Topic: **Modern Astronomy**

Aim: What is the life cycle of a star?

1 **Nebula –**
Huge mass of dust and **hydrogen** gas in space.

Gravity pulls dust and gas together and starts to glow.

2 **Protostar –**
Glowing cloud that will soon become a star.

Nuclear fusion

formula for nuclear fusion:
H + H → He + energy

Hydrogen fuses to form helium and gives off energy.

3 **Main Sequence Star –**
Stable state of a star that exists for most of the star's life.

Star burns just about all of its hydrogen.

4 **Giant or Supergiant –**
Formed when a star expands 100 times larger and cools.

b
A star much more massive than our Sun.

a
A star like our Sun. **(small or medium)**

5 **Supernova Explosion -**
Explosion that is the brightest event known to occur in space.

a
Medium – Large

b
Very Massive

6 **Neutron Star-**
Very dense remains of a star after is explodes.

6 **Black Hole –**
Place in space where gravity is so strong light can't even escape.

5 **White Dwarf -**
Red Giant sheds outer layers and shrinks to a hot, dense, planet-sized object which eventually burns out.