Lesson Title: We are stardust
Big Ideas:

- Identify various 'types' of stars and classify using the H-R diagram
- Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy (that eventually reaches Earth in the form of
- By the end of grade 8. Nuclear fusion can result in the merging of two nuclei to form a larger one, along with the release of significantly more energy per atom than any chemical process. It occurs only under conditions of extremely high temperature and pressure. Nuclear fusion taking place in the cores of stars provides the energy released (as light) from those stars and produces all of the more massive atoms from primordial hydrogen. Thus the elements found on Earth and throughout the universe (other than hydrogen and most of helium, which are primordial) were formed in the stars or supernovas by fusion processes.

What resources from this course do you intend to integrate with your unit plan? *And* How will using these resources help your students better achieve your goals for this unit?

Some of the resources I plan to integrate include:

1. As a way to generate interest/ phenomena → Students observe fading supernovae and images from the hubble of different stars. Students will be asked to do a notice/ wonder chart to generate driving questions. Some expected questions will be:
    a. Why are stars different colors? Sizes?
    b. How big are stars? How far away are they?
    c. How do they generate their light?
- https://www.youtube.com/watch?v=GQ13j55P3sE
- https://esahubble.org/images/archive/category/stars/

2. Use the Star in a Box Activity as a way to understand the differences in the lifecycle of stars with different starting masses and to demonstrate the use of graphing as a tool for exploring different physical aspects of a complex system.

3. As a way to ensure students are familiar with the classification of stars they will be asked to apply the knowledge they acquired from Day 2 [Star in Box] to complete the AstroLesson : Classifying Start- Star Images activity.
4. To investigate how star images provide us with information about stars. We will look at how color provides us with clues about the temperature, size, and [possibly] movement of stars. The lesson used for this will be Science of Color.

5. Some direct instruction on this day- how the 'light signature' of the sun shows scientists that combustion is not responsible for the light and heat generated by sun. **Cannot find an activity on this topic yet. Introduction to Fusion
6. 2 days: students will make a claymation video of how elements [H, He, C, N, O] are made in the core of stars. Rough Copy of activity [needs editing] linked here.