

THEORY

1. The following are the steps in the process of the formation of a star:

1. A cloud of gas and dust collapses under its own gravity.
2. The cloud becomes denser and hotter.
3. A protostar is formed.
4. The protostar continues to collapse and heat up.
5. A main sequence star is formed.

2. The main sequence star is the most stable and longest-lived stage of a star's life. It is a star that is fusing hydrogen into helium in its core. The main sequence star is the most common type of star in the universe.

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Star	Distance (light years)	Mass (solar masses)	Temperature (K)
Alpha Centauri A	4.22	1.1	5778
Alpha Centauri B	4.22	0.907	5250
Sirius A	8.6	2.1	9950
Sirius B	8.6	0.58	25200
Rigel	2080	21	11000
Antares	560	12	3500
Arcturus	37	1.1	4300
Aldebaran	68	0.77	3900
Polaris	422	0.78	5700
Altair	16	0.59	7700

4. The following are the steps in the process of the formation of a star:

DISCUSSION



The diagram illustrates the process of star formation. It begins with a cloud of gas and dust, which collapses under its own gravity to form a protostar. The protostar then continues to collapse and heat up, eventually becoming a main sequence star. The diagram includes arrows indicating the flow from the cloud to the protostar, and then to the main sequence star. There are also some handwritten notes and arrows pointing to different parts of the diagram.