

# WJEC Wales Physics GCSE

## 2.5 - Stars and Planets

### Flashcards

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In which galaxy is our solar system?



In which galaxy is our solar system?

The Milky Way galaxy.



# How many planets make up our solar system?



How many planets make up our solar system?

Eight (plus the dwarf planets).



What do the planets in our solar system orbit around and what type of body is it?



What do the planets in our solar system orbit around and what type of body is it?

- The planets orbit around the sun
  - The sun is a star



What type of force pulled together the cloud of dust and gas to form the Sun?





What type of force pulled together the cloud of dust and gas to form the Sun?

Gravitational force of attraction.



What word is used to describe a cloud of dust and gas?



What word is used to describe a cloud of dust and gas?

A nebula.



What type of reactions take place at the start of a star's life cycle as dust and gas is drawn together?



What type of reactions take place at the start of a star's life cycle as dust and gas is drawn together?

Fusion reactions.



What factor determines the type of lifecycle a star undergoes?



What factor determines the type of lifecycle a star undergoes?

The size (and therefore mass) of the star.



Which two phases do all stars of the same or greater size than the sun undergo?





Which two phases do all stars of the same or greater size than the sun undergo?

1. Protostar phase
2. Main sequence phase



What do stars like the sun become at the end of their life-cycle?



What do stars like the sun become at the end of their life-cycle?

A black dwarf.



What two things can stars much bigger than the sun become at the end of their lifecycle?



What two things can stars much bigger than the sun become at the end of their lifecycle?

1. Neutron star
2. Black hole



What two phases do stars like the sun experience between being a main sequence star and a black dwarf?



What two phases do stars like the sun experience between being a main sequence star and a black dwarf?

1. Red giant
2. White dwarf



What two phases do stars of greater size than the sun go through between being a main sequence star and a neutron star/black hole?





What two phases do stars of greater size than the sun go through between being a main sequence star and a neutron star/black hole?

1. Red supergiant
2. Supernova



What is produced during the fusion processes in a star?



What is produced during the fusion processes in a star?

Atoms of all of the naturally occurring elements.



What condition is required for fusion reactions to occur in a star?



What condition is required for fusion reactions to occur in a star?

Very high temperatures and pressures.



Where are elements heavier than iron produced?



Where are elements heavier than iron produced?

In a supernova.



What type of nuclei fuse together to form heavier elements in a star?





What type of nuclei fuse together to form heavier elements in a star?

Hydrogen nuclei fuse to form heavier elements.



# How are elements distributed throughout the universe?



How are elements distributed throughout the universe?

Through the explosion of a massive star (supernova).



What allows planets and satellites to maintain circular orbits?



## What allows planets and satellites to maintain circular orbits?

- Gravity provides the gravitational force that acts as the object's centripetal force.
- The presence of a centripetal force allows for the object to maintain its circular orbit.



What type of satellite can a planet's moon be described as?



What type of satellite can a planet's moon be described as?

A natural satellite.



Give two examples of artificial satellites.





Give two examples of artificial satellites.

1. TV satellites
2. Satellites used for satellite imaging



What type of planet is Pluto classed as?



What type of planet is Pluto classed as?

A dwarf planet.



What is the name given to the natural satellites that orbit planets?



What is the name given to the natural satellites that orbit planets?

Moons.



Give a basic description of a comet.



Give a basic description of a comet.

A high speed ball of ice and rock which as it melts leaves a trail of dust and gas behind it.



What term is given to the four outer planets of our solar system?





What term is given to the four outer planets of our solar system?

Gas giants.



What is a light year a unit of?



## What is a light year a unit of?

- Distance
- Used for the distances between the Earth and stars and other galaxies



What unit of measurement is used to measure distances between the sun and planets?



What unit of measurement is used to measure distances between the sun and planets?

The Astronomical Unit (AU).



What colour stars are the hottest? Blue  
or red?



What colour stars are the hottest? Blue or red?

- Blue stars are the hottest stars
- Red stars are the cooler stars



What does a Hertzsprung-Russell diagram show? (Higher)





What does a Hertzsprung-Russell diagram show?  
(Higher)

The luminosity of stars against their  
temperature.

