

Science7 Day/Night and Seasons

Date: _____

Name: _____

Class: _____

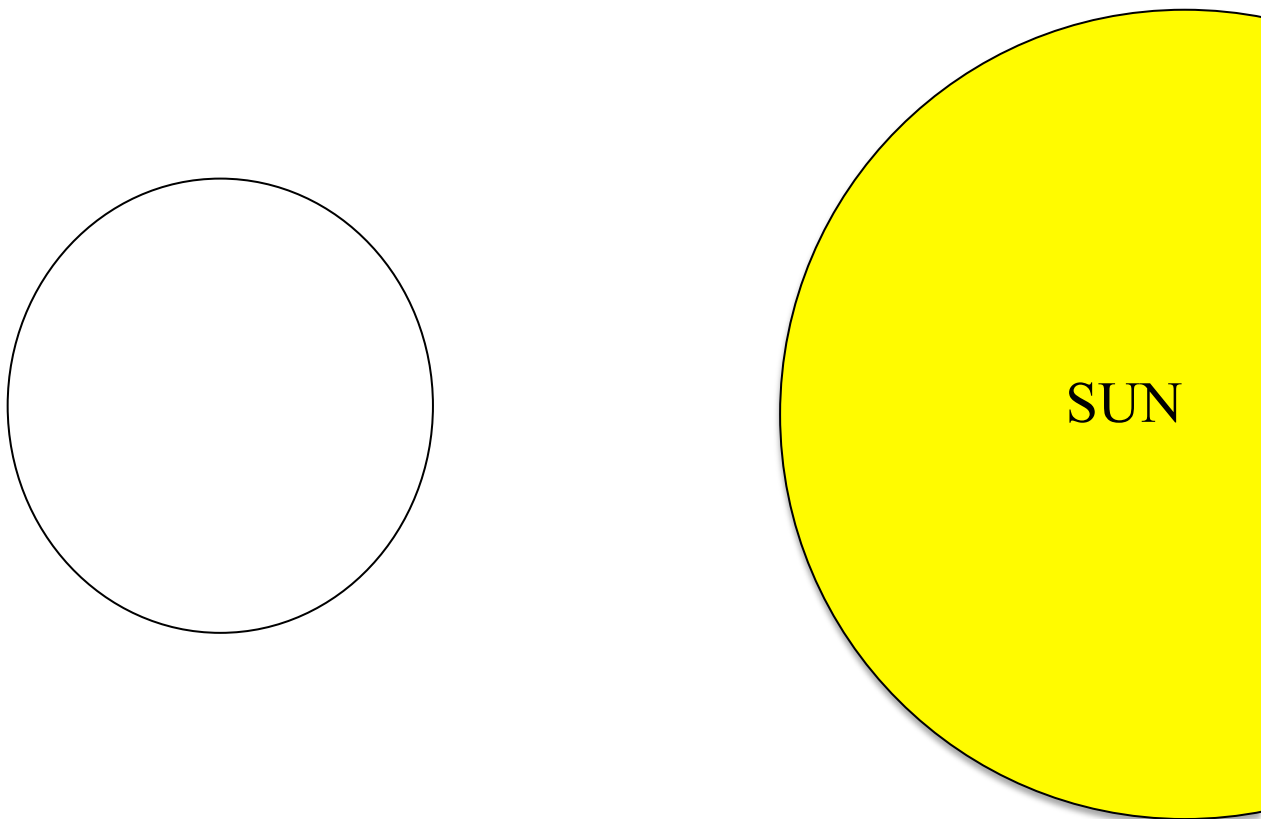
365.25 days	1 year	night	axis	south
	southern			day
24 hours	north	1 day	23.45	rotates
axis	seasons	orbit		1 year
				northern

Section 1: Use the wordbank above (Q.1-7) or your text PS7, Chapter 9.3 (if needed) and complete the following sentences:

- The length of time it takes the Earth to complete one _____ or revolution around the Sun is _____ or _____.
- An imaginary line called _____ runs through the Earth from _____ pole to _____ pole.
- The Earth _____ about this line towards east/west (circle one), or clockwise/anticlockwise (circle one).
- The length of time that it takes for the Earth to rotate around its axis is _____ or _____.
- Because the Earth is spherical (a ball), it casts a shadow on itself. One half is always in shade. This half experiences _____. One half is always bathed in sunlight. This half experiences _____.
- As the Earth's _____ is tilted at _____° to the plane in which it orbits the sun, the sunlight does not evenly hit the _____ and _____ hemispheres.
- This tilt gives give us the _____.
- The parts of the Earth that are tilted closest to the sun are experinecing _____, this is because _____.
- The parts of the Earth that are tilted away from the sun are experiencing _____, this is because _____.

Section 2: Use your text PS7, Chapter 9.3 (if needed) and in the diagram below draw in and label the following:

1. Label the Earth's axis and its tilt in degrees (use coloured pencils).
2. Label how long it takes to rotate around its axis (draw a small circle with an arrow indicating the direction of rotation).
3. Label the north and south pole (N and S) and the equator line.
4. Draw in the sun rays coming towards the Earth.
5. Shade in and label the parts of the Earth that are experiencing night.
6. Label the part that is experiencing day.



1. The surface of the Earth is moving as it rotates around its axis.

a) Identify the parts that are moving the fastest:

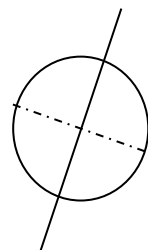
b) Identify the parts that are just turning on the spot:

Section 3: Earth exposes different parts of its surface to the sun as it moves along its orbit.

The **solstice** is the **longest** (21 June) or **shortest** (21 December) **day of the year**. The **equinox** is the day that gets the **same length of day as night** (21 March and 21 September). At the equinox, the sun is directly above the equator.

Complete the diagram below:

1. Draw in and label the Earth's orbit around the Sun, with arrows indicating its path.
2. Note the time it takes the Earth to orbit the Sun.
3. Draw the position of Earth in different seasons as it goes through its orbit (you will need 4 seasons in total)
4. Label with a **small circle** the **position of Australia** and note the season it is experiencing in each of the diagrams.
5. Label the correct **solstice** (summer/winter) in the appropriate diagram, note the date, and explain the length of day/night.
6. Label the correct **equinox** in the appropriate diagram (spring/autumn), note the date, and note the length of day/night.
7. Lastly, in each diagram shade in the part (hemisphere/s) where sunlight is the most concentrated at that time of the year.



Section 4: Use your text PS7, Chapter 9.3 (if necessary) to answer the following questions:

1. Do different parts of the world experience the same seasons at the same time? Explain why:

2. The equinox marks the time in the year that the length of day and night are exactly the same. Predict:

b) How many equinoxes occur each year?

b) What seasons (in Australia) do they occur in?

3. a) What is climate?

3. b) Explain why the polar regions are very cold.

3. c) Explain why tropical regions are located around the equator.

3. d) Does Australia have different climates? Can you give some examples, and explain why?

4.a) What is a leap year? How is it different from a normal year?

4.b) How often does this occur? Why does this happen?

4.c) If someone is born in a leap year, when is that person's birthday?
