

Name: _____ Period: _____

Virtual Lab: Life Cycles of Star & Interactive H-R Diagram (Lab)

Directions: With each link provided below, make sure you read all directions and questions carefully, complete each tutorial section, and provide answers on all blanks provided. This will count as a Technology / Lab Activity. Turn in to tray when finished.

Part 1: *Analyzing Stars with the H-R Diagram – Interactive Tutorial; Click on the link below, and read carefully and complete your selections / choices as you advance through this tutorial program.*

http://aspire.cosmic-ray.org/labs/star_life/support/HR_applications.swf

Results from the *HR Diagram Applications* activity: If you choose to type your answers directly into the computer, you *may choose the print option for your responses* to the 4 questions (see below) and then **staple it to this sheet to be turned in with your other responses to be graded.**

* For each conclusion below, **circle** whether you think the statement is **TRUE or FALSE & briefly explain WHY.**

1) The majority of a star's life cycle is spent as a main sequence star.

TRUE or FALSE

Why or Why not?

2) The surface temperature and the brightness of a star changes drastically over the course of a star's life.

TRUE or FALSE

Why or Why not?

3) A star with a large mass will radiate more energy into space and appear hotter and brighter than a star with a smaller mass.

TRUE or FALSE

Why or Why not?

4) Smaller mass stars have a greater luminosity (brightness) than larger mass stars.

TRUE or FALSE

Why or Why not?

Part 2: *Life Cycle of a Star Animation: View this link and click on the forward (>>) & backward (<<) buttons to view the stages in the life of a star!*

http://aspire.cosmic-ray.org/labs/star_life/support/HR_animated.swf Check here when done: _____

What did you find most interesting or 'instructive' about the information in this animation?

Part 3: Life Cycles of the Stars & the H-R Diagram: Click on the link below, and work your way through this tutorial website about the H-R Diagram and the characteristics of stars as they 'age'. Write down the letter(s) of your correct answers to the 14 questions asked on this website tutorial about the H-R Diagram.

http://aspire.cosmic-ray.org/labs/star_life/support/HR_static.swf

- | | | | | |
|----------|----------|----------|-----------|-----------|
| 1) _____ | 4) _____ | 7) _____ | 10) _____ | 13) _____ |
| 2) _____ | 5) _____ | 8) _____ | 11) _____ | 14) _____ |
| 3) _____ | 6) _____ | 9) _____ | 12) _____ | |

Part 4: NASA Quiz on Stars: Click on the link below, and answer each of the 5 questions about Stars. Write down the letter(s) of your correct answers to these 5 questions.

http://imagine.gsfc.nasa.gov/docs/science/quiz_12/stars_quiz.html

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Part 5: How good are you at reading the H-R diagram?? Click on the link below, choose from the options given on the H-R diagram and then check yourself when done with your selections.

http://aspire.cosmic-ray.org/labs/star_life/support/HR_init_real.html

How many of the 10 options for the 5 stars did you get CORRECT?? _____ out of 10

Part 6: How does Star MASS affect that star's DEATH?? Click on the link below and try each of the 4 possible scenarios of Star Mass and each star's 'Death'. Write below what is the FINAL STATE for each of the 4 Star Masses.

http://aspire.cosmic-ray.org/labs/star_life/end_stars_real.html

Small: _____

Low: _____

Medium: _____

Massive: _____