

- **Life of a star cluster**

Figure 21-6, 21-8

- **Evolution off the HR diagram**

- **Formation time, time on the MS and evolution off the MS are mass dependent.**

Time (yrs)	Process
$<5 \times 10^3$	O stars contract to protostars
10^5	O stars on MS
3×10^6	B and A stars join MS
3×10^7	O stars H depleted and become red giants
7×10^7	Low mass stars (M) on MS
10^8	G → M stars left on MS

- **The turnoff point of the main sequence indicates the age of a group (cluster) of stars (color-magnitude diagram).**
- **Horizontal branch stars are post He flash low mass stars undergoing core He and shell H burning (move back to red giant phase).**