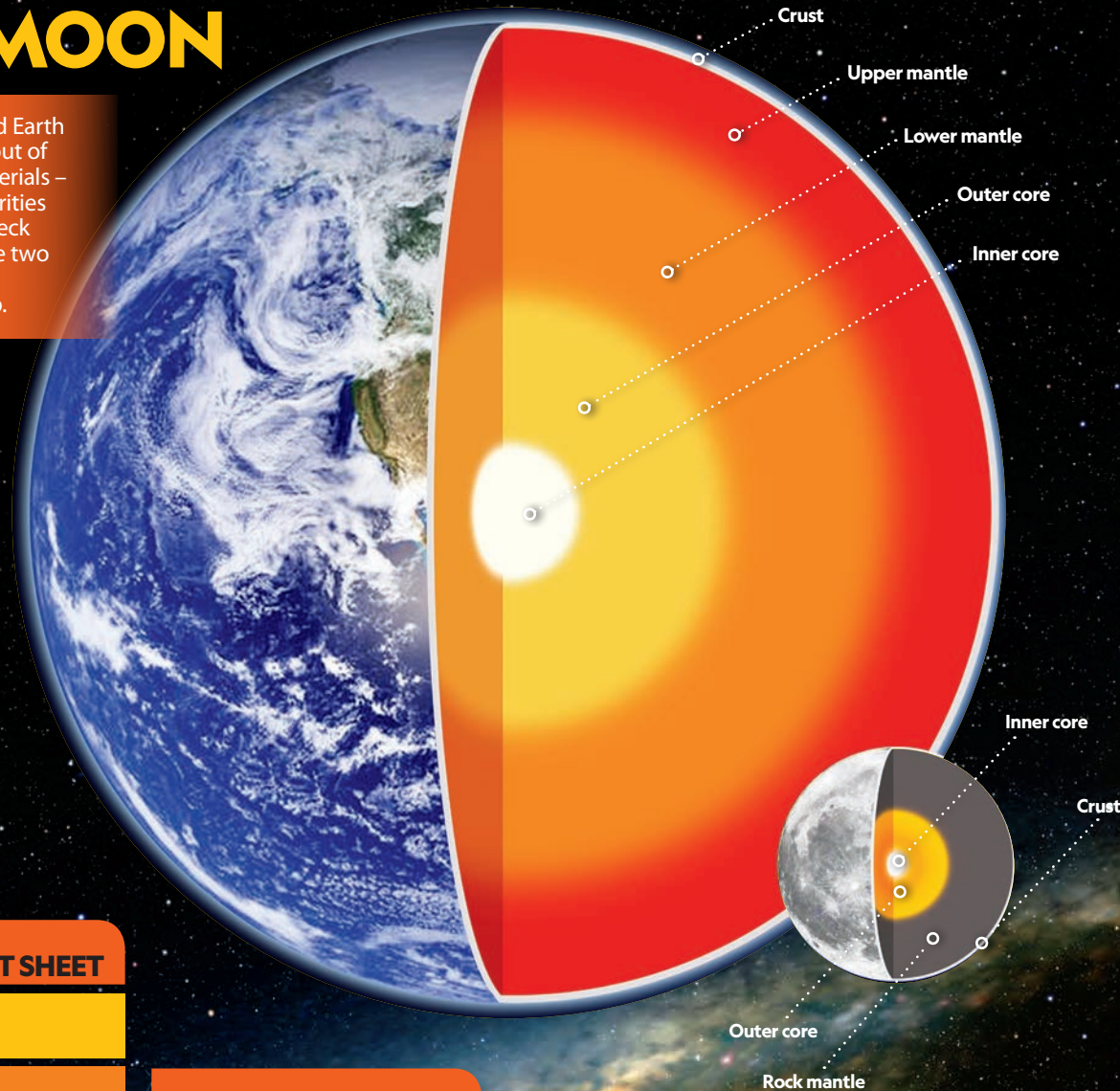


EARTH VS. MOON

The Moon and Earth were forged out of the same materials – but the similarities end there. Check out how these two very different rocks stack up.



EARTH FACT SHEET

Length of day:
24 hours

Diameter:
12,756 km

Highest surface temperature:
56.7°C

Lowest temperature:
Minus 97.8°C

MOON FACT SHEET

Length of lunar day:
27.3 Earth days

Diameter:
3,476 km

Surface temperature (day):
133.8°C

Surface temperature (night):
Minus 153.8°C

From Earth, we always see the same side of the Moon. That's because it's in 'synchronous rotation' with us.

The Moon isn't round! It has a bulge on either side, giving it a slight lemon shape.

The word 'lunar' comes from 'luna', which is Latin for moon.

LIFE WITHOUT THE MOON

Without our Moon, life on Earth would be totally different. **Days would be shorter**, for instance. Without the Moon and its **gravitational pull** slowing down the rotation of the Earth, our day might only last **six to eight hours** instead of 24!

And forget about **autumn leaves** – the **seasons wouldn't exist**. Without the Moon's pull on it, Earth might **wobble on its axis** like a dangerously **spinning top**, creating **200-kmph winds** and massive **hurricanes** one day, with relatively calm weather and totally different temperatures the next. Plus, it would be almost **pitch-black** every night of the year.

Oh, and **humans might not even exist**. That's because without the Moon, most creatures would call the **ocean** home. Less than half a billion years ago, **all life on Earth was living in the seas**. Bizarre and colourful creatures swam freely through the water or scurried around the ocean

bed. Mounds of hardened black lava poked above the waves. There were no trees – only a few species of hardy green plants had made the transition onto land.

So how did the Moon help more species adapt to life on land? The gravitational pull of the Moon creates **high and low tides** in the ocean. During **low tide**, water recedes back into the ocean, **exposing tide pools** – shallow pools of salt water on beaches and nearby rocks – to the air. Millions of years ago, the resilient life-forms that lived in tide pools **evolved new adaptations** that helped them **survive dry spells**.

Eventually they left the oceans to **live on land**. These early land explorers evolved into **amphibians, dinosaurs, birds, insects, snakes and mammals**. (Hi, **humans**!) But without the Moon, low tide wouldn't exist, and these creatures might have stayed underwater forever. Yikes!

The interior of both the Earth and the Moon are hot. **Magma** (hot, liquid rock) from Earth's mantle still erupts onto its surface. But it doesn't do that on the Moon.

The Moon is about one-quarter of the size of Earth. It's a natural satellite that orbits our planet.

