

Q1 (1 mark)

Gravity

Q2 (1 mark)

Weight = mass $\times$ gravitational field strength

Q3 (1 mark)

10 N/kg

Q4 (1 mark)

Newtons (N)

Q5 (2 marks)

Any two:

- Earth
- Moon
- Sun
- Planets
- Stars

Q6 (2 marks)

Any two:

- Stars
- Planets
- Solar systems
- Gas and dust

Q7 (3 marks)

Mass is the amount of matter in an object (1)

Weight is the force caused by gravity acting on an object (1)

Weight changes with gravity but mass stays the same (1)

Q8 (3 marks)

The Moon has less gravity than Earth (1)

Gravity pulls with less force on the Moon (1)

Astronauts therefore weigh less (1)

Q9 (3 marks)

Earth is tilted on its axis (1)

As Earth orbits the Sun, different hemispheres tilt towards the Sun (1)

This changes temperature and day length during the year (1)

Q10 (3 marks)

A light year is a unit of distance (1)

It is used in space because distances are very large (1)

It is the distance light travels in one year (1)

Q11 (3 marks)

Correct calculation: $50 \times 10 = 500$ (1)

Correct answer = 500 (1)

Correct unit = N (1)

Q12 (3 marks)

Correct calculation: $200 \div 10 = 20$ (1)

Correct answer = 20 (1)

Correct unit = kg (1)

Q13 (3 marks)

Three from:

Earth orbits the Sun once every year/ Earth is tilted on its axis (1)

Different hemispheres receive different amounts of sunlight during the year (1)

This causes changes in day length and seasons (1)

Q14 (3 marks)

Three from:

A light year measures distance in space (1)

Light travels extremely fast (1)

The star's light takes 5 years to reach Earth (1)

The star is very far away from Earth (1)

Q15 (3 marks)

$70 \times 10 = 700$ (1)

Correct answer = 700 (1)

Correct unit = N (1)

Q16 (3 marks)

$12 \times 5 = 60$ (1)

Correct answer = 60 (1)

Correct unit = N (1)

Q17 (6 marks)

Level 1 (1-2 marks)

Basic statements about gravity

Level 2 (3–4 marks)

Some explanation of gravity and orbits

Level 3 (5–6 marks)

Clear explanation of gravity affecting planets, moons and stars

Expected content:

- Gravity is a force of attraction (1)
- Earth's gravity pulls objects towards it (1)
- Gravity keeps planets orbiting the Sun (1)
- Gravity keeps the Moon orbiting Earth (1)
- Larger masses create stronger gravity (1)
- Stars and planets all have gravitational force (1)

Example full-mark answer:

"Gravity is a force of attraction between masses. Earth's gravity pulls objects towards the ground. Gravity keeps the planets orbiting the Sun and keeps the Moon orbiting Earth. Larger objects such as stars and planets have stronger gravity because they have more mass. Gravity acts throughout space and affects the movement of planets, moons and stars."

Q18 (6 marks)

Level 1 (1–2 marks)

Basic statements about stars or galaxies

Level 2 (3–4 marks)

Some explanation of stars, galaxies and space

Level 3 (5–6 marks)

Clear explanation of stars, galaxies and the Solar System

Expected content:

- The Sun is a star (1)
- Stars are found in galaxies (1)
- Our galaxy is called the Milky Way (1)
- Galaxies contain billions of stars (1)
- The Solar System includes Earth orbiting the Sun (1)
- There are many galaxies in the universe (1)

Example full-mark answer:

"The Sun is a star found in the Milky Way galaxy. Stars are grouped together in galaxies, and galaxies contain billions of stars. Our Solar System includes Earth and the other planets orbiting the Sun. There are many other galaxies in the universe beyond the Milky Way."