Cut out each statement below. Then reorder the statements into the correct order, starting with the title. Glue these into your notebook.

**TITLE: BIRTH AND DEATH OF LARGE STARS**

**NEUTRON STAR**
- If the mass is less than 3 times the size of our sun, it becomes a neutron star

**BLACK HOLE**
- If the mass is more than 3 times the size of our sun, it becomes a black hole

**SUPERNova**
- The outer layers are blown off in a large violent explosion
- The core material contracts
- The remnants are more than 1.44 times the size of our sun

**PROTOSTAR**
- Contraction of the gases causes the temperature to reach 10000°K
- Hydrogen undergoes nuclear fusion to form helium and the star begins to shine

**A VERY LARGE STAR**
- If the star is a very large star, then the hydrogen will be used up quickly by nuclear fusion
- The core contracts while the outer layers expand
- The surface temperature decreases
- This process occurs quickly

**NEBULA**
- A ball of gas whose gravitational attraction causes it to contract

**PULSAR**
- Material contracts due to gravity and emits X-rays

**SUPERGIANT**
- Helium and carbon are consumed by nuclear fusion
<table>
<thead>
<tr>
<th>NEBULA</th>
<th>PROTOSTAR</th>
</tr>
</thead>
<tbody>
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<td>✷ A ball of gas whose gravitational attraction causes it to contract</td>
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<td></td>
</tr>
</tbody>
</table>

**A VERY LARGE STAR**
If the star is a very large star, then the hydrogen is quickly used up by nuclear fusion. The core contracts while the outer layers expand. The surface temperature decreases. This process occurs **quickly**.

**A NORMAL-SIZED STAR**
If the star is a smaller star, then the hydrogen will be used up by nuclear fusion. The core contracts while the outer layers expand. The surface temperature decreases. This process occurs **slowly**.

**SUPERGIANT**
Helium and carbon are consumed by nuclear fusion.

**RED GIANT**
Helium and carbon are consumed by nuclear fusion.

**SUPERNOVA**
The outer layers are blown off in a large violent explosion. The core material contracts. The remnants are more than 1.44 times the size of our sun.

**NOVA**
The outer layers are blown off. The core material contracts. The remnants are less than 1.44 times the size of our sun.

**PULSAR**
Material contracts due to gravity, and emits X-rays.

**WHITE DWARF**
Cools off by emitting radiation of energy

- If the mass is less than 3 solar masses, it becomes a **NEUTRON STAR**.
- If the star is more than 3 solar masses, it becomes a **BLACK HOLE**.

**BLACK DWARF**
If the mass is less than 3 solar masses, it becomes a **NEUTRON STAR**.