

Name: _____ Date: _____

Section 1 - Characteristics of Stars

Click **Stars: Lights in The Sky**. Read the paragraph under “Lights in the Sky” and write or type the answers to the following questions. You are going to add this to a poster board later so if you want you can type, print and attach it or hand write it on construction paper and attach it. Please label your construction paper with the section # and title. You may use as many pieces of construction paper as you need.

- 1) – Without stars there would be no _____.
- 2) - Name the brightest star in the known universe?
- 3) - What is its magnitude?
- 4) – Do the brightest stars have a high or low magnitude value?
- 5) – What is the relationship between a star’s color and its temperature?
- 6) – Do stars in the sky actually twinkle? Explain.
- 7) - Do a search on the internet for "brightest stars" and create a top 5 list on your paper of their names.
- 8) – Design a colored diagram on a sheet of paper that displays the colors of the hottest stars on the left to the coolest stars on the right. Stars are grouped into spectral classes based on a range of temperatures they fall into. *Label the spectral classes (O, B, A, F, G, K, M) appropriately under each star color in your diagram.*
- 9) – Come up with a clever sentence or phrase (the first letter of each word in your phrase is one spectral class letter) to help you remember the order of the spectral classes.

O
B
A
F
G
K
M

Section 2 – HR Diagram

Write or type the answers to the following questions. You are going to add this to a poster board later so if you want you can type, print and attach it or hand write it on construction paper and attach it. Please label your construction paper with the section # and title. You may use as many pieces of construction paper as you need. You also need to find, print and attach a picture of an HR Diagram.

- 1) – As surface temperatures of the main sequence stars increase, what happens to their brightness?
- 2) – Which is hotter – a red star or a blue star?
- 3) – Which star is hotter: Rigel (a Supergiant) or Aldebaran (a Giant)? How do you know?
- 4) – Choose a star that is not on the main sequence. List its characteristics.
- 5) Find a picture of an HR Diagram, print it and attach it to your poster.

Section 3 - The Life Cycle of a Star

Copy the diagram of the life cycle of a low-mass and high mass star on a piece of construction paper. Write or type the answers to the following questions. You are going to add this to a poster board later so if you want you can type, print and attach it or hand write it on construction paper and attach it. Please label your construction paper with the section # and title.

Answer the following questions.

- 1) Copy the diagram of the life cycle of a low-mass and high mass star on a piece of construction paper.
- 2) Stars begin their lives as clouds of dust and gas called?
- 3) What is a protostar?
- 4) When does nuclear fusion begin?
- 5) The life span of a star depends on what?
- 6) When will a star become a red giant?
- 7) Why do some stars become super red giant?
- 8) What will happen when a star exhausts its remaining fuel?
- 9) What is a planetary nebula?
- 10) What is a white dwarf?

Section 4 - Black Holes

Click on the link to learn more about **black holes**. Write or type the answers to the following questions. You are going to add this to a poster board later so if you want you can type, print and attach it or hand write it on construction paper and attach it. Please label your construction paper with the section # and title.

- 1) – Are black holes ACTUALLY holes?
- 2) – What exactly is a black hole?
- 3) – Fill in the blank:
The gravity of a black hole is so strong that not even _____ can escape!
- 4) – Fill in the blank:
A black hole with all of Earth’s mass would be the size of a _____!
- 5) You need to find a picture of a black hole print it and attach it to your poster.

Stars Webquest & Poster Project Checklist

(All answers need to be in complete sentences or you need to write the questions)

Section 1 – Characteristics of Stars

- Label the section “Characteristics of Stars”.
- Answer the questions – you may type them out or write them on a piece of construction paper.
- Attach this section to your poster.
- Make sure you have completed # 7 & 8. You can either draw it on a piece of construction paper and attach it to your poster or create it on the computer, print and attach it to you poster.

Section 2 – Hr Diagram

- Label the section “HR Diagram”.
- Answer the questions – you may type them out or write them on a piece of construction paper.
- Attach this section to your poster.
- Make sure you found, printed, and attached a picture of an HR Diagram to your poster.

Section 3 – Life Cycle of a Star

- Label the section “Life Cycle of a Star”.
- Answer the questions – you may type them out or write them on a piece of construction paper.
- Attach this section to your poster.
- Make sure you draw the life cycle of a high mass and low to medium mass star diagram.

Section 4 – Black Holes

- Label the section “Black Holes”.
- Answer the questions – you may type them out or write them on a piece of construction paper.
- Attach this section to your poster.
- Make sure you find a picture of a black hole and attach it to you poster.