

## The Life Cycle of Stars

### Star Beginnings:

- All stars begin as \_\_\_\_\_ which consist of \_\_\_\_\_.
- When a nebula reaches a certain \_\_\_\_\_, gravitational forces pull \_\_\_\_\_ and dust particles close together.
- As the clumps draw together, they have a increasingly strong \_\_\_\_\_ which causes regions of greater density to form within the nebula.
- For about a \_\_\_\_\_ years these dense regions continue to gather dust forming a \_\_\_\_\_.
- The core of the protostar eventually becomes so tightly packed that pressure rises and \_\_\_\_\_ \_\_\_\_\_ begins.

'Proto' means first, original, or on the way to becoming something

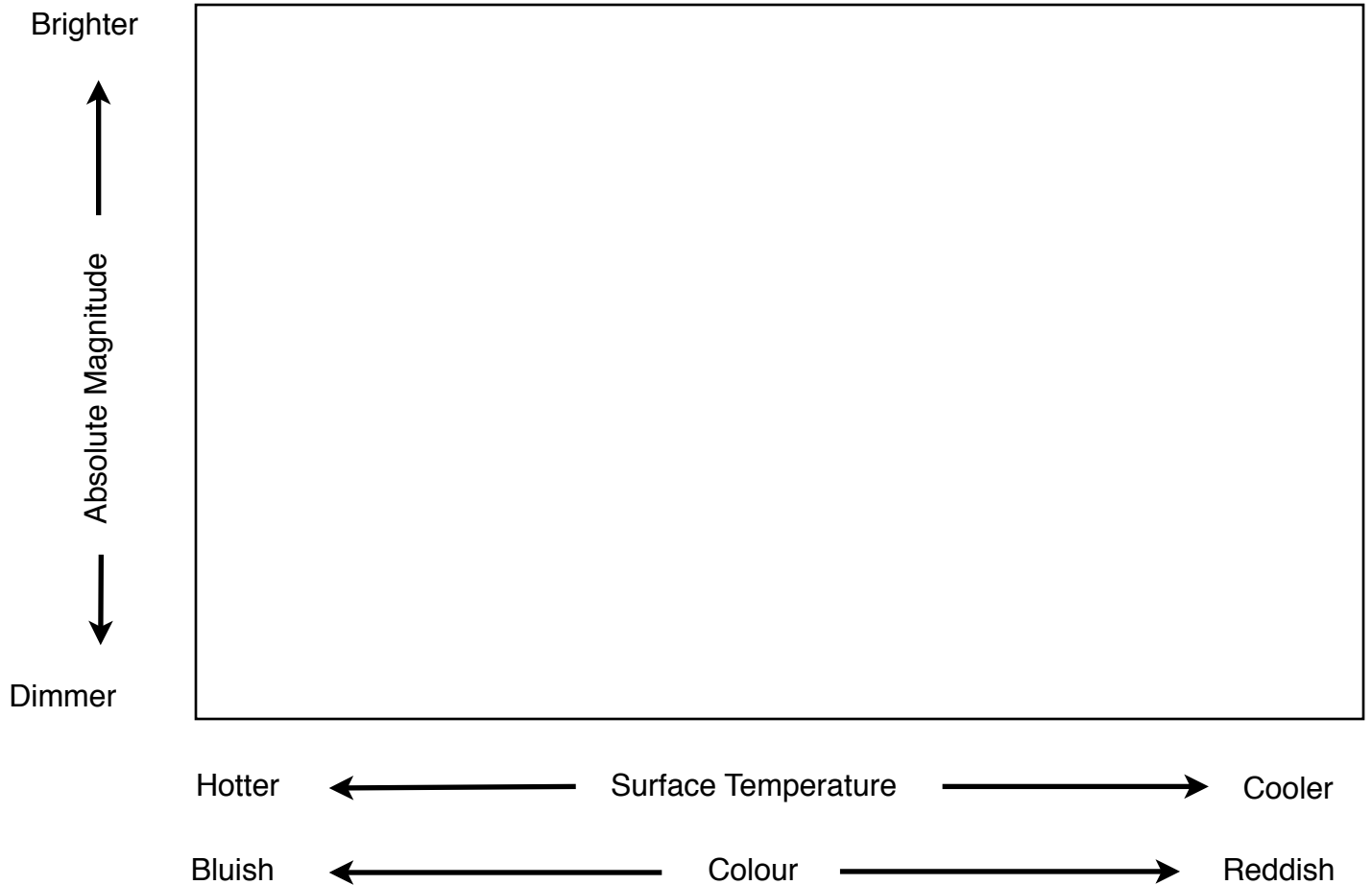
### Nuclear Fission

- After millions of years of contracting, the protostar will reach a critical temperature of \_\_\_\_\_.
- At this temperature \_\_\_\_\_ begins.
- \_\_\_\_\_ atoms fuse to form \_\_\_\_\_ atoms producing large amounts of energy.
- Radiation emitted from the core of the star causes gases in the surface to \_\_\_\_\_.
- The life of a star is determined by its \_\_\_\_\_.
- The more massive the star the \_\_\_\_\_ the rate of fusion.

## The Hertzsprung-Russel Diagram

- A star's mass determines its brightness, colour, size, and how long it will live.

*Sketch the Hertzsprung-Russel Diagram from your book onto the axis below. Be sure to include the labels 'blue supergiants', 'red supergiants', 'red giants', and 'red dwarfs.'*



What is the main sequence and what percentage of stars is found within it?

## The Death of a Star

- The death of a star is marked by it using up all of its available \_\_\_\_\_.

Red Giant:

Red Supergiant:

White Dwarf:

Supernova:

Neutron Star:

Black Hole:

## The Evolution of Stars Based on Mass

	Small to Medium Star	Large Star	Extremely Large Star
Birth and Early Life			
Main Sequence Phase			
Old Age			
Death			
Remains			

SNC 1D  
J. Kropac