

### ***Main Sequence***



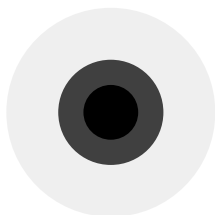
Core:  $H \rightarrow He$   
Envelope: H  
duration: until core  
grows to  $1/6$  of star

### ***Red Giant***



Core: He degenerate  
Shell:  $H \rightarrow He$   
Envelope: H (expands)  
  
duration: until H  
depleted in  $1/2$  of star

### ***Horizontal Branch***



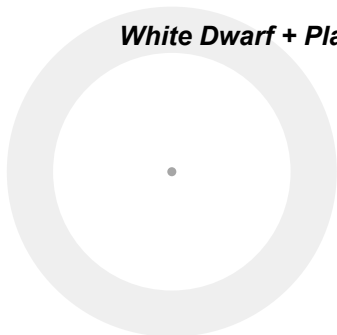
Core:  $He \rightarrow C$   
Shell:  $H \rightarrow He$   
Envelope: H  
  
duration: until H  
depleted in  $1/2$  of star

### ***Asymptotic Giant (AGB)***



Core: C/O degenerate  
Shells:  $He \rightarrow H$ ,  $H \rightarrow He$   
Envelope: H (expands)  
  
duration: until H  
depleted in  $1/2$  of star

### ***White Dwarf + Planetary nebula***



Core: C/O degenerate  
  
Envelope: H (expands)  
  
duration: until H  
depleted in  $1/2$  of star