6 The Earth and the Solar System – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	**中文**	**Write it 3 times** (English)		
Sun	太阳			
Moon	月球			
orbits	轨道			
rotates	自转			
tilted	倾斜			
seasons	季节			
phases	月相			
Solar System	太阳系			
eight planets	行星			
rocky	岩石			
gaseous	气态			
gravity	引力			

Recall

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

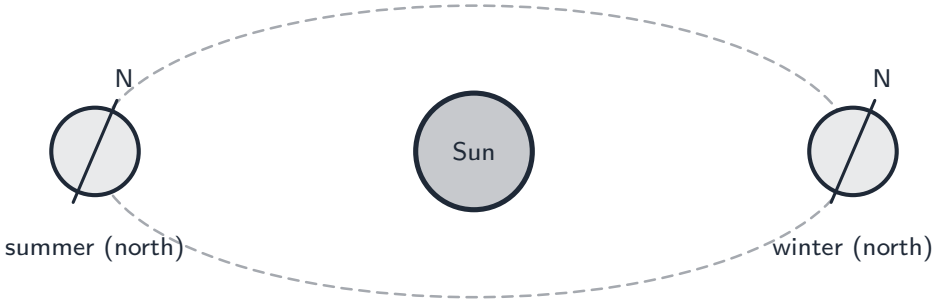
New ideas

Read these first, then do the Practice.

1 Day, year and seasons

- the Earth **spins** (**rotates** 自转) 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** 倾斜, so each half of the Earth leans towards the Sun for part of the orbit – this gives the **seasons** 季节 (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** 月相 (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** 太阳系 has the Sun at its centre and **eight planets** 行星 around it (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune). The four inner ones are small and **rocky** 岩石; the four outer ones are large and **gaseous** 气态.



The Sun's **gravity** 引力 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]