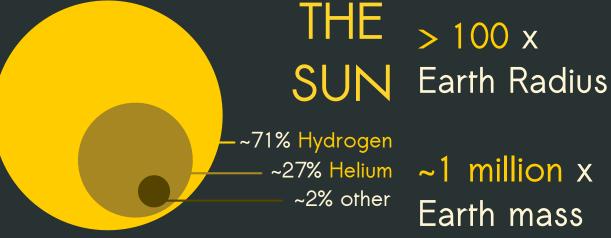


## A ball of fire supported by the balance between gravity and fusion



There are between 100 and 400 billion stars in our galaxy.



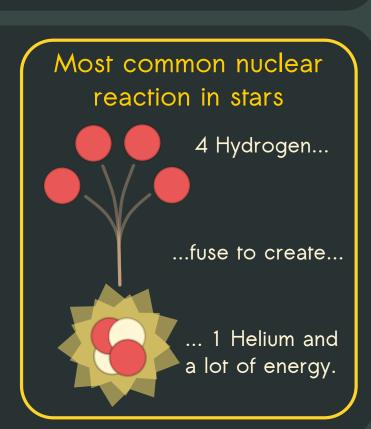
~1 million x Earth mass

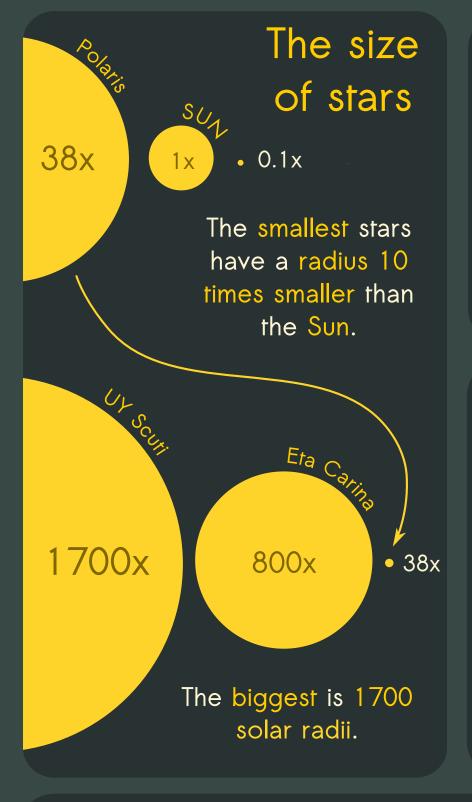
## Stars are powered by nuclear fusion

It makes them shine and stops them from collapsing under their own weight.

It creates new elements that were not made during the Big Bang and realeases energy.

Stars are the factories of the







The heavier the star the shorter the life.

R136a1 is 315 solar masses Lifetime: ~3 million years

> The Sun Lifetime: ~10 billion years

Lower limit: 0.08 solar masses Lifetime: Trillions of years

## Stars die when nuclear fusion stops for good









Supernova explosion

< 8 solar masses





White **Dwarf**