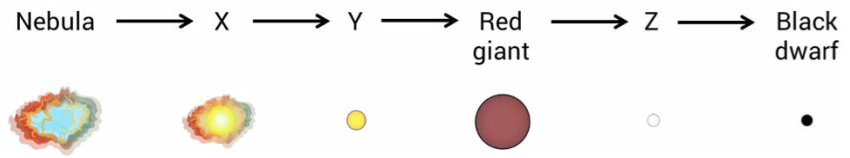


0	1
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The life cycle of a star depends on its mass. The life cycle of a star which is around the same mass as our Sun is as shown in the below diagram.



0	1	.	1
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Write down the names of the parts of the life cycle of a star which are labelled X, Y and Z in the above diagram.

X \_\_\_\_\_

Y \_\_\_\_\_

Z \_\_\_\_\_

[3 marks]

0	1	.	2
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What is a nebula?

\_\_\_\_\_

[1 mark]

0	1	.	3
---	---	---	---

Explain how a star is formed from a nebula.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

[3 marks]

0	1	.	4
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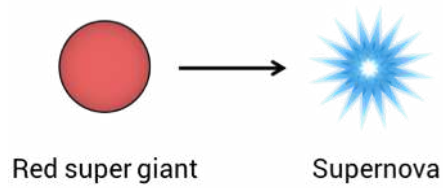
The majority of stars spend most of their lives at stage Y. The Sun is currently at this stage in its life cycle. We say therefore that stars such as our Sun are **stable**. Explain the cause of the stability of such stars.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

[2 marks]

0	2
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Stars which are much more massive than our Sun become red super giants rather than red giants. These stars will eventually enter the supernova phase of their life cycle.



0	2	.	1
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Explain why a large-mass red super giant undergoes supernova.

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[3 marks]

0	2	.	2
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It is thought that all of the nuclei on Earth (and in the entire Universe) which are heavier than iron were formed in past supernovae. Explain why heavy elements are only thought to be formed in supernovae.

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[1 mark]

0	2	.	3
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Describe the possible final stages in the life cycle of a large-mass star after it has undergone supernova.

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[2 marks]