



# Physics

## 8. Astronomy

### Revisiting Booklet

Name:

## Topics;

- The solar system
- Life cycle of a star
- Orbital motion, natural and artificial satellites
- Red shift

## The solar system

Name the eight planets of the solar system in order:

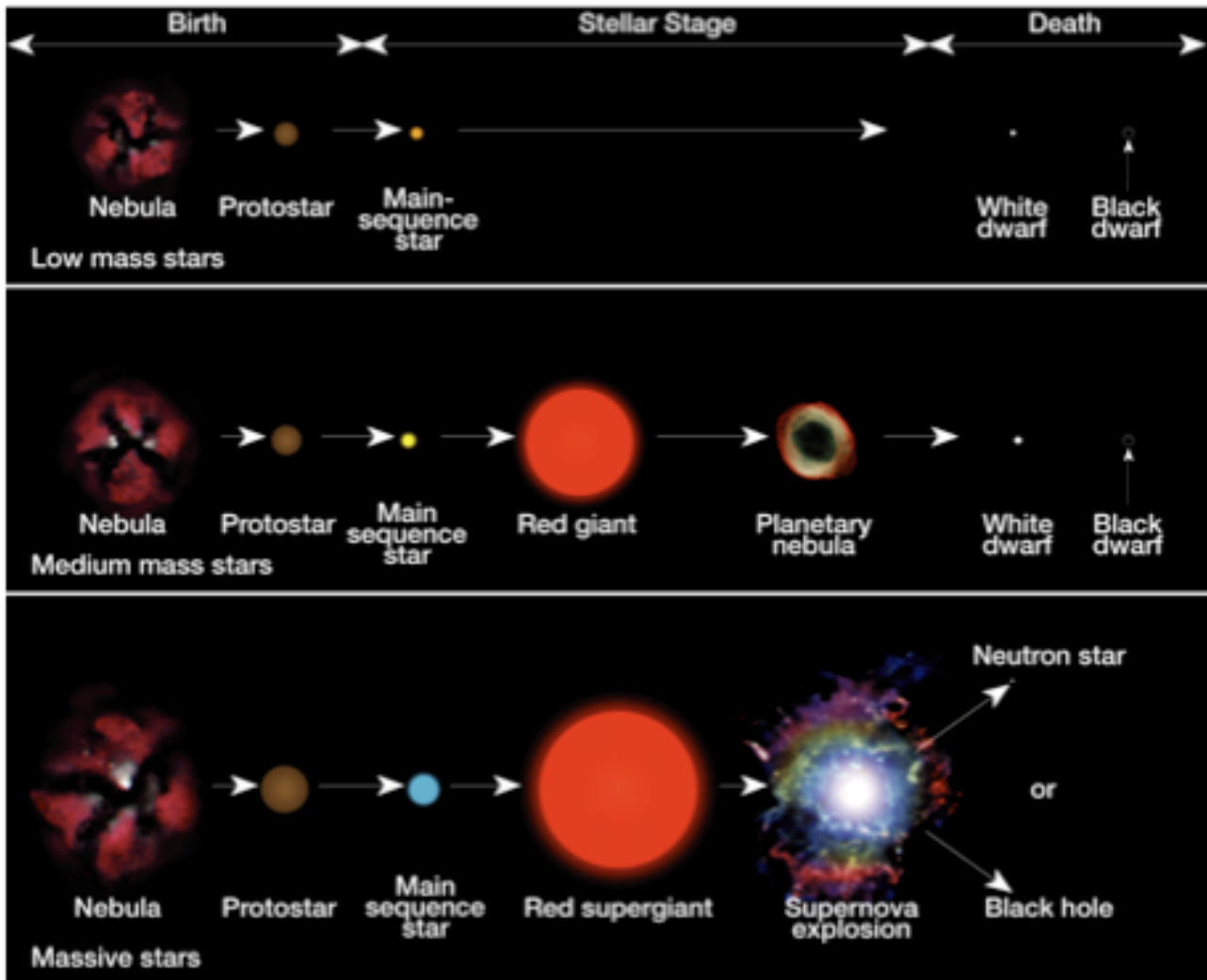
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Link the correct definition to the word;

Star	A body which orbits a planet
Moon	A ball of gas undergoing nuclear fusion
Natural satellite	A large body orbiting a star
Planet	A large area of gas which is gravitationally bound
Galaxy	A non-man-made object in orbit around a large astronomical body
Nebula	A large group of stars gravitationally bound together

# The life cycle of a star



Explain what is meant by;

A nebula .....

.....

A main sequence star.....

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A red giant / red supergiant .....

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A supernova .....

.....

A white dwarf .....

.....

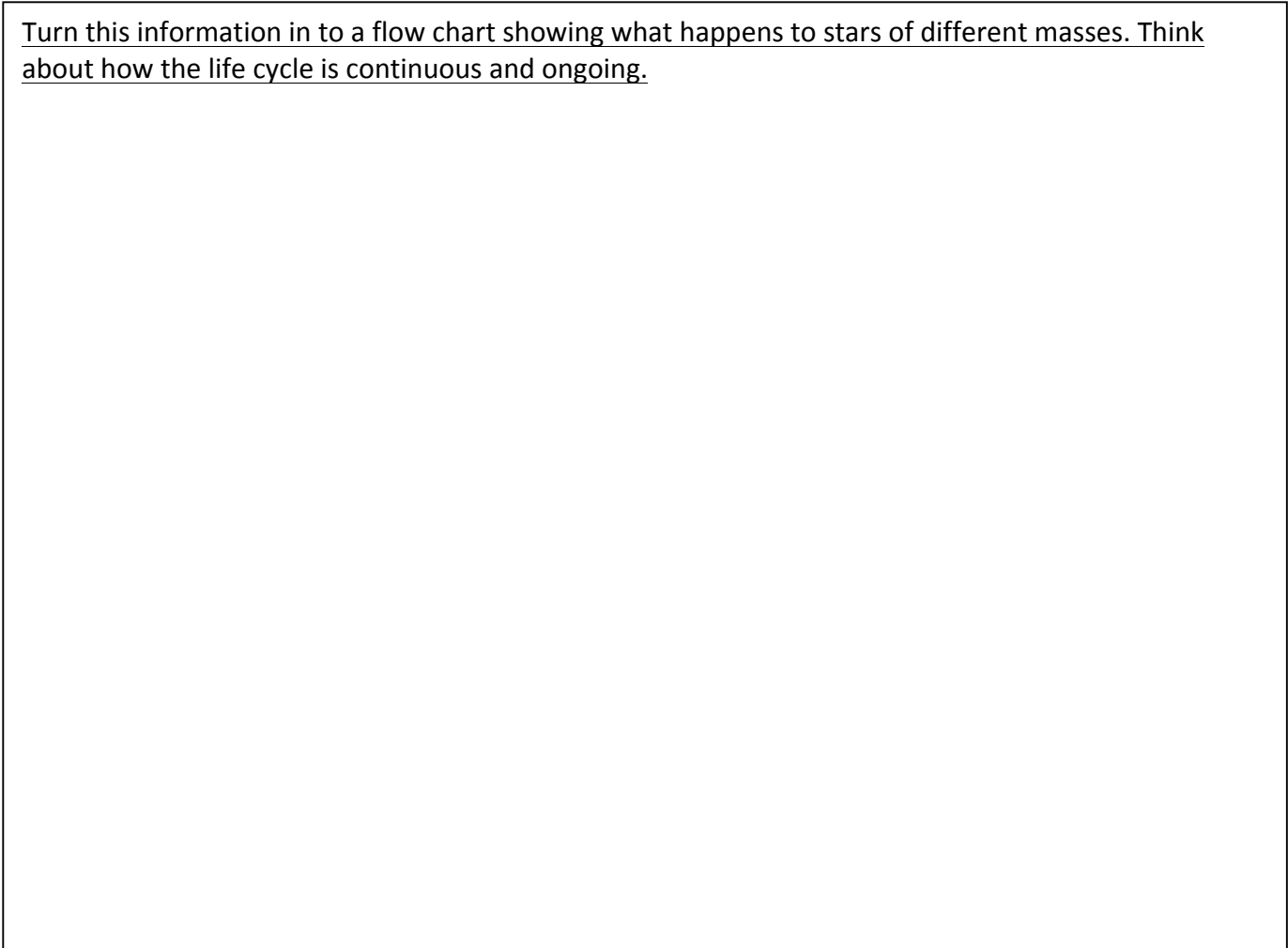
A neutron star .....

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A black hole.....

.....

Turn this information in to a flow chart showing what happens to stars of different masses. Think about how the life cycle is continuous and ongoing.



## Orbital motion, satellites and moons

What force allows planets to stay in orbit?

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Describe the difference between a planet and a moon

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Describe the difference between a natural and an artificial satellite.

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Describe how in a circular orbit the force of gravity can lead to a changing velocity but an unchanging speed.

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Describe why if the velocity of an object changes the radius of its orbit changes.

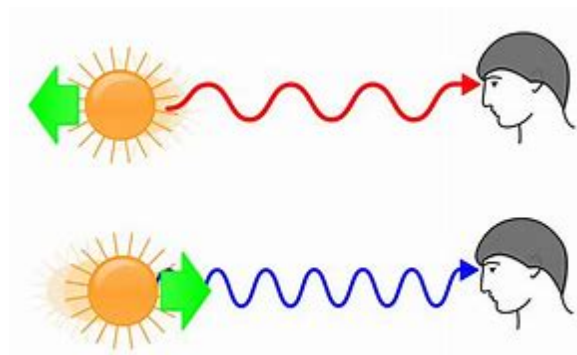
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Where will a comet be travelling fastest if it has an elliptical orbit?

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## Red shift



If an object is moving away from an observer its ..... becomes longer and it gets ..... to the ..... end of the spectrum. If an object is moving..... an observer the wavelength is .....

and it is shifted towards the blue end of the .....

From the amount that the wavelength shifts we can establish the ..... that the object is moving.

Over large distances we can measure the ..... of galaxies. The further away from us the ..... the galaxies are travelling and the more red-..... they are. This has led astronomers to believe that the universe is .....

## Big bang theory

What can we tell about galaxy motion from looking at the red shift?

.....

What is the relationship between distance and red-shift?

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How does this supply evidence that the universe started in a hot, dense state?

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How do scientists link evidence to theories?

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