

Check the attachment please essay samples

[Literature](#), [Russian Literature](#)



(Check the 7_Main_Sequence)

- What is a main sequence star?

Answer: Stars that combines hydrogen into helium in their cores are called main sequence stars

- What are the different types of main sequence stars and what distinguishes them (size, colour, lifetime, luminosity)?

Answer: The Upper main sequence stars (Stars above 1.5 the mass of the sun) and the Lower main sequence stars (Stars below 1.5 the mass of the sun). The distinguishing features of these types of stars are mass, temperature, brightness and elemental composition.

- What is an HR Diagram and what does it reveal to astronomers?

Answer: HR Diagram is a scatter graph showing the relationship between a star absolute magnitudes or luminosities versus its spectral class, color and effective temperatures. It reveals to astronomers the luminosities and corresponding temperature of stars. It also shows the relationship between the size and color of a star and their temperatures.

- Describe the two means by which energy escapes a star

Answer: The two main ways by which energy escapes a star is by radiation and convection. Energy escape by radiation usually occurs in mid- mass stars, where the radiative energy transport dominates near the core of the star. Energy escape by convection is usually seen in lower mass stars where light that is absorbed by the star transfers its energy to the surface by convection currents (Hot air rises to the surface and cool air comes in and take its place)

- Define metallicity and be able to describe the qualitative difference

between a Pop I and Pop II star.

Answer: Metallicity is a measure of the ratio of Iron content to the Hydrogen content in a stellar atmosphere. Stars formed in the early universe were of low metallicity (POP II), this is because they were thought to have been comprised of solely Hydrogen, Helium and traces of Lithium. Stars that are formed more recently (POP I) have a much higher metal content.