

Name: _____

Date: _____ Period: _____

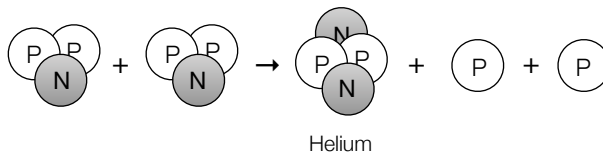
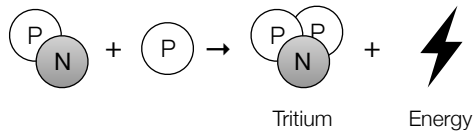
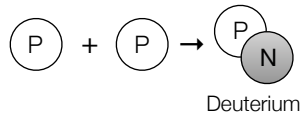
Stars and Stellar Evolution

CLASS NOTES

- Star - _____

 - Majority of known matter in the galaxy
- Thermonuclear Fusion - _____

 - Manner in which stars create _____
 - Four hydrogen nuclei [each with a mass of about 4.030 mass units] join to form a helium nucleus with a mass of only about 4.003 energy units
 - The mass that is lost is converted into _____ and radiated into space as _____ and _____



Stars and Stellar Evolution

- Types and Parts of Stars:

- Nebula - _____

- Main Sequence Stars - _____

- Red Giant Star - _____

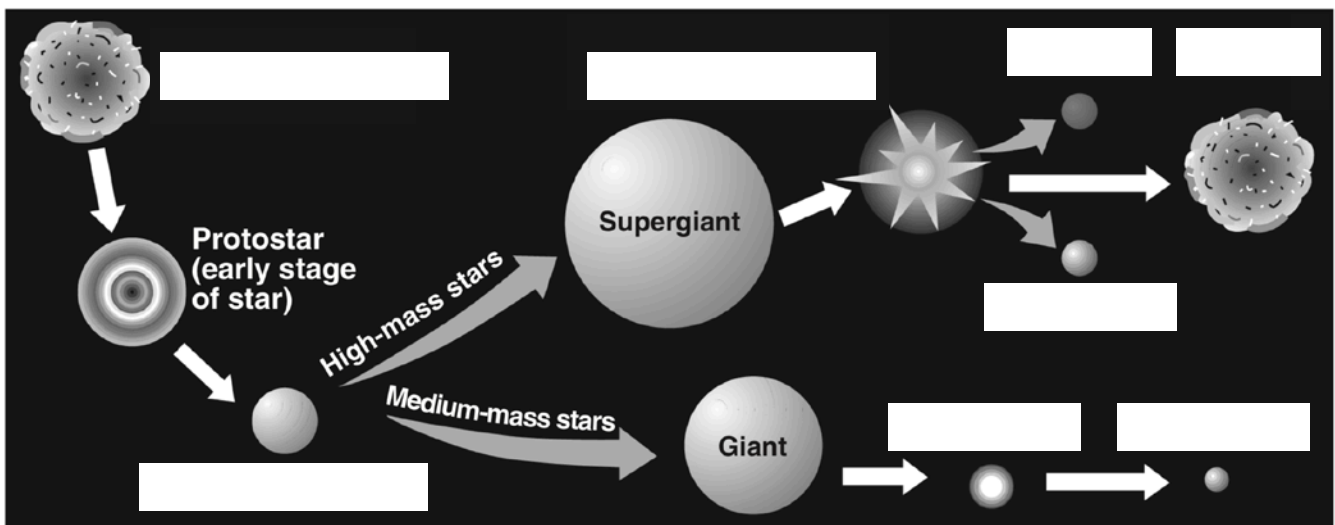
- Super Giant Star - _____

- Red Dwarf Star - _____

- White Dwarf Star - _____

- Stellar Evolution - _____

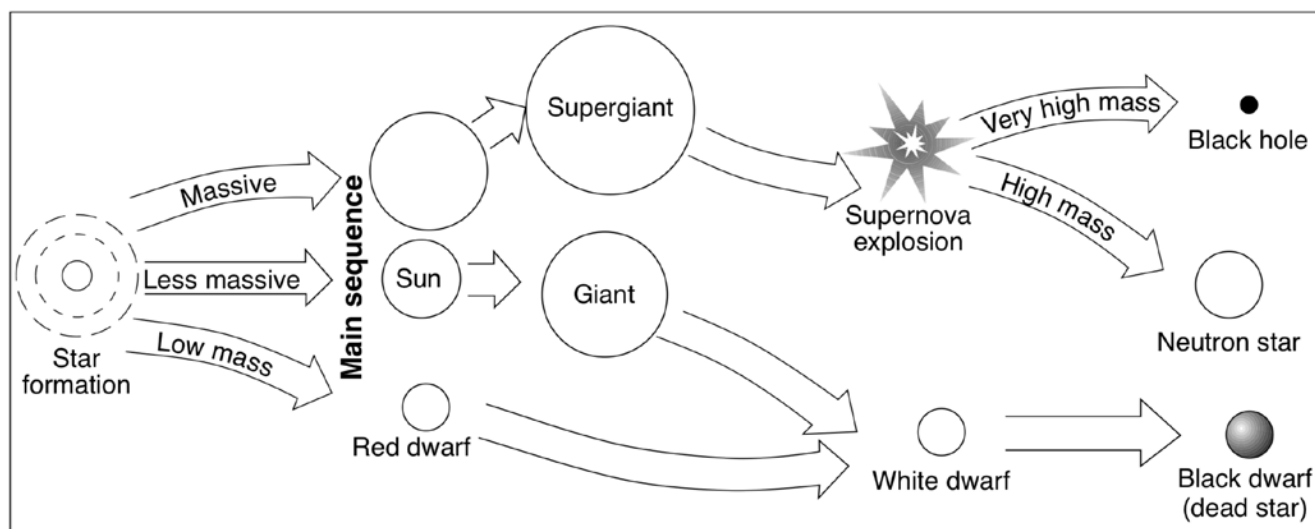
- Dependent on the mass of the star
- More massive stars have a lifespan of a few million years
- Less massive stars have and lifespan of trillions of years



Stars and Stellar Evolution

PART I QUESTIONS: MULTIPLE CHOICE

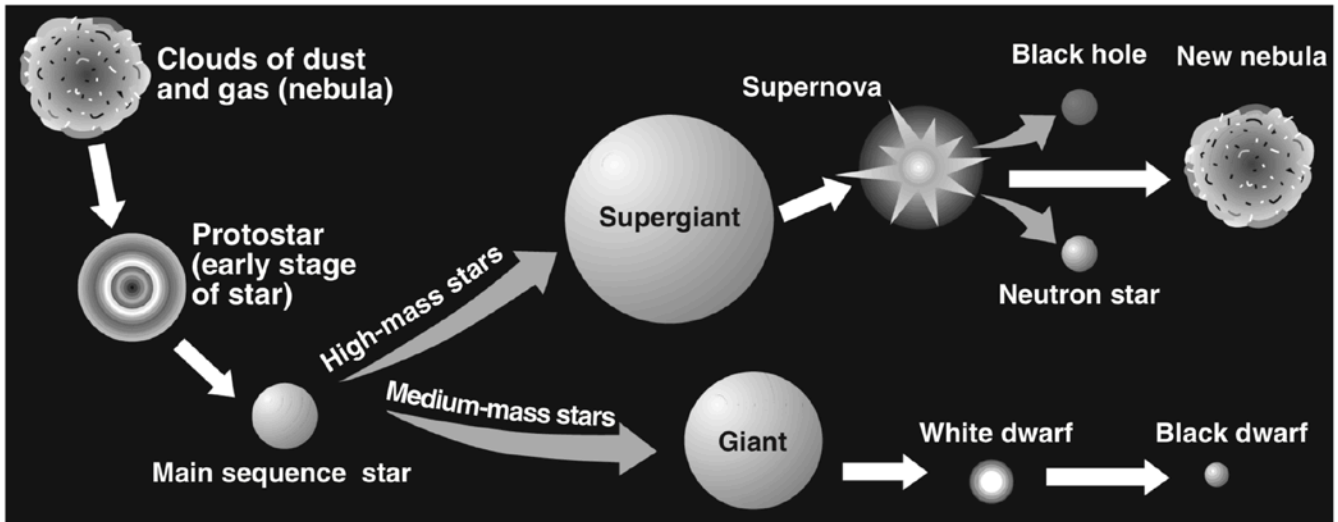
Base your answers to questions 1 through 2 on the diagram below and on your knowledge of Earth science. The diagram represents some of the inferred stages in the life cycle of stars according to their original mass.



1. The final stage in the life cycle of the most massive stars is a
 - a. black hole
 - b. supergiant
 - c. black dwarf
 - d. white dwarf
2. Energy is produced in the cores of main sequence stars when
 - a. lighter elements undergo fusion into heavier elements
 - b. heavier elements undergo fusion into lighter elements
 - c. cosmic background radiation is absorbed
 - d. cosmic background radiation is released
3. The final stage in the life cycle of the least massive stars is a
 - a. black hole
 - b. supergiant
 - c. black dwarf
 - d. white dwarf
4. Which object in space emits light because it releases energy produced by nuclear fusion?
 - a. Earth's Moon
 - b. Halley's comet
 - c. Venus
 - d. Polaris

The Sun

Base your answers to questions 4 through 6 on the diagram below and on your knowledge of Earth science. The diagram represents two possible sequences in the evolution of stars.



- Which process generates the energy that is released by stars?
 - nuclear fusion
 - thermal conduction
 - convection currents
 - radioactive decay
- Which property primarily determines whether a giant star or a supergiant star will form?
 - mass
 - color
 - shape
 - composition
- What causes clouds of dust and gas to form a protostar?
 - magnetism
 - gravitational attraction
 - expansion of matter
 - cosmic background radiation
- Which process combines lighter elements into heavier elements and produces energy within stars?
 - fusion
 - insolation
 - conduction
 - radioactive decay