

Teacher's Notes

This is a modified version of the Star cycle model lesson. In this activity students use facts given to them to model the cycle of stars

Teacher Prep

Copies of

Print on 11x 17 paper, laminate them for future use, enough for each group of students

Print the , laminate, copies for each group of students

4.7 Star Cycle

Create a model of the star cycle

Star Cycle Introduction

Like humans, stars go through a cycle from fetus to old age. Your task is to create a model that shows the cycle stars go through, from the formation of the star to its death. You will use your model to make predictions about when and how our star, the Sun, will “die.”

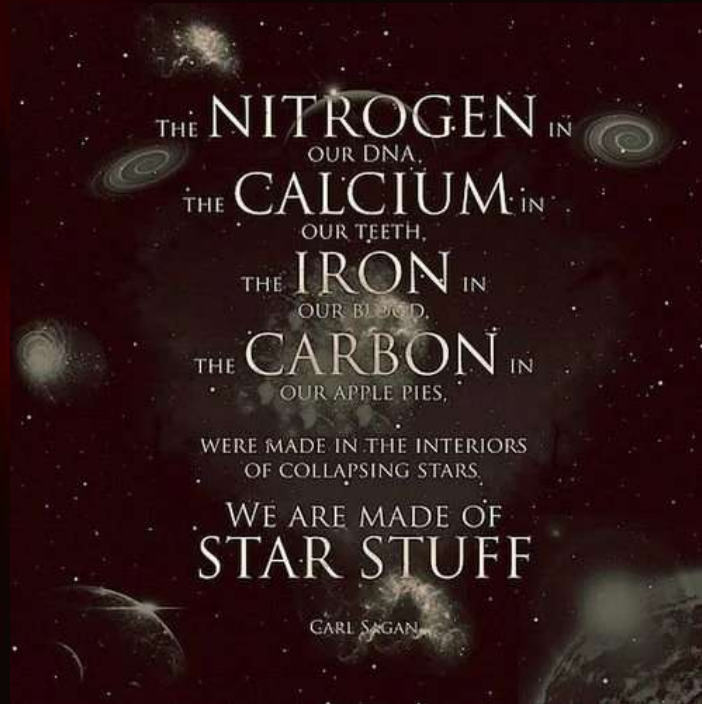


Model Introduction

You will be making a model for the life cycle of stars. Your model will:

- Include 5 different star types and astronomical events
- Be able to make predictions about the life of our star, the SUN
- Explain how the elements LARGER than iron were formed.

Read this quote from Carl Sagan:



 What do you think Carl Sagan meant by “We are all made of star stuff?”

Students, write your response!

What other astronomers think.....



Facts about the parts of the star cycle



- Spend most of the star's Life
- Fusing Hydrogen into Helium
- Average Lifetime 10 Million Years



- Facts**
- The fusion of helium into carbon and oxygen
 - Formed after the main sequence of an average star when the star runs out of hydrogen to fuse
 - Average lifetime 1,000 Million Years




Facts

Super (Red) Giants Star

- The fusion of heavier elements of Helium, Carbon, Oxygen, and Iron
- Formed after the main sequence of a massive star and runs out of Hydrogen

(>8 M_{\odot})

average lifetime 10 Million years

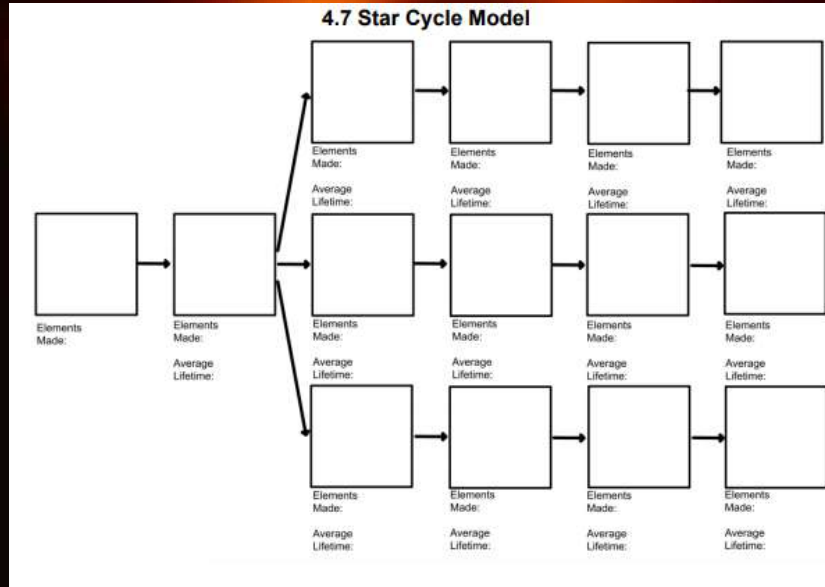


Blue

Make your model

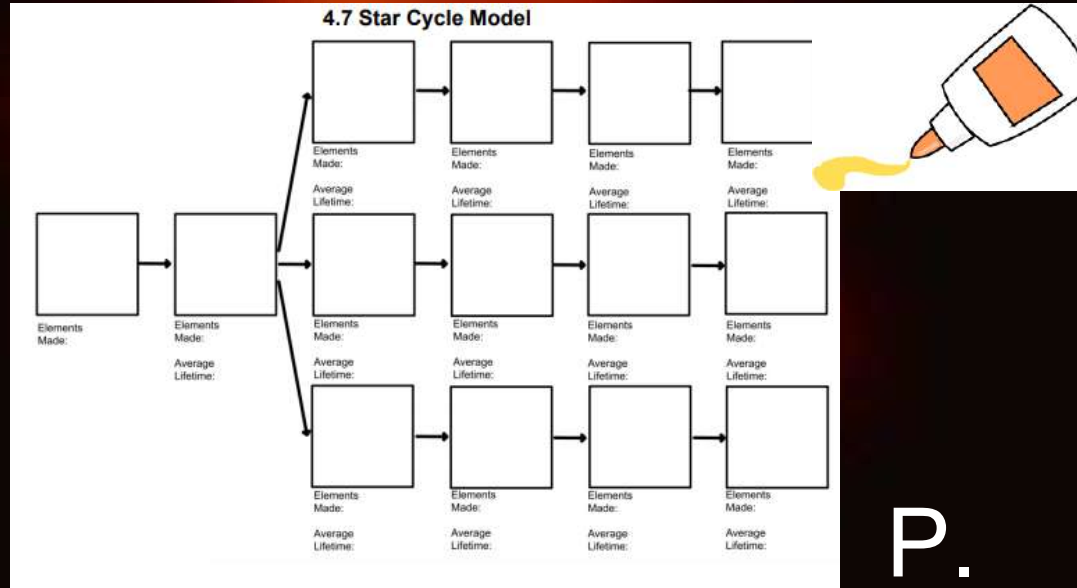
Read the facts on the cards, lay out the cards to fit in the boxes.

Get Teacher approval, and then take a picture for future reference



Complete your notebook page

Use the facts on the cards to complete the notebook page



Test Your Model

1. Open the website [Star in a Box](https://starinabox.lco.global/), link found in schoology
2. Open the Lid in normal setting
3. Our Sun has a mass of 1, which cycle will our Sun take?



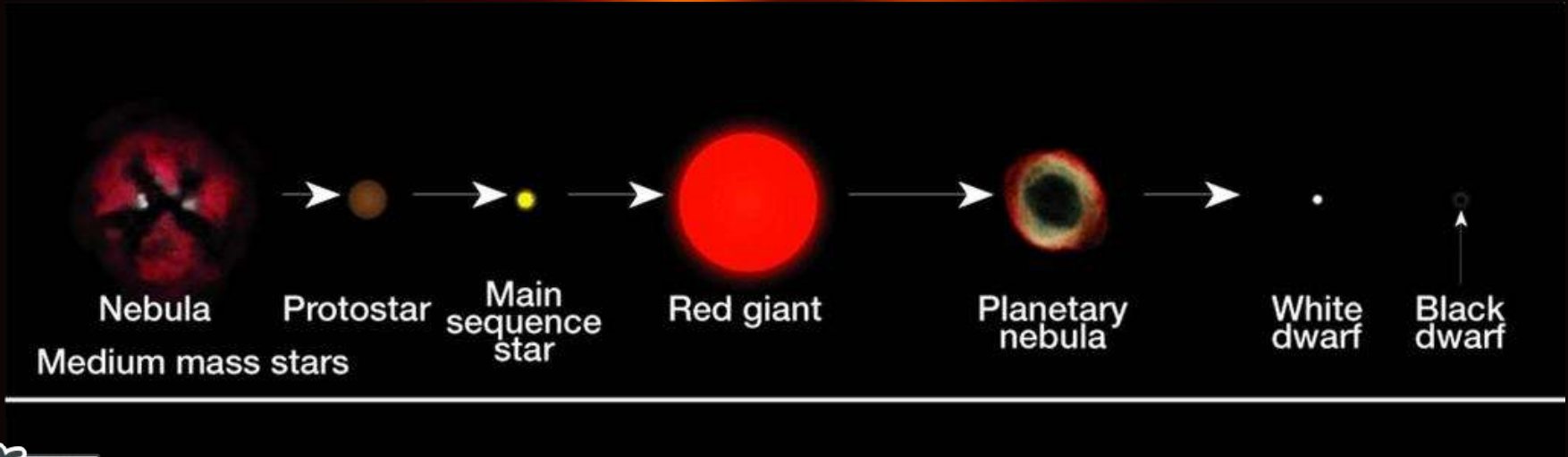
Students browse: starinabox.lco.global/

Pear Deck Interactive Slide
Do not remove this bar

Our Star, The Sun's Cycle

Drag the **Yellow flag** to the stage where the sun is Fusing Hydrogen into Helium

Drag the **Red Flag** to the stage where the Sun has run out of hydrogen and is fusing Helium into carbon.



Students, drag the icons!



Our Sun's Life and Death.

