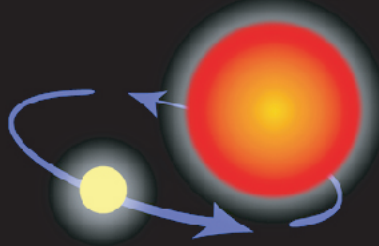


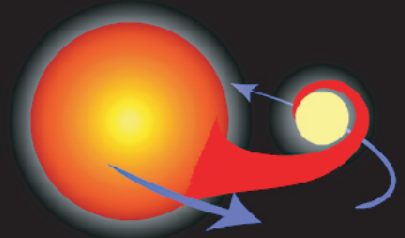
# The progenitor of a Type Ia supernova



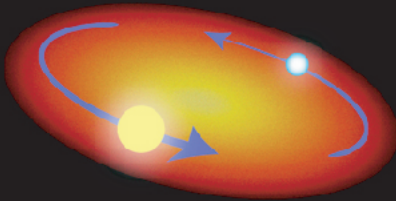
Two normal stars are in a binary pair.



The more massive star becomes a giant. . .



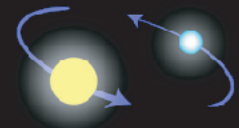
. . .which spills gas onto the secondary star, causing it to expand and become engulfed.



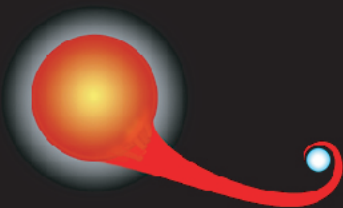
The secondary, lighter star and the core of the giant star spiral-in within a common envelope.



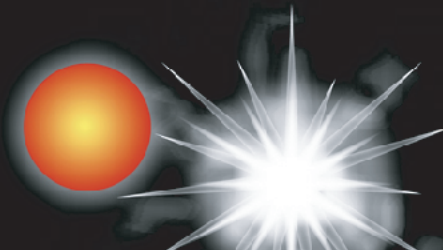
The common envelope is ejected, while the separation between the core and the secondary star decreases.



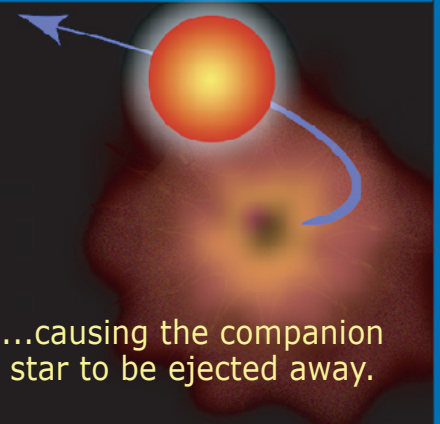
The remaining core of the giant collapses and becomes a white dwarf.



The aging companion star starts swelling, spilling gas onto the white dwarf.



The white dwarf's mass increases until it reaches a critical mass and explodes...



...causing the companion star to be ejected away.