

Stars & Galaxies

Name:

Date:

INQUIRY

The light from the nearest star (Proxima Centauri) takes 4.2 years to reach us. What does that mean?

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Light year	Distance light travels in one year: 9.46×10^{12} km.
Galaxy	A collection of billions of stars.
Milky Way	Our galaxy — 100,000 light years across.

Part A — Scale

1. Put in order from smallest to largest: galaxy, solar system, universe, planet, star. [2 marks]

2. Light travels at 300,000 km/s. How far does it travel in 1 minute? 1 hour? [2 marks]

Show your working:

Part B — Stars

3. Explain the life cycle of a star like our Sun: nebula, main sequence, red giant, white dwarf. [4 marks]

Part C — Observation

4. Chinese astronomers recorded a supernova in 1054 AD (now the Crab Nebula). Korean astronomers also recorded it. Why was this observation important for science? [3 marks]