

Space physics – GCSE Physics Paper 2

1. No.3

0	3
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The Sun is at the centre of our solar system.

0	3	.	1
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What type of object is the Sun?

[1 mark]

0	3	.	2
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What is the name of the galaxy our solar system is part of?

[1 mark]

Tick (✓) **one** box.

Andromeda

☐

Milky Way

☐

Sombrero

☐

Tadpole

☐

Table 2 gives information about some of the moons in our solar system.

Table 2

Moon	Radius in kilometres
Ganymede	2630
Titan	2570
Europa	1560
Charon	606

0 3 . 3 What is a moon?

[1 mark]

0 3 . 4 A student researched the radius of some planets in the solar system.

radius of largest dwarf planet = 1190 km

radius of smallest planet = 2440 km

The student made the following conclusions:

1. dwarf planets are always smaller than moons
2. planets are always bigger than moons.

Give **one** reason why each of the student's conclusions is wrong.

Use the data given above and in **Table 2**.

[2 marks]

1 _____

2 _____

The Earth's Moon and the International Space Station both orbit the Earth.

0 3 . 5

Give **one other** similarity and **one** difference between the orbit of the Earth's Moon and the orbit of the International Space Station.

[2 marks]

Similarity _____

Difference _____

0 3 . 6

Very few people have been to the International Space Station.

Suggest **one** reason why very few people have been to the International Space Station.

[1 mark]

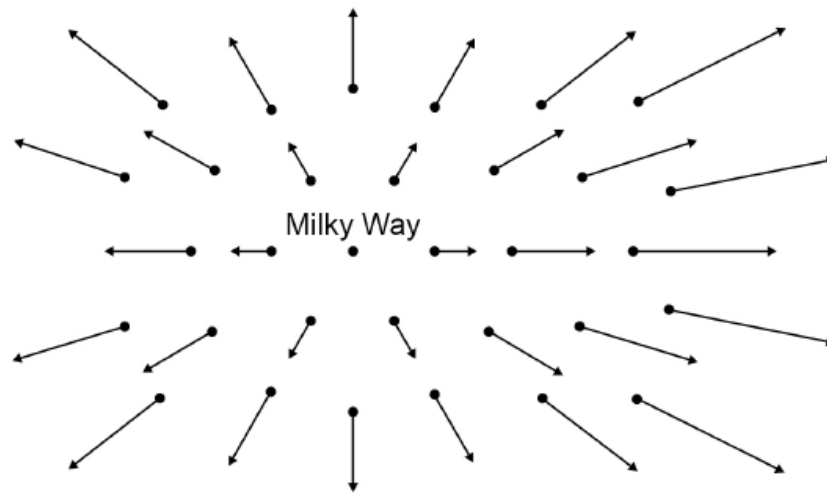
Galaxies contain billions of stars.

Compare the formation and life cycles of stars with a similar mass to the Sun to stars with a much greater mass than the Sun.

[illegible]

The points on **Figure 11** represent galaxies that are moving away from the Milky Way.

Figure 11



Each arrow represents the velocity of the galaxy relative to the Milky Way.

0 6 . 2

Light from all galaxies represented in **Figure 11** is red-shifted.

Describe what is meant by red-shift.

[2 marks]

0 6 . 3

Explain how **Figure 11** provides evidence for the Big Bang theory.

[2 marks]

0 6 . 4

Sometimes scientists have to change theories about the universe.

Give the reason why.

[1 mark]
