

Space physics – GCSE Physics Paper 2

1. No.6(6.3_6.5)

0 6 . 3

All stars have a life cycle.

Figure 15 shows part of the life cycle of a star that becomes a black dwarf.Complete **Figure 15**.

Choose answers from the box.

[2 marks]

Black hole	Neutron star	
Red giant	Supernova	White dwarf

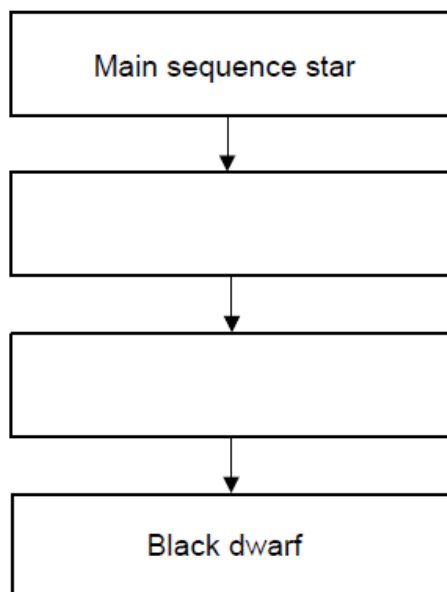
Figure 15

Table 3 gives the mass of three stars compared to the mass of the Sun.

Table 3

Star	Mass compared to the mass of the Sun
X	$\times 25.0$
Y	$\times 15.0$
Z	$\times 0.9$

0 6 . 4

Which letter represents the star most likely to become a black dwarf?

Give a reason for your answer.

[2 marks]

Tick (✓) **one** box.

X

☐

Y

☐

Z

☐

Reason _____

0 6 . 5

In which stage of the life cycle of a star are elements heavier than iron produced?

[1 mark]

Tick (✓) **one** box.

Nebula

☐

Protostar

☐

Supernova

☐

2. No.3

0 3

A main sequence star in a distant galaxy is the same size and mass as the Sun.

0 3

. 1

Explain why the star is stable while it is in the main sequence stage of its life cycle.

[2 marks]

0 3

. 2

Describe what will happen to the star between the main sequence stage and the end of the star's life cycle.

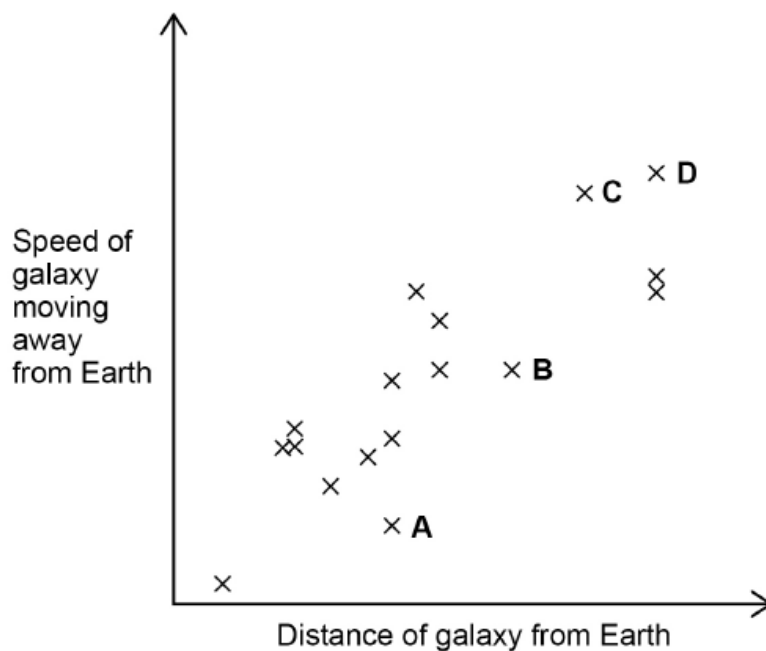
You should include the names of the stages in the life cycle of the star.

[3 marks]

0 3 . 3

Figure 5 shows how the speed of galaxies moving away from Earth varies with the distance of the galaxies from Earth.

Figure 5



Which galaxy would show the smallest observed change in the wavelength of visible light?

Give a reason for your answer.

[2 marks]

Tick (✓) **one** box.

A

☐

B

☐

C

☐

D

☐

Reason _____
