I'm the largest thing in space for light years around.

I'm a seething mass of anger. At the heart of my boiling cauldron, atoms of hydrogen fuse together to make helium (nuclear fusion), releasing enough energy to blow me to smithereens. But the gravity from my sheer bulk keeps me together. I have a blast, spraying a lethal wind of charged particles and neutrinos into the Solar System. Be thankful your planet is protected by a magnetic shield, otherwise my radioactive winds would finish you off!

Never look directly at the Sun.

- Size: 1.39 million km across
- Surface temperature: 5500 °C
- Mass: 333,000 times Earth's



The Sun

Solar System



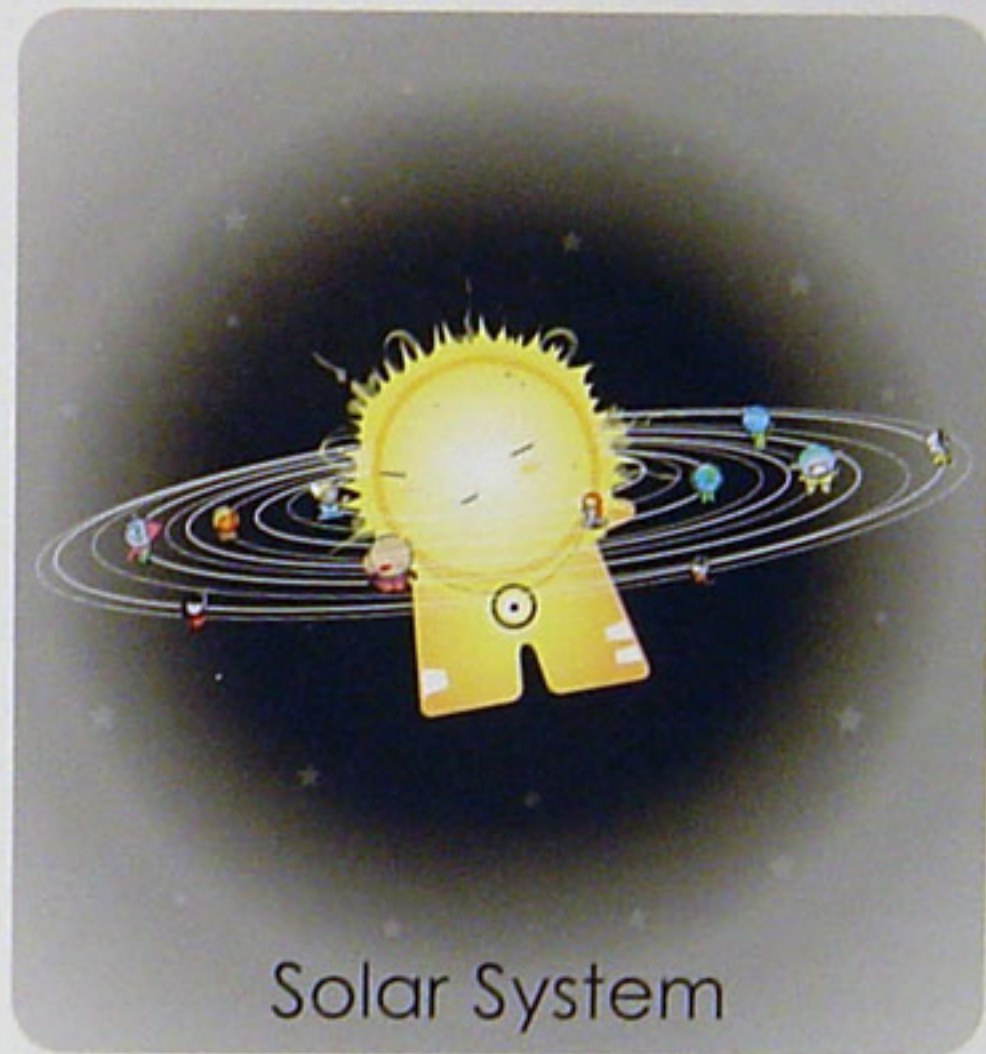
- ✧ Far-flung family that revolves around a star called the Sun
- ✧ This "home" system is in the Orion Arm of the Milky Way galaxy
- ✧ It takes 225 million years to orbit the galaxy centre

We are a big, happy family, who live in a region of space a million times wider than Earth. The Sun is like a hippo hula-hooping through space, creating a graceful and fantastically tubby shape. The Big Daddio Sun holds nearly all of the weight and his enormous gravity makes the eight planets (with their 166 known moons), three dwarf planets, plus billions of other asteroids, comets, meteoroids and interplanetary dust, spin like a vast whirling tutu around him.

All the main planets circle the Sun, in the same direction, on a flat disk around the Sun's middle. Distances between them are immense – Saturn is twice as far from the Sun as its inner neighbour, Jupiter, is. With light zapping along at 300,000 km/s, it would be five hours before the farthest members of the family noticed if the Sun switched off!

Proxima Centauri is the closest star to the Sun and Solar System.

- Age of Solar System: 5 billion years
- Planets formed: 4.6 million years ago
- Sun's gravity extends: 20 million km



Solar System