



Senior Space Science Expert

Pillar: STEAM

Outcomes: Display a strong sense of self

Seniors will earn their badge by exploring light and discover what it teaches us about the Universe.

1. Uncover the stuff you're made of

- We're made of star stuff. We are a way for the cosmos to know itself.* - Carl Sagun
- Watch "[Most Astounding Fact](#)" - by Neil Degrasse Tyson
- Write planetary poetry about stars

2. Explore the brilliance of the Stars

- Understand a Star's Life Cycle - <https://www.youtube.com/watch?v=PM9CODIQIOA>
- Draw a diagram of the life cycle of a star and use these cards to help make your diagram. <https://www.lpi.usra.edu/education/skytellers/stars/activities/starcards.pdf>
- Participate in Citizen Science Projects to engage more with the sun:
 - Solar Storm Watch - Help track Solar Storms through space to improve space weather forecasts. <https://www.zooniverse.org/projects/shannon/solar-stormwatch-ii>
 - Variable Star Zoo - Help decide which variable star we are seeing in the center of our galaxy <https://www.zooniverse.org/projects/ilacerna/variable-star-zoo>

3. Discover Telescopes as Light Collectors

- Capture light in order to work. <https://courses.lumenlearning.com/astronomy/chapter/telescopes/>
- Check out this short video here <https://www.youtube.com/watch?v=5v7bN13PjZ8>

4. Find the Light in the Darkness

- Use [Stellarium](#) to explore the night sky no matter what time of day. Discover and learn about deep space objects, planets and more!
- Make Solar Tap Lights - Stars exist in a range of colors: red, orange, yellow, green, white and blue with red being the coolest and blue being the hottest. A star's color indicates its temperature, composition and relative distance from earth. Its luminosity indicates its size; the brighter it is, the larger it is. <http://www.playathomemomllc.com/2012/05/push-light-planets/>

5. Share Your Knowledge

- Create a presentation Prezi or PowerPoint to teach others about light and stars. Share with your family, troop, or local Girl Scout council!

Additional Resource:

Our wonderful community partner, The Arvin Gottlieb Planetarium, has live and recorded Facebook videos studying the sky, constellations, planets, and more <https://www.facebook.com/watch/KCplanetarium/>; check them out!

When you're finished: Congratulations, you have earned your badge! You can purchase by emailing shopdept@gksmo.org or at <https://www.girlscoutshop.com/senior-space-science-expert-badge>

No shipping charges apply at this time.

