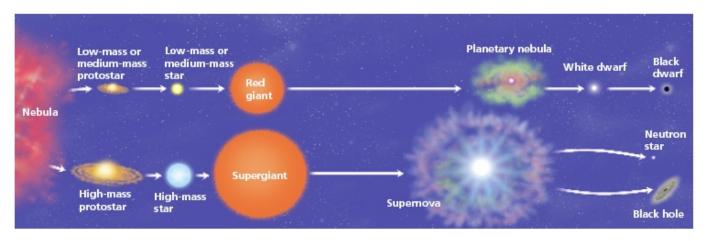
Life Cycle of a Star - Worksheet

A STAR IS BORN – STAGES COMMON TO ALL STARS

All stars start as a **nebula**. A **nebula** is a large cloud of gas and dust. Gravity can pull some of the gas and dust in a nebula together. The contracting cloud is then called a **protostar**. A protostar is the earliest stage of a star's life. A **star is born when the gas and dust from a nebula become so hot that nuclear fusion starts. Once a star has "turned on" it is known as a main sequence star**. When a main sequence star begins to run out of hydrogen fuel, the star becomes a **red giant** or a **red super giant**.



THE DEATH OF A LOW OR MEDIUM MASS STAR

After a low or medium mass or star has become a red giant the outer parts grow bigger and drift into space, forming a cloud of gas called a **planetary nebula**. The blue-white hot core of the star that is left behind cools and becomes a **white dwarf**. The white dwarf eventually runs out of fuel and dies as a **black dwarf**.

THE DEATH OF A HIGH MASS STAR

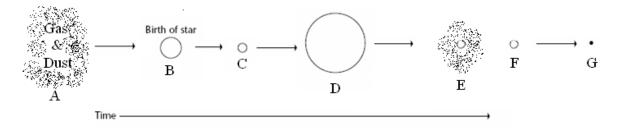
A dying red super giant star can suddenly explode. The explosion is called a **supernova**. After the star explodes, some of the materials from the star are left behind. This material may form a neutron star. **Neutron stars** are the remains of high-mass stars. The most massive stars become **black holes** when they die. After a large mass star explodes, a large amount of mass may remain. The gravity of the mass is so strong that gas is pulled inward, pulling more gas into a smaller and smaller space. Eventually, the gravity becomes so strong that nothing can escape, not even light.

Question Sheet

Just like living things and humans, stars have a life cycle, which consists of birth, growth, development, middle age, old age, and death. The life cycle of a star spans over billions of years.

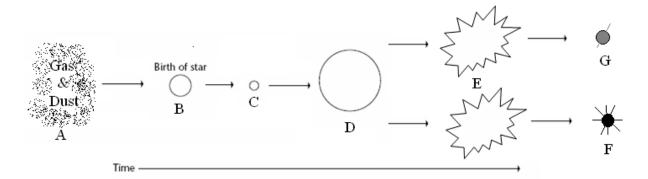
Section One - Sequencing The stages below are not	in the right order. Number the stages in the correct order.
C	o run out of fuel and expands into a red giant or red super
	diffused clouds of gas and dust drifting through space. A single ds is called a nebula
What happens ne	xt depends on the mass of the star.
Heat and pressure	e build in the core of the protostar until nuclear fusion takes place.
The force of grav	ity pulls a nebula together forming clumps called protostars .
	are fused together generating an enormous amount of energy ausing it to shine.
Section Two - Vocabula Match the word on the let	ry ft with the definition on the right.
black dwarf	e. star left at the core of a planetary nebula
white dwarf	g. a red super giant star explodes
nebula	c. what a medium-mass star becomes at the end of its life
protostar	b. a large cloud of gas or dust in space
supernova	a. exerts such a strong gravitational pull that no light escapes
neutron star	d. the earliest stage of a star 's life
black hole	f. the remains of a high mass star

Section Three - Understanding Main Ideas - Low Mass Star



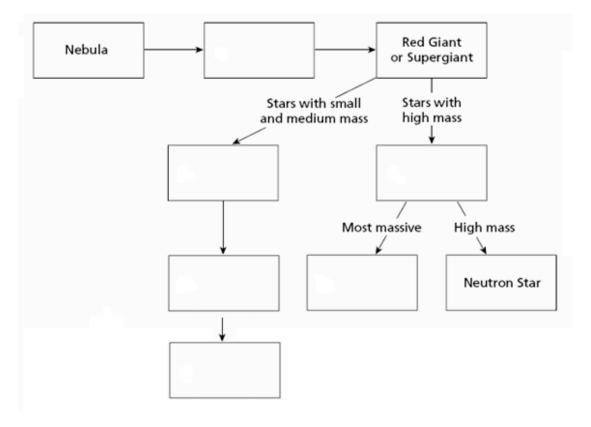
- ____ **1.** Red giant
- **2.** Where fusion begins
- **3.** Nebula
- 4. Black hole
- **5.** The stage the sun is in
- **6.** White dwarf
- ____ 7. Planetary Nebula

Section Four – Understanding Main Ideas - High Mass Star



- 1. Black Hole
- ____ 2. Supernova
- ____ **3**. Protostar
- _____ 4. Gravity causes this to condense into a protostar
- 5. Main sequence star
- **6**. When a star begins to run out of fuel and grows larger
- ____ 7. Neutron star

Section Five – Graphic Organizer – Putting it all Together



Section Six – Venn Diagram - Compare and Contrast

