

6 The Earth and the Solar System – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	Write it 3 times (English)		
Sun	_____	_____	_____
Moon	_____	_____	_____
orbits	_____	_____	_____
rotates	_____	_____	_____
tilted	_____	_____	_____
seasons	_____	_____	_____
phases	_____	_____	_____
Solar System	_____	_____	_____
eight planets	_____	_____	_____
rocky	_____	_____	_____
gaseous	_____	_____	_____
gravity	_____	_____	_____

Recall

You see the **Sun** cross the sky each day and the **Moon** change shape each month. The IGCSE course explains these with **orbits** and spinning.

- The Earth **spins** on its axis and **orbits** the Sun.
- The Moon orbits the Earth.

Nothing here is hard — it just lines up the motions.

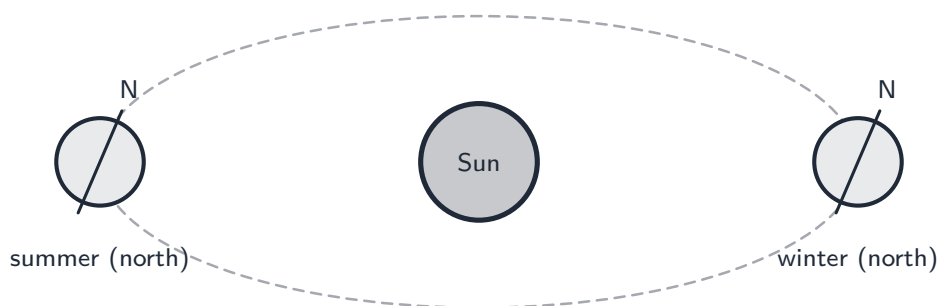
New ideas

Read these first, then do the Practice.

■ 1 Day, year and seasons

- the Earth **spins** (**rotates**) once in about **24 hours** → this gives **day and night**.
- the Earth **orbits** the Sun once in about **365 days** → this is one **year**.

The Earth's axis is **tilted**, so each half of the Earth leans towards the Sun for part of the orbit — this gives the **seasons** (summer when it leans towards the Sun).



■ 2 The Moon and its phases

The Moon orbits the Earth once in about a **month**. Its lit half always faces the Sun, so as it goes round we see different amounts — the **phases** (new moon, half moon, full moon).

So, shortest to longest: **day** (Earth spin) < **month** (Moon orbit) < **year** (Earth orbit).

■ 3 The Solar System

The **Solar System** has the Sun at its centre and **eight planets** around it (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune). The four inner ones are small and **rocky**; the four outer ones are large and **gaseous**.



The Sun's **gravity** reaches out and keeps the planets in their orbits.

Watch out: the Earth **spinning** gives day and night (24 h); the Earth **orbiting** gives the year (365 days) — two different motions. The seasons come from the *tilt* of the axis, not from the Earth being closer to the Sun.

Practice

Try these in order.

6.1 What causes day and night? [1]

6.2 About how long does the Earth take to orbit the Sun once? [1]

6.3 Why does the Earth have seasons? [2]

6.4 Put these in order from shortest to longest: a year, a day, a month. [1]

6.5 What holds the planets in their orbits around the Sun? [1]

6.6 State one difference between the inner and the outer planets. [1]

6.7 Challenge. It is summer in the northern hemisphere. State the season in the southern hemisphere at the same time, and explain why. [2]