



# Star Lives



**What is a star?**

## Star:

"An astronomical object consisting of a luminous spheroid of plasma held together by its own gravity"  
(quote by Wikipedia [here](#))

### Hydrogen

Stars are about 70-80% hydrogen by mass.

This percentage changes as the star ages.

### Helium

Stars about about 20-30% helium by mass.

This percentage changes as the star ages.

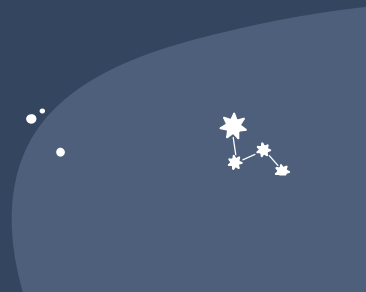
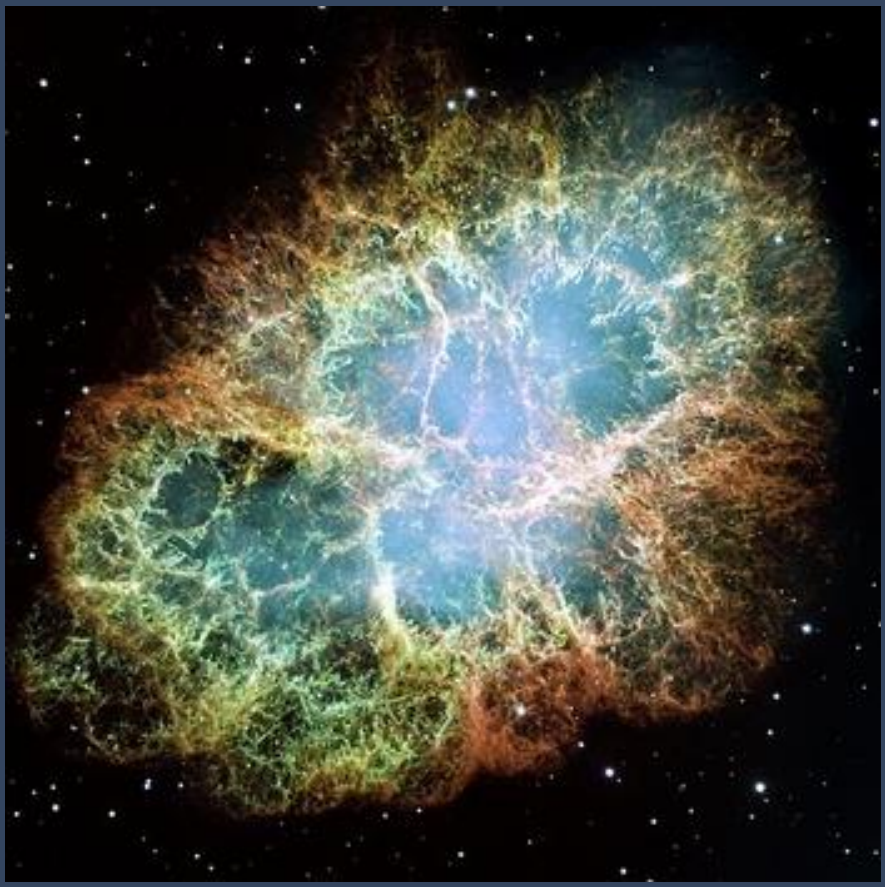
### Other

About 1-2% is other elements like oxygen, nitrogen, carbon, and iron.

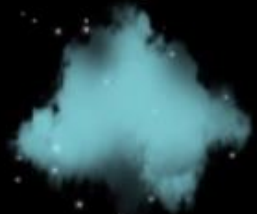
This percentages changes as well.



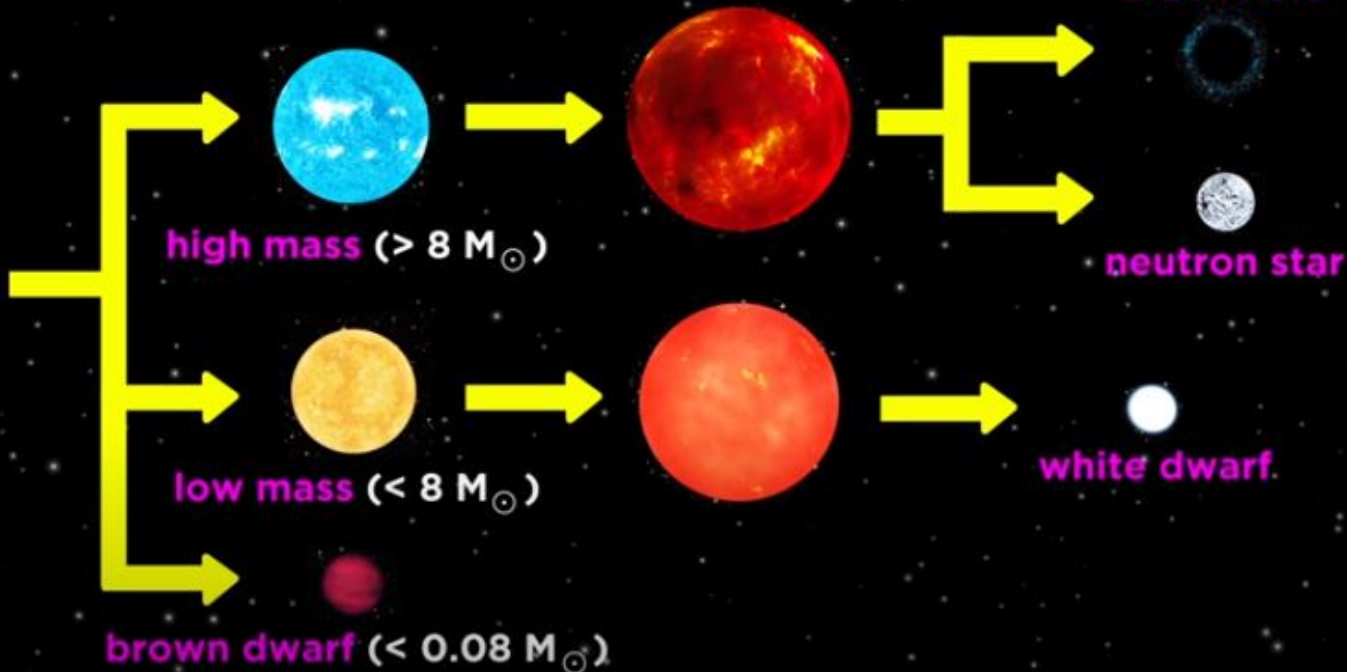
# LIFE CYCLE OF STARS



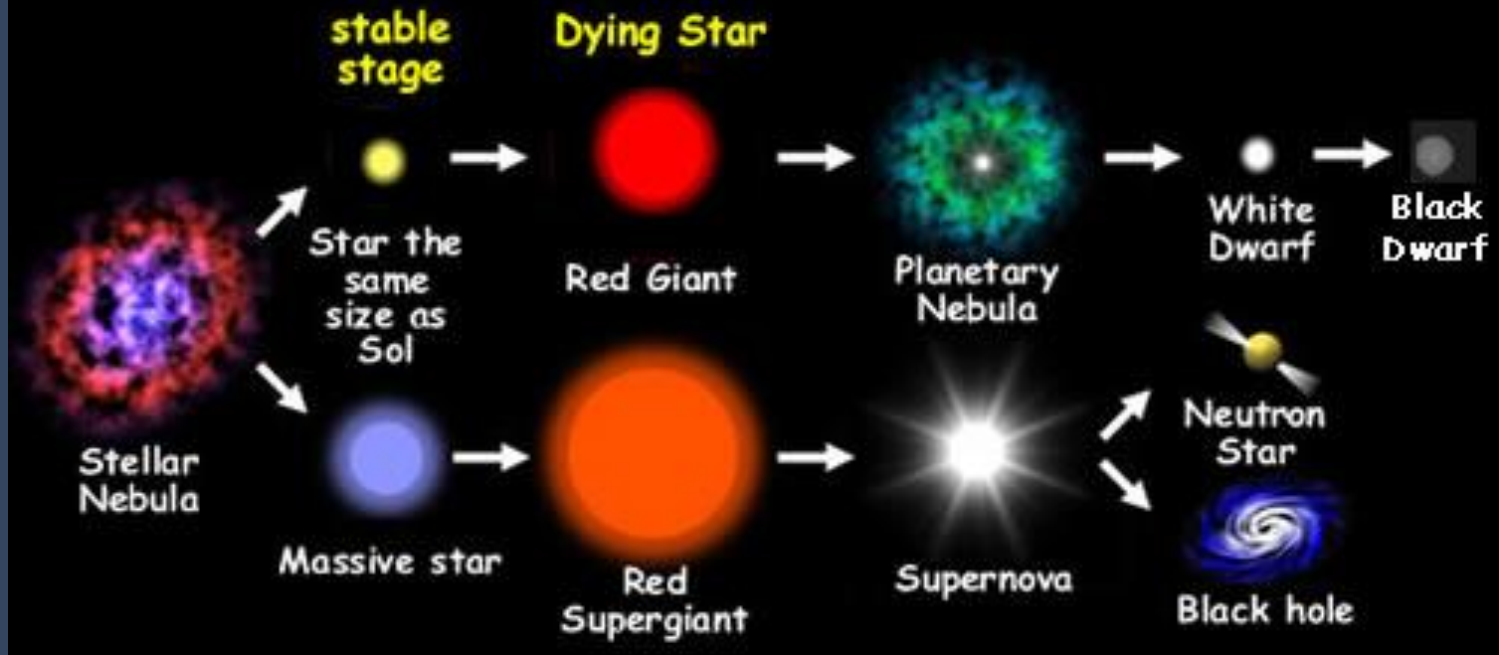
# Stellar Life Cycle



0.1 M<sub>☉</sub>  
to  
30 M<sub>☉</sub>



# The Lifecycle of a Star





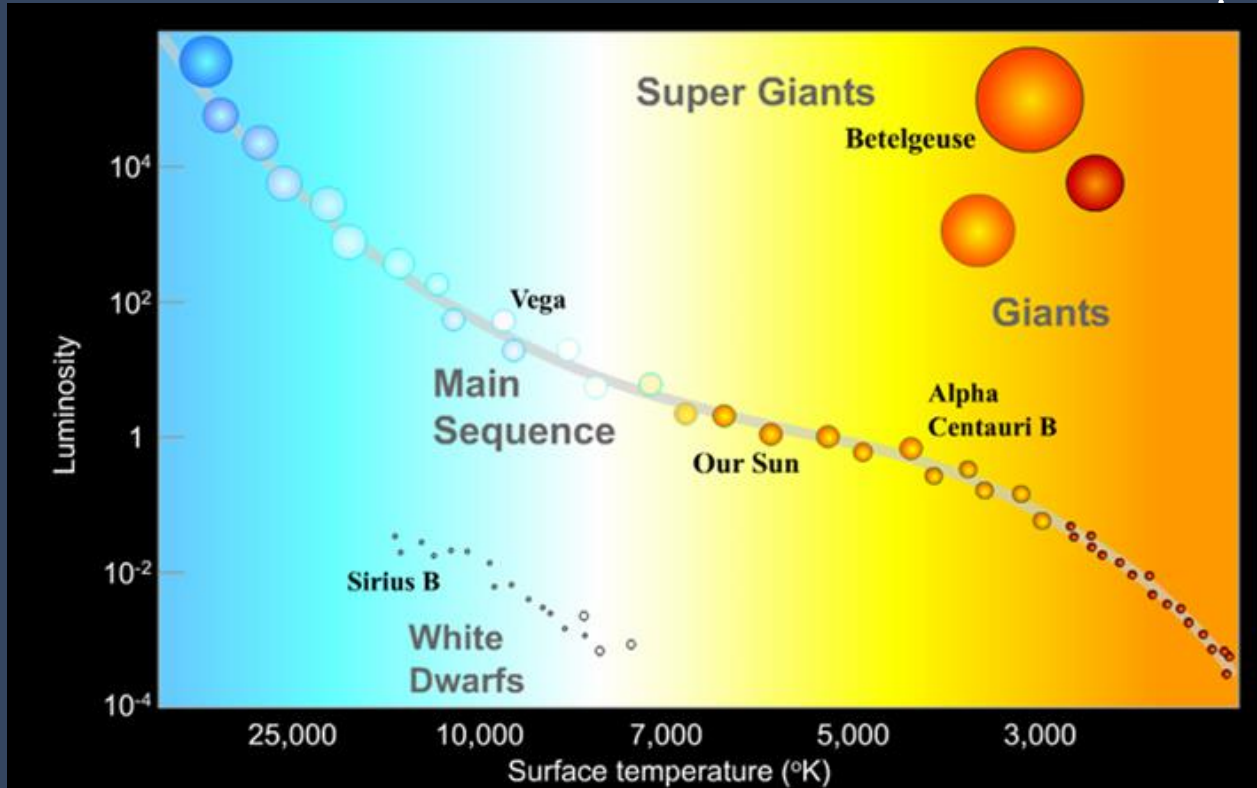
?

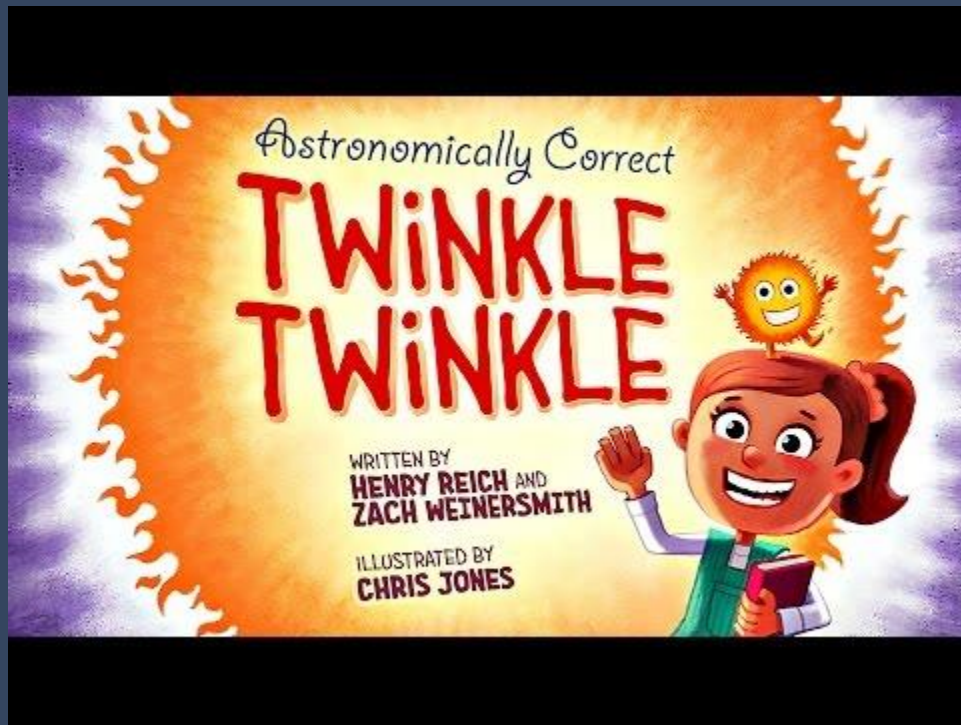
**Classify**

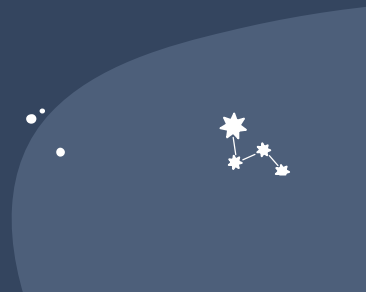
How do we classify stars?



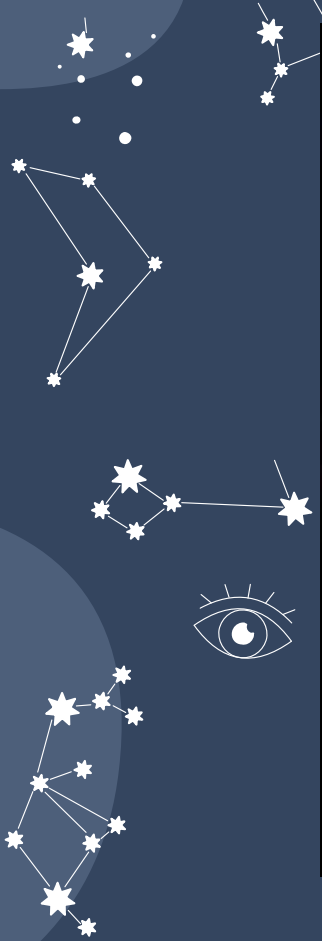
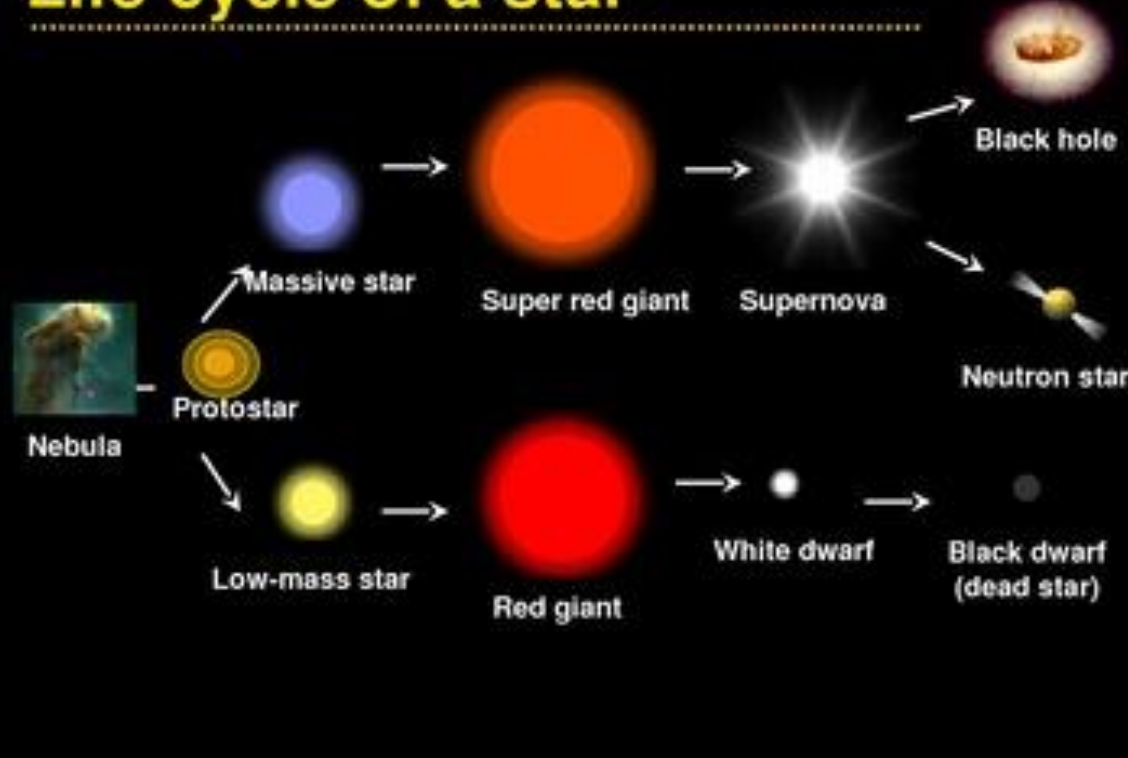
# The Hertzsprung–Russell Diagram







# Life cycle of a star



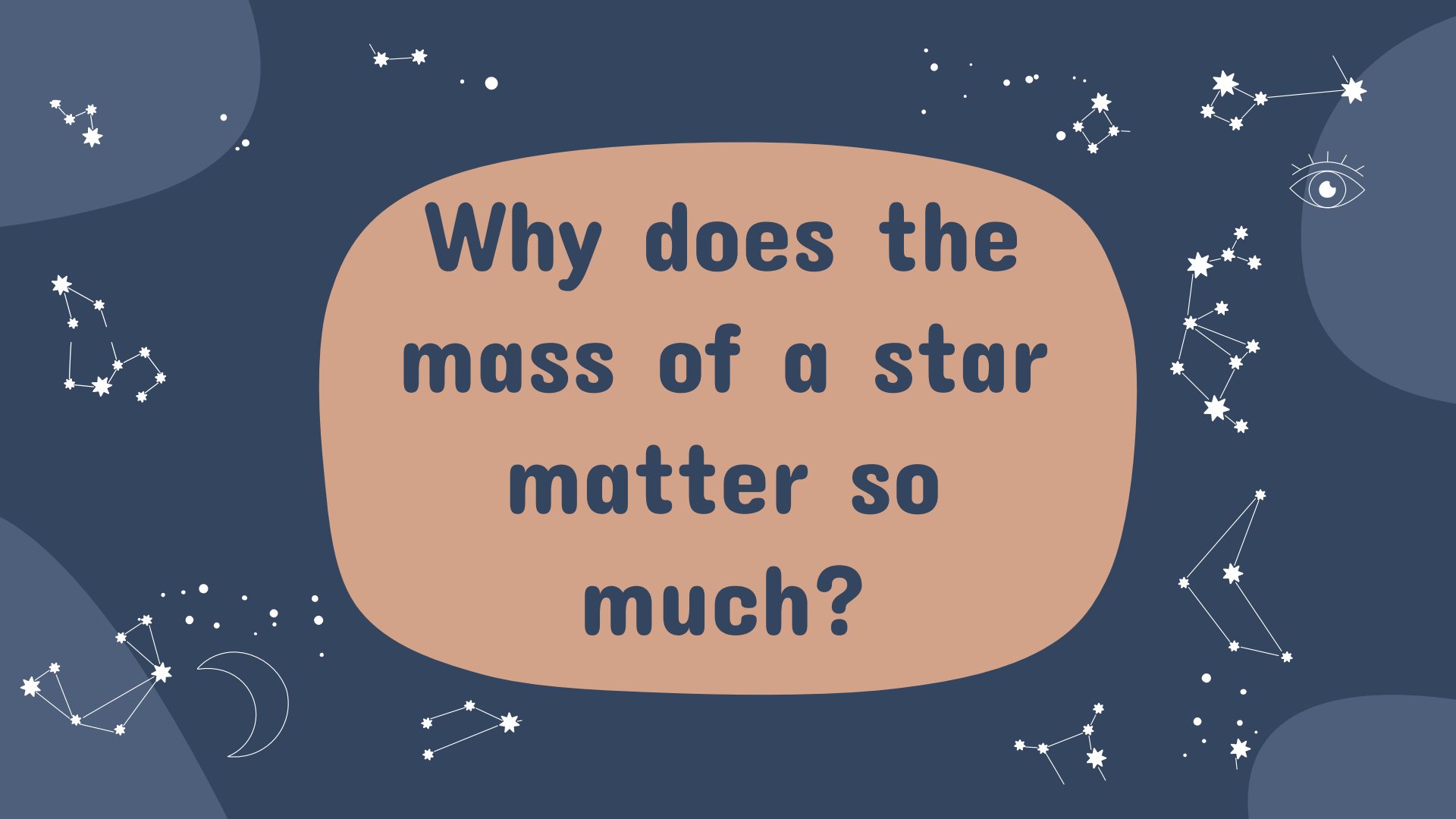
# Play With Stars

Find more info about the lifespan of stars [here](#).

Then play around with different sizes of stars [here](#).

How was the outcome of the star connected to the mass of the star?





**Why does the  
mass of a star  
matter so  
much?**



## Other Cool things

### **Pulsars**

Research what pulsars are and why they are so very different from normal stars

### **Spectrographs**

Research into what spectrographs are and how they help us understand stars

### **Brightness**

Research into apparent brightness versus absolute brightness

# Constellations







EPISODE 31.1

# SUPER STARS



KIDS



EPISODE 31.2

# CONSTELLATION LOCATION



KIDS

Ancient Greek Astrologers be like...

**AH YES**

**A GOAT**





Now for the  
fun part!

Read the stories behind  
some constellations

# Constellation Assignment

You have to create an image using at least ten 'stars'

Then create a story or myth to describe WHY that image is in the sky  
(just like the myths you read about)

Your story should be at least a page long and should have at least  
three characters in it (animals count as characters)



# Your star map





**What questions do you  
have on this assignment?**

# Constellation Assignment


You have to create an image using at least ten 'stars'

Then create a story or myth to describe WHY that image is in the sky  
(just like the myths you read about)

Your story should be at least a page long and should have at least  
three characters in it (animals count as characters)







**Why is your  
constellation  
in the sky?**



**Explore more now!**

# Constellations

Let's dive more in-depth into constellations!

- Good info about constellations and where to find them: <https://astronomy.com/observing/astro-for-kids/2008/03/learn-the-constellations>
- Key to finding the constellations: <https://www.iau.org/public/themes/constellations/>
- NASA's page on constellations: <https://spaceplace.nasa.gov/constellations/en/>
- April's constellations: <https://hubblesite.org/resource-gallery/learning-resources/tonights-sky>
- Details (click on the picture) on common constellations: <https://stardate.org/nightsky/constellations>

