We have created a guide to get you started. This is designed to be a starting point that can be tweaked to your individual style/needs. Included in the general plan are the standards/access points, vocabulary, key questions and links to a variety of resources including tutorials, informational text, videos, experiments and sample activities. All of the links in this file are live and clicking on the standard will take you directly to C-Palms.

PowerPoints for Stars:

Visual Vocabulary [Click here](http://accesstoflsresources.weebly.com/uploads/2/3/7/3/23739164/8._stars.visual_vocabulary.pptx)

Key Questions [Click here](http://accesstoflsresources.weebly.com/uploads/2/3/7/3/23739164/8._stars.essential_questions.pptx)

*Drafted by Sarasota County Teachers Dawn Byrne, Jeremy Johnson and Elizabeth Lewis, piloted 2016-17 in 5 classes and general education content review by Betsy Summerlee.*

|  | Stars |
| --- | --- |
| **Unit/Topic Standard** | [SC.912.E.5.3:](http://www.cpalms.org/Public/PreviewStandard/Preview/1878) Describe and predict how the initial mass of a star determines its evolution. |
| **Access Points** | [SC.912.E.5.In.2:](http://www.cpalms.org/Public/PreviewAccessPoint/Preview/8204) Explain that stars change over time, and that stars can be different; some are smaller, some are larger and some appear brighter than others.  [SC.912.E.5.Su.2:](http://www.cpalms.org/Public/PreviewAccessPoint/Preview/8205) Identify differences in stars: some are smaller, some are larger and some appear brighter than others.  [SC.912.E.5.Pa.2:](http://www.cpalms.org/Public/PreviewAccessPoint/Preview/8206) Recognize that some stars are brighter than others. |
| **Vocabulary** | Thermo nuclear fusion, spectra, hydrogen, gravity, Star, magnitude, apparent magnitude, absolute magnitude, H-R Diagram, star classification, properties of stars, , life cycle of a star, nebula, pulsars, black hole, supernova, gamma ray burst, neutron stars, sun, white dwarfs, blue giant, red dwarf, yellow/white stars, red giants, supergiants, brown dwarfs |
| **Key Concepts** | * What are stars made of? * How are Stars “Born”? * What are the Properties of Stars? * How are Stars Classified? * What are the Different Kinds of Stars? * How Does a Star “Die”? * What are Gamma Ray Bursts? * What are Pulsars and How are They Formed? * What is a Black Hole? |
| **References** | * A Star is Born...and Dies, text describes the life cycle of stars and differentiates between their various "fates" as white dwarfs, black holes: [Click Here](http://www.cpalms.org/Public/PreviewResourceLesson/Preview/154512) * A Stellar Life Students are guided through the stages of a star's life using interactive reading, acting out skits, classroom games, and creating their own children's comics: [Click Here](http://www.cpalms.org/Public/PreviewResourceLesson/Preview/152024) * Kahoot game on stars: [Click Here](https://play.kahoot.it/#/k/c6fc580d-1c88-47a9-8045-7330bf28e245) * Black Holes article describes black holes: what they are, how they are formed, where they are located, what evidence there is for their existence, and what scientists still do not know about them: [Click Here](http://www.cpalms.org/Public/PreviewResourceUrl/Preview/64417) * What are stars made of? Video 1.5 minutes: [Click Here](https://www.youtube.com/watch?v=xUyKcu1Jjjg) * How are stars born, 4 minutes: [Click Here](https://www.youtube.com/watch?v=80eMTnnLjhs) * Complete the interactive activity to learn about the difference between apparent and absolute magnitude: [Click Here](http://astro.unl.edu/interactives/magnitudes/Magnitude1_Distance.html) * Types of stars, scroll down, interactive site: [Click Here](http://mrnussbaum.com/space/stars1/) * types of stars, video 3 minutes: [Click Here](https://www.youtube.com/watch?v=gT8WrjBEaHM) * The life cycle of stars video 5 minutes: [Click Here](https://www.youtube.com/watch?v=PM9CQDlQI0A) * How the Universe works; gamma ray bursts, video 3 minutes: [Click Here](https://www.youtube.com/watch?v=964NtLhXs-0) * What exactly is a Pulsar? - Pulsars and Quasars, video 5 min: [Click Here](https://www.youtube.com/watch?v=9QjkKgth9Vg) * The Life Cycle of a Star video just under 6 minutes: [Click Here](https://www.youtube.com/watch?v=e-P5IFTqB98) |