A HOLOtta fun with star clusters:
Learning about star formation using 3D holograms

Science & Technology Facilities Council

SFM STARFORMMAPPER

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Image:Flickr

Workshop Outline

- Why Holograms?
- The story of Star Formation
- How do the holograms work?
- Make your own!
- Feedback and discussion

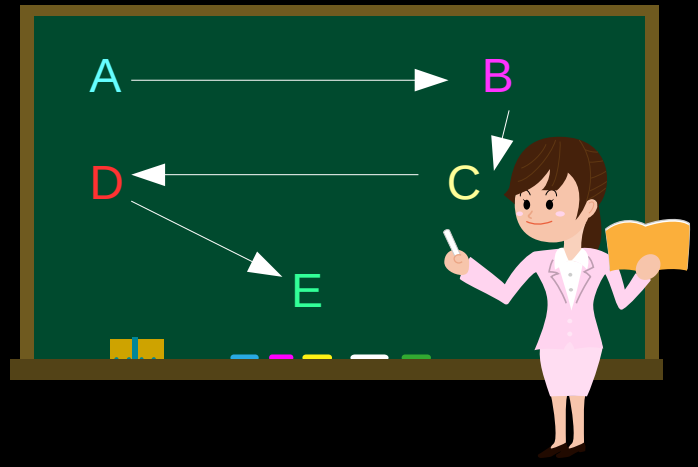


Image:kisscc0

Why Holograms?

Image: Wikimedia Commons

Why Holograms?

1. Powerful, innovative approach to explain complex topics

Image: Wikimedia Commons

Why Holograms?

1. Powerful, innovative approach to explain complex topics

2. Inherently inspiring, engaging and capture imaginations

Image: Wikimedia Commons

Why Holograms?

- Pros

- ✔ Great visual learning tool
- ✔ Aids explanation of complex topic
- ✔ Allows students to see objects in 3D

  e.g. organ (Anatomy), sculpture (Art), planet (Astronomy) etc.
- ✔ Can show static hologram, or its evolution
- ✔ Memorable
- ✔ Simple and cheap to make

  (can be generated on smartphones)

Image: Pixabay

Why Holograms?

- Cons

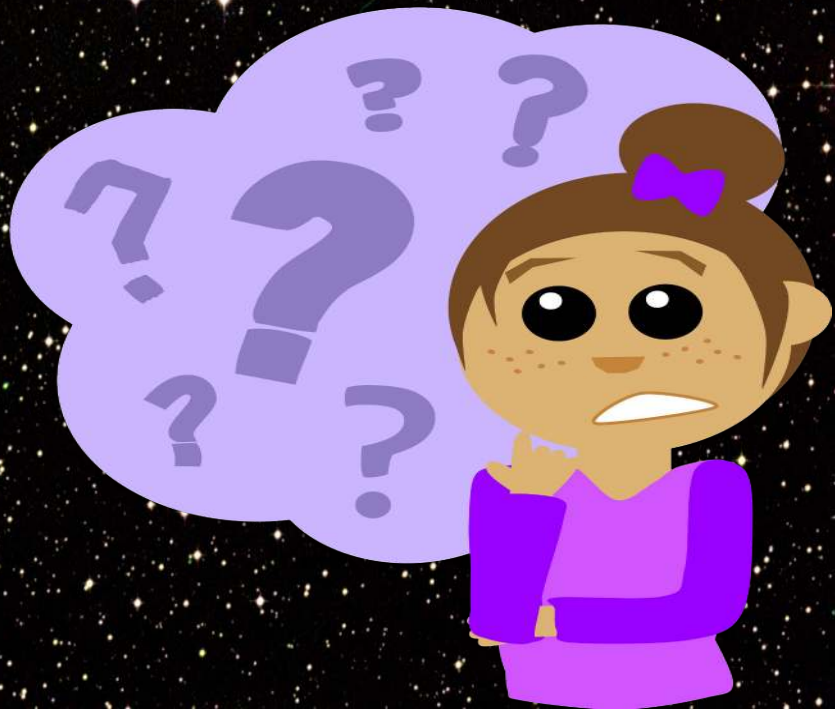
✗ Some time needed to make the holograms & devices

✗ Storage (large hologram devices)

Image: Pixabay

The Story of Star Formation

What are Stars?



Images: Pixabay, OpenClipArt

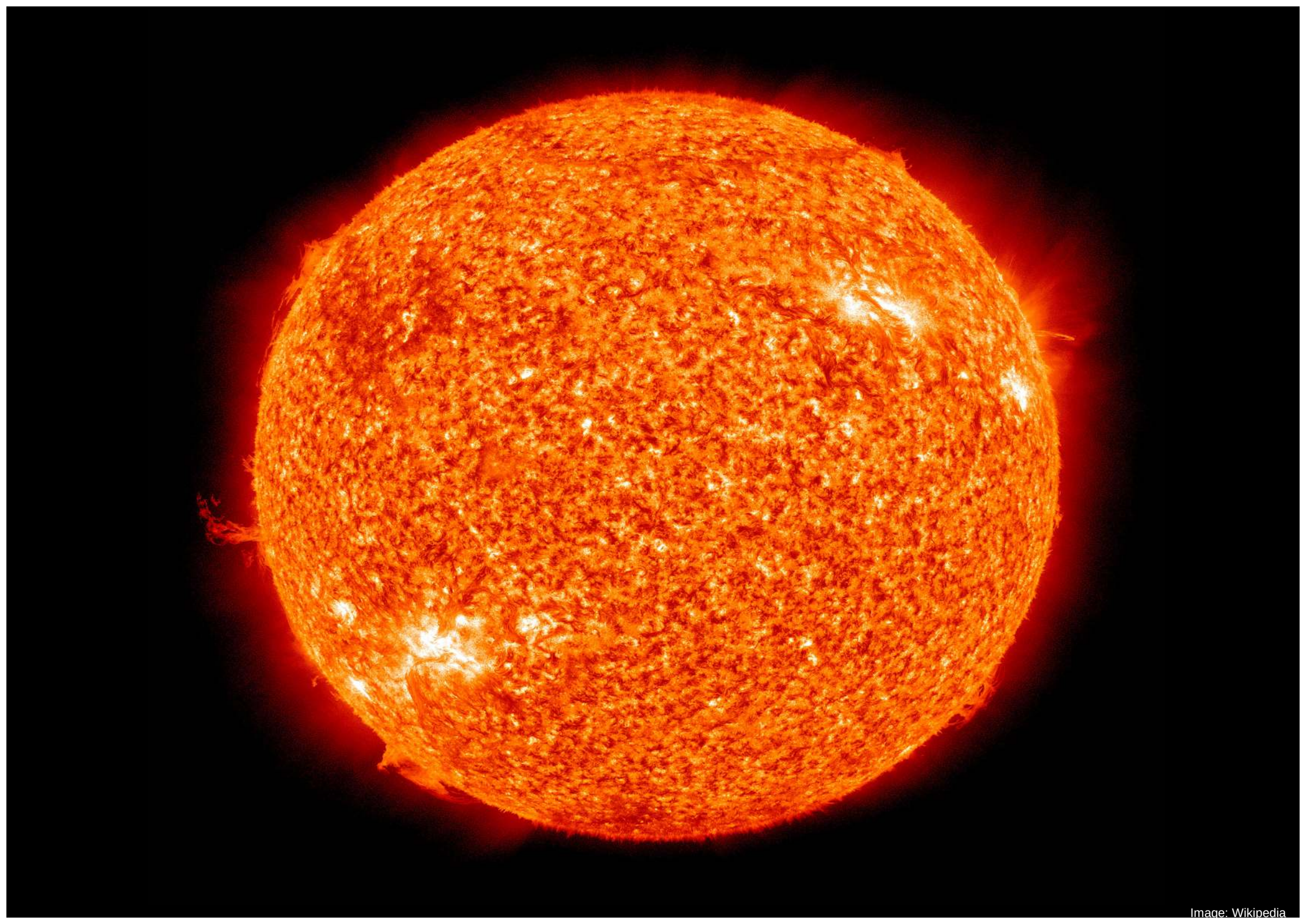
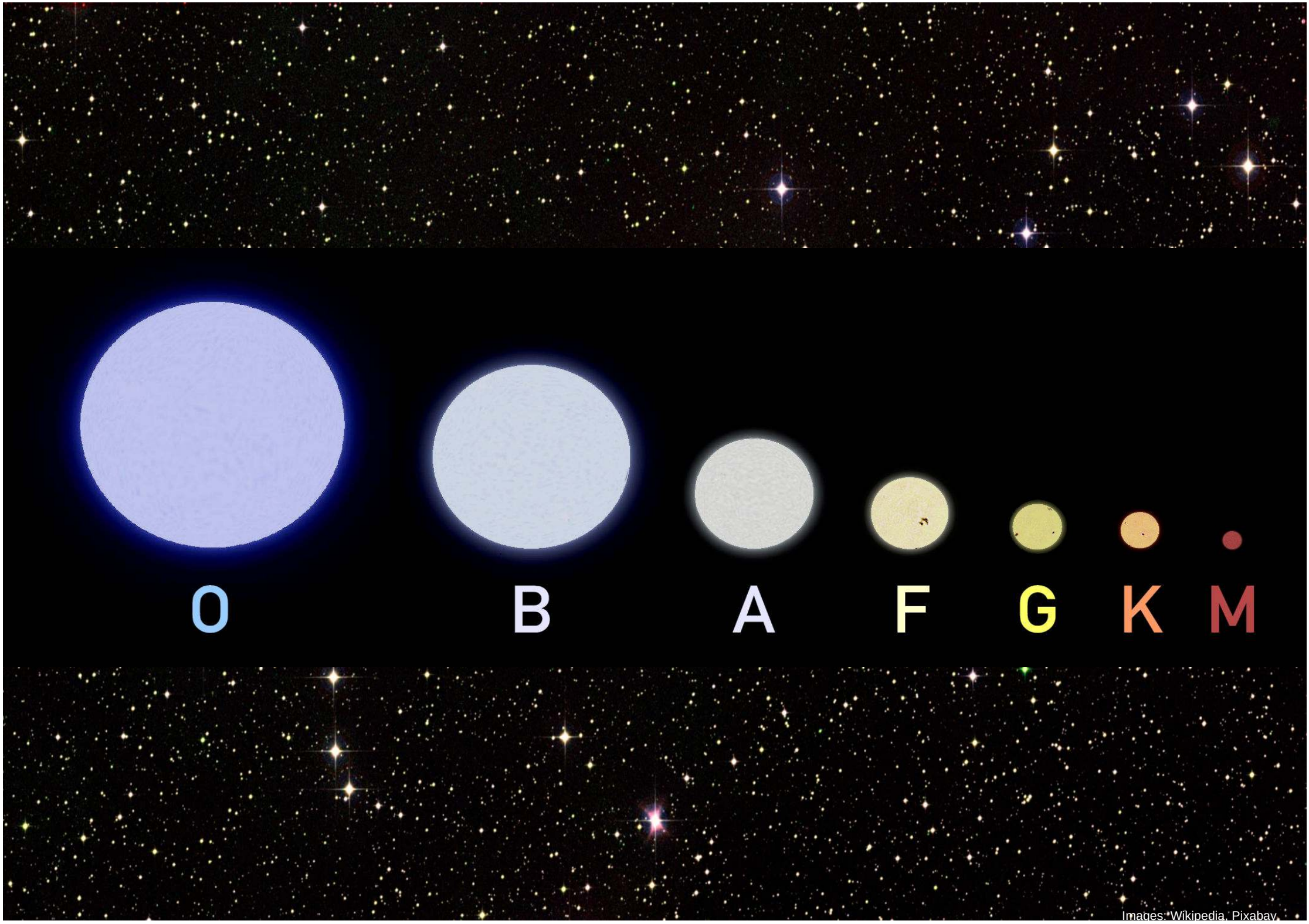


Image: Wikipedia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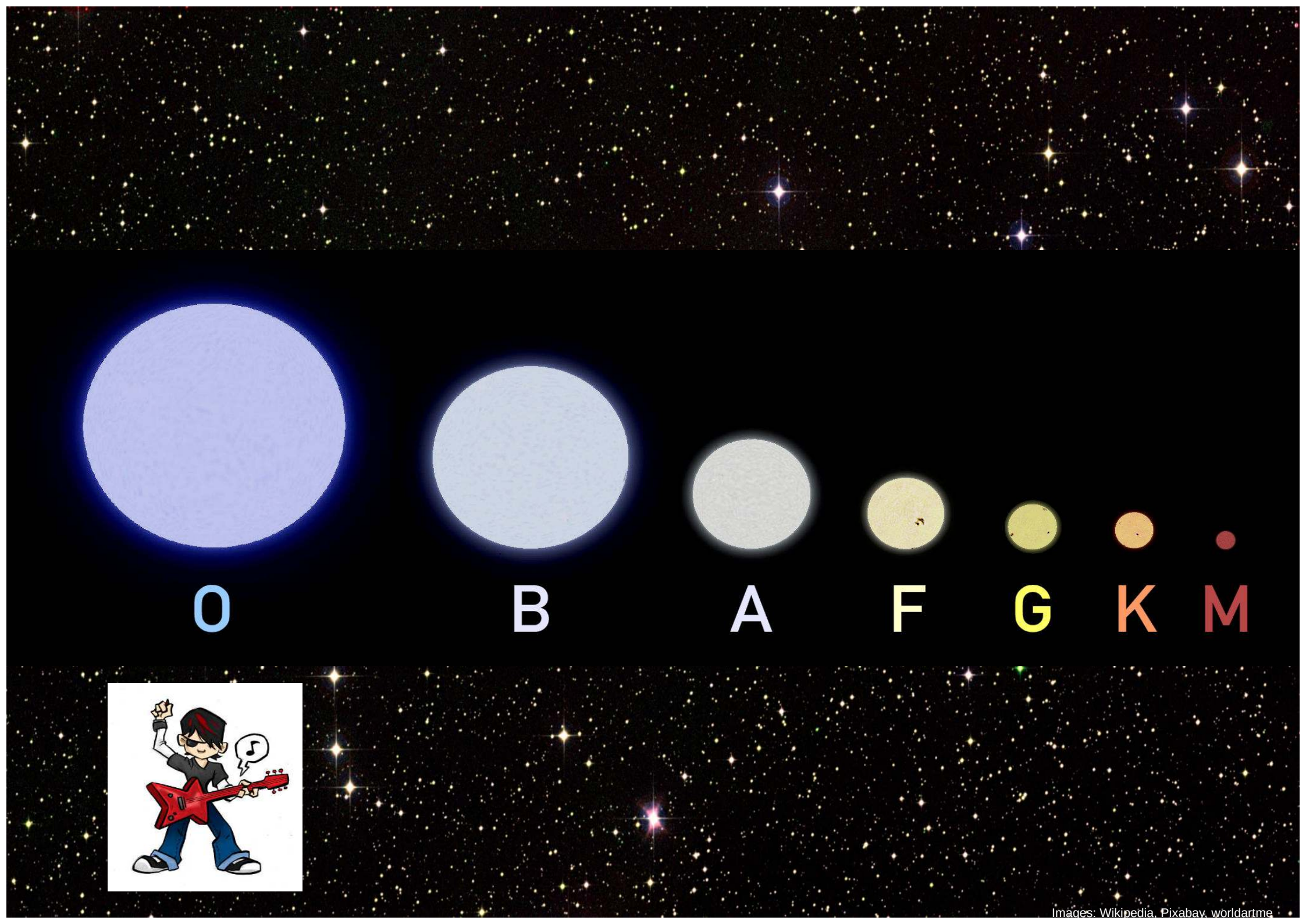
Images: Wikipedia, Pixabay

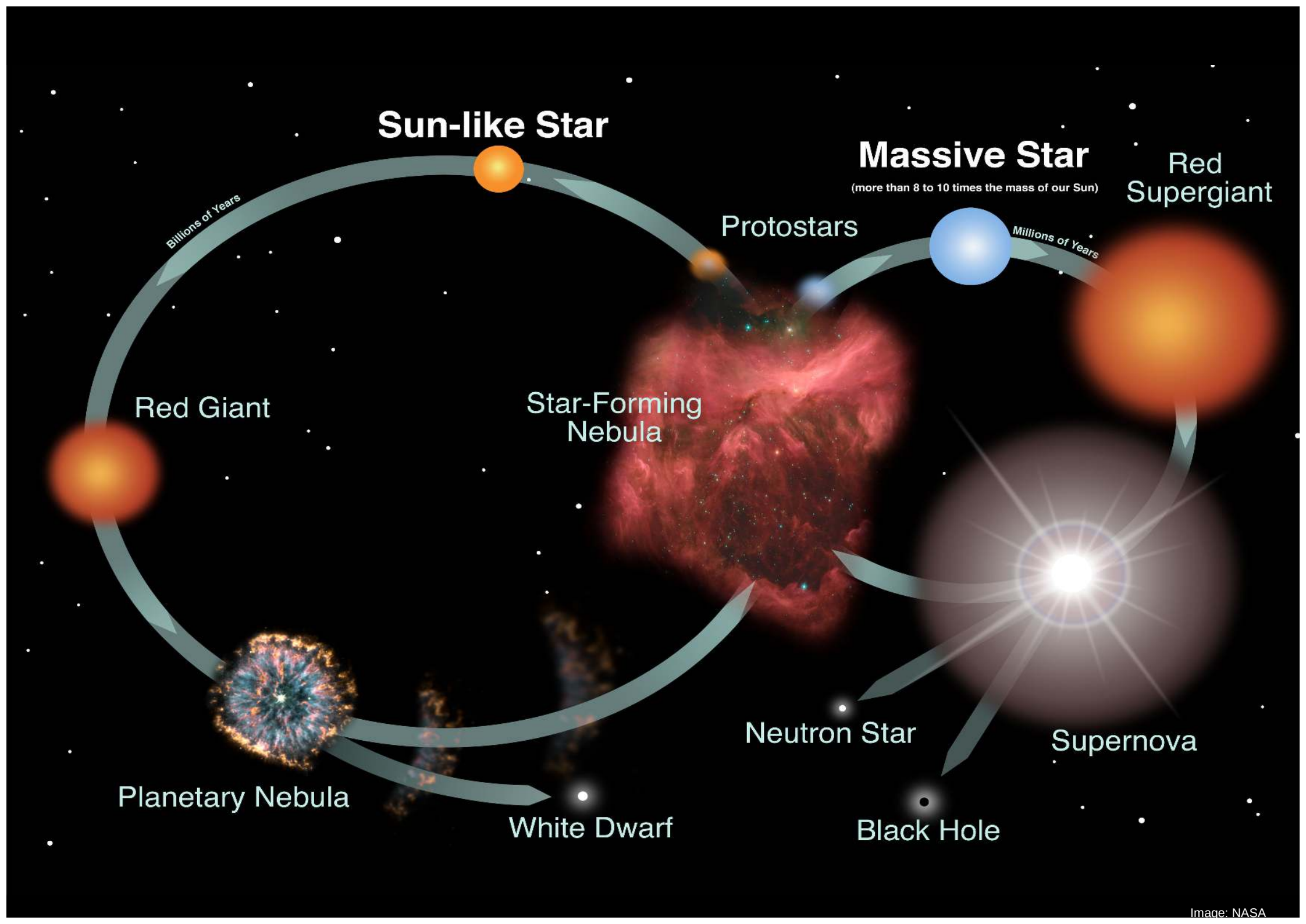


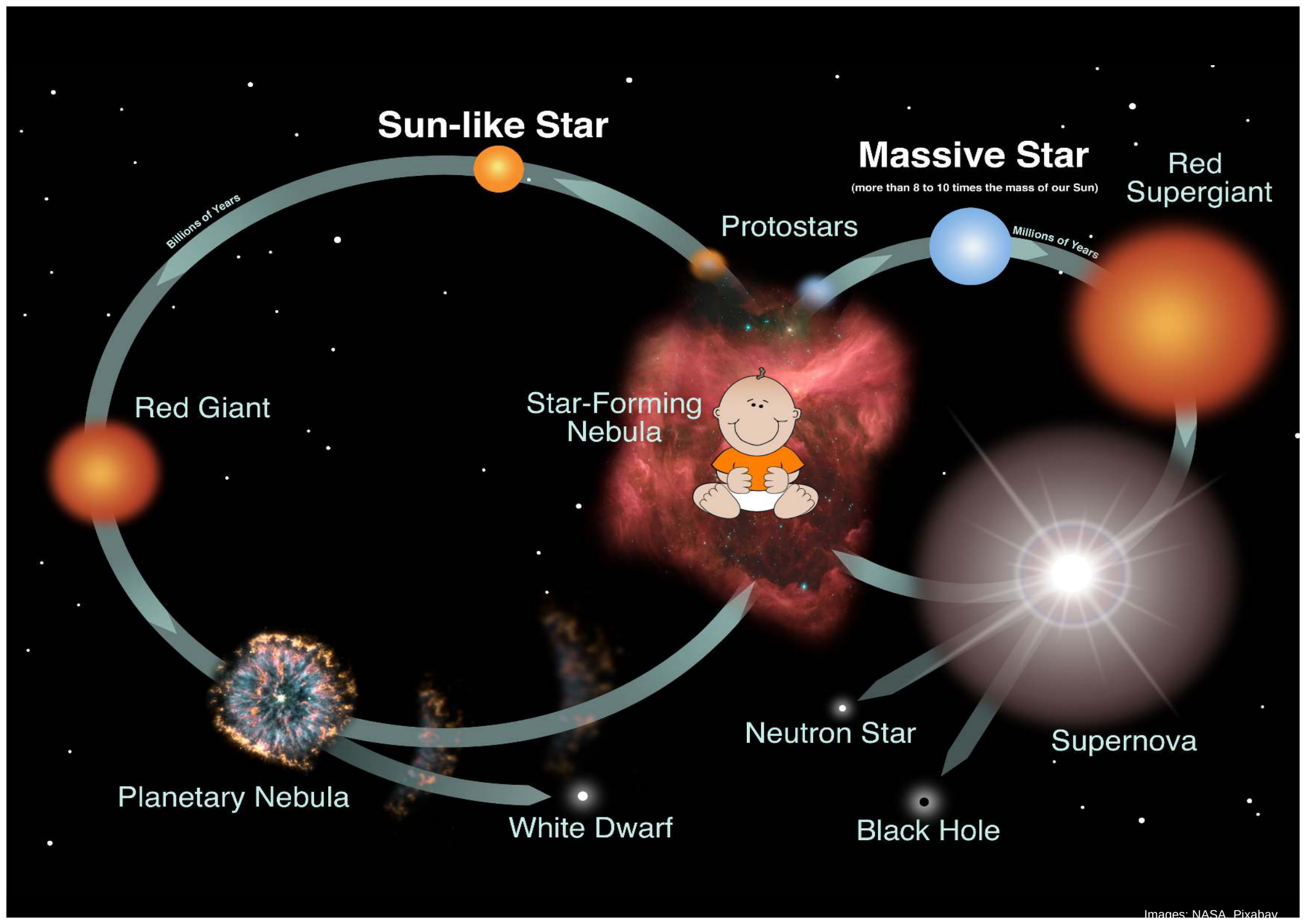
Images: Wikipedia, Pixabay, worldartme

Our Sun

O B A F G K M

Images: Wikipedia, Pixabay, worldartme


Sun-like Star
Massive Star
(more than 8 to 10 times the mass of our Sun)
Red Supergiant
Protostars
Billions of Years
Millions of Years
Red Giant
Star-Forming Nebula
Neutron Star
Supernova
Planetary Nebula
White Dwarf
Black Hole
Image: NASA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Images: NASA, Pixabay

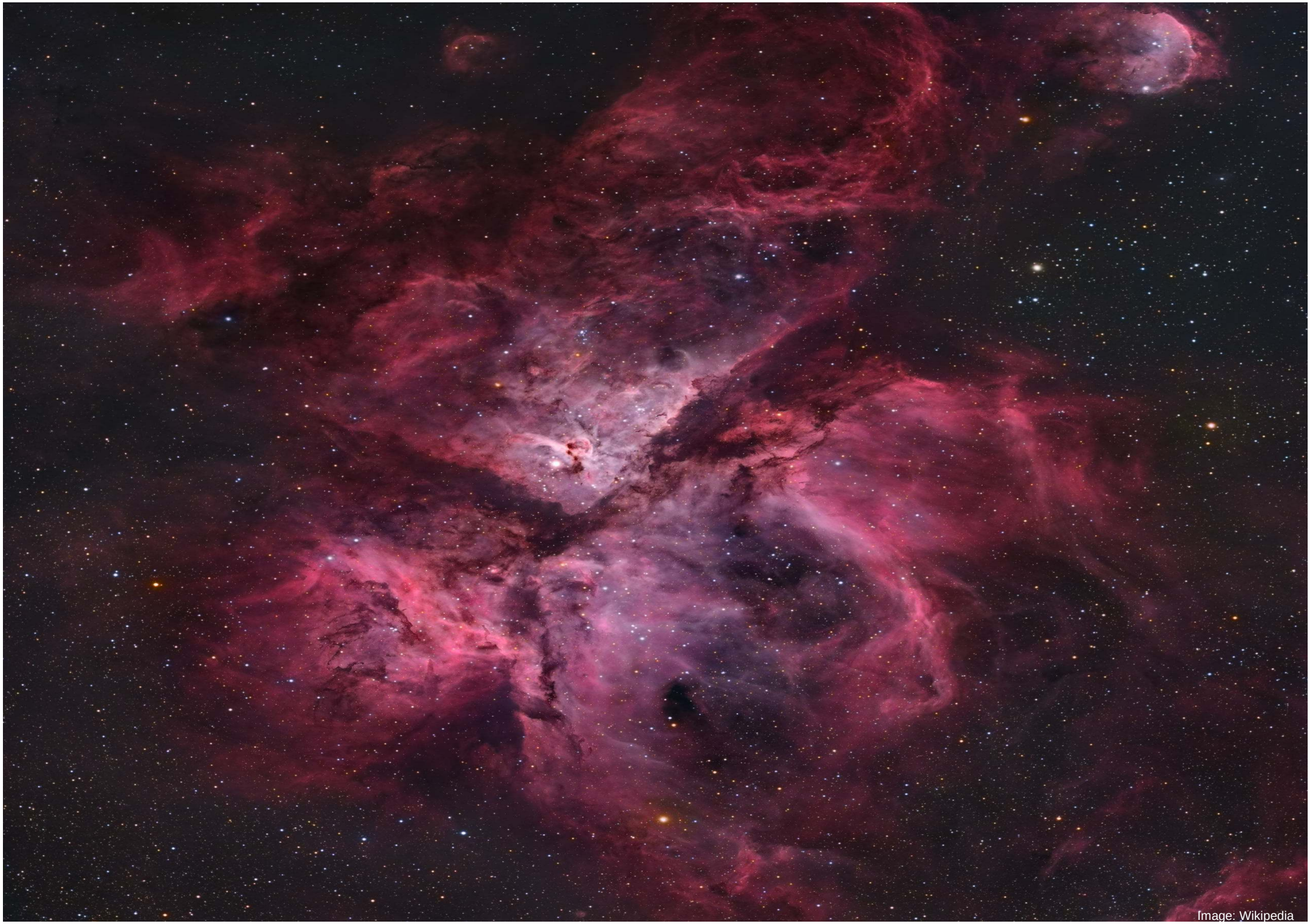
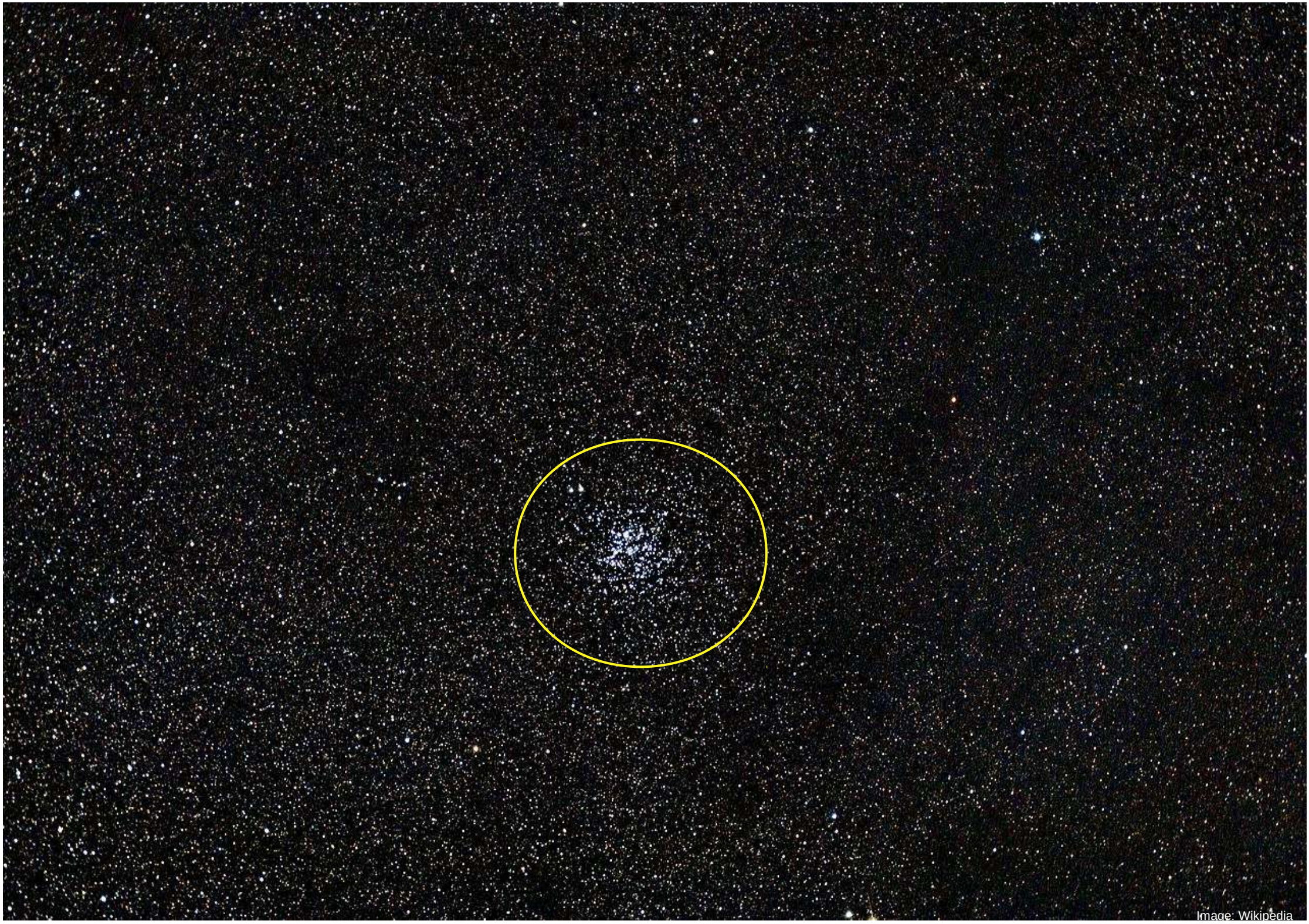


Image: Wikipedia


Image: starformmapper.org

Images: NASA, Wikipedia


Image: Wikipedia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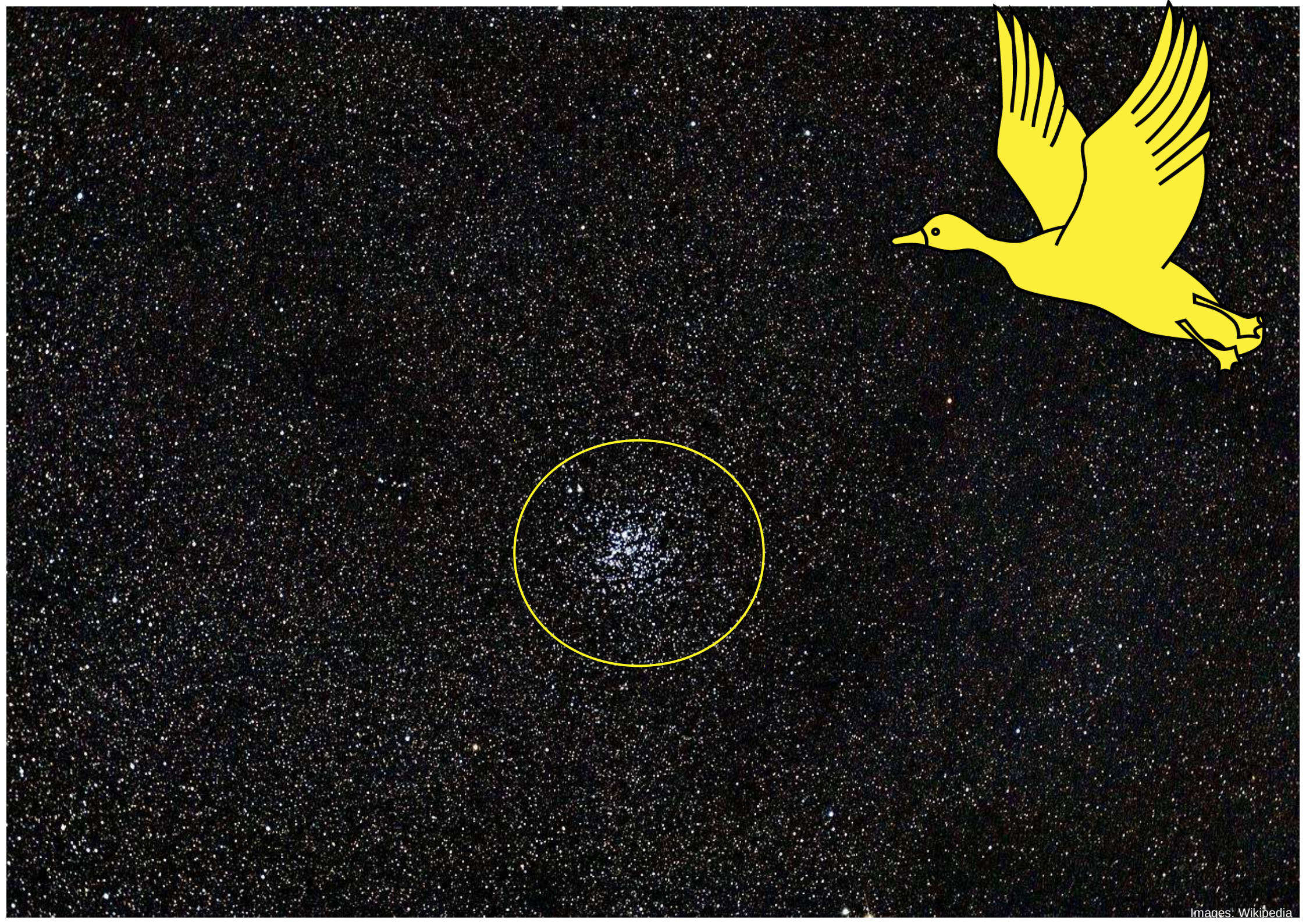
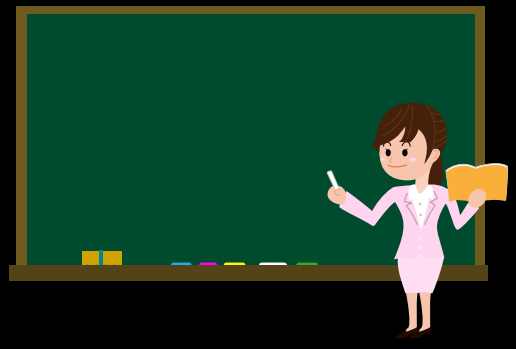


Images: Wikipedia

How do the holograms work?



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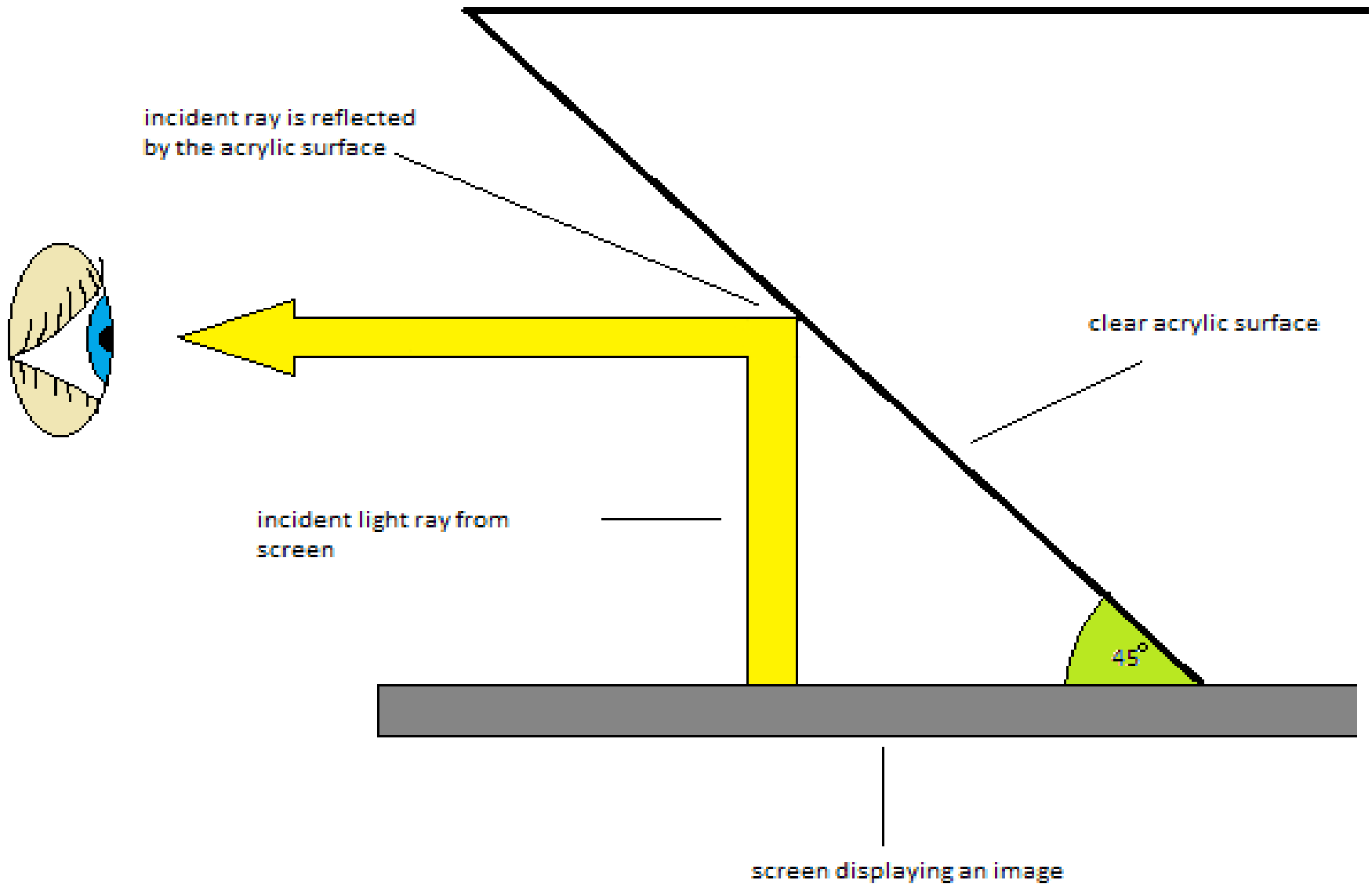
incident ray is reflected
by the acrylic surface
clear acrylic surface
incident light ray from
screen
45°
screen displaying an image

Make your own!

Feedback and Discussion

Image:Pixabay

More Info?

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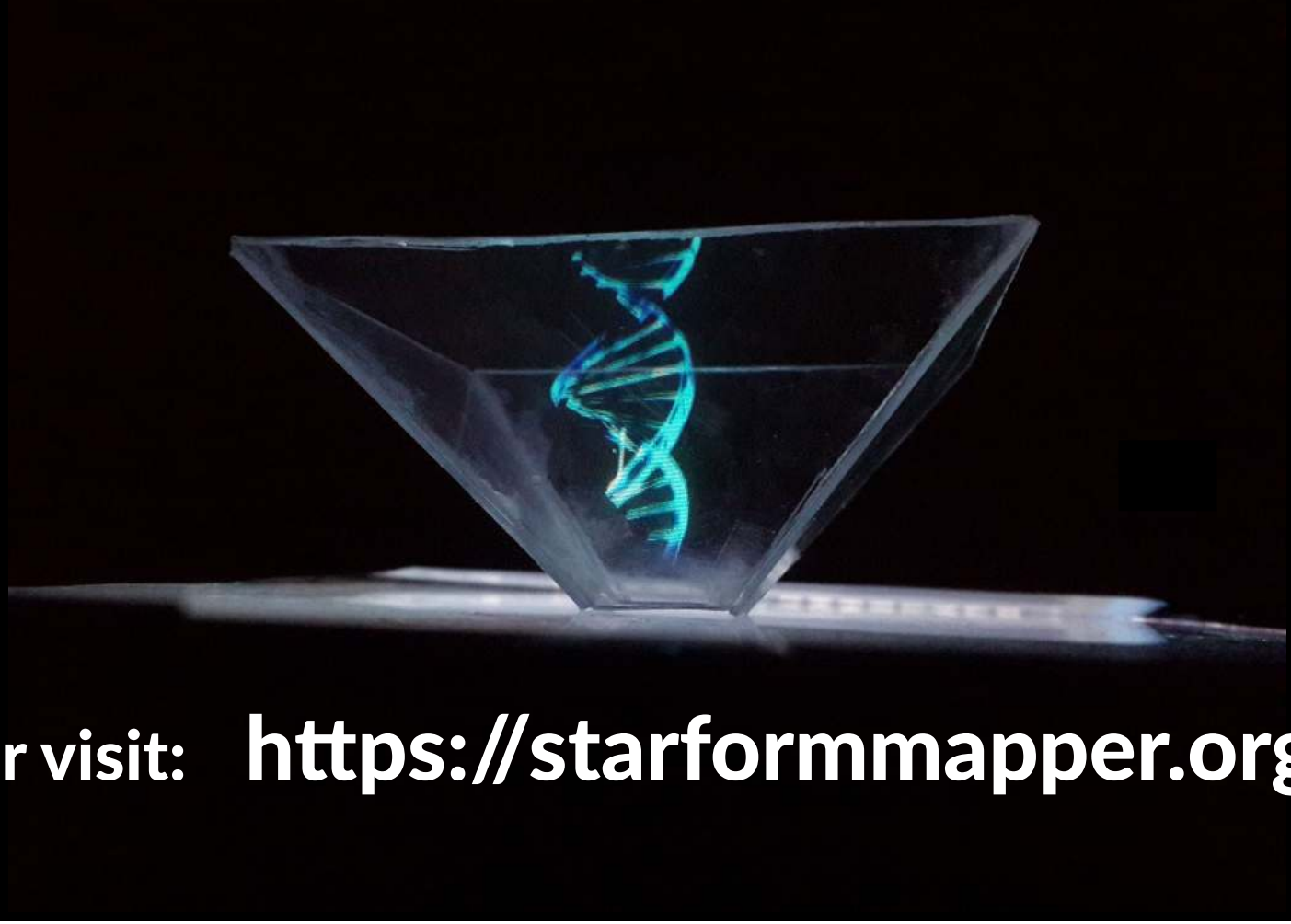

Or visit: https://starformmapper.org/

Image: Wikimedia Commons