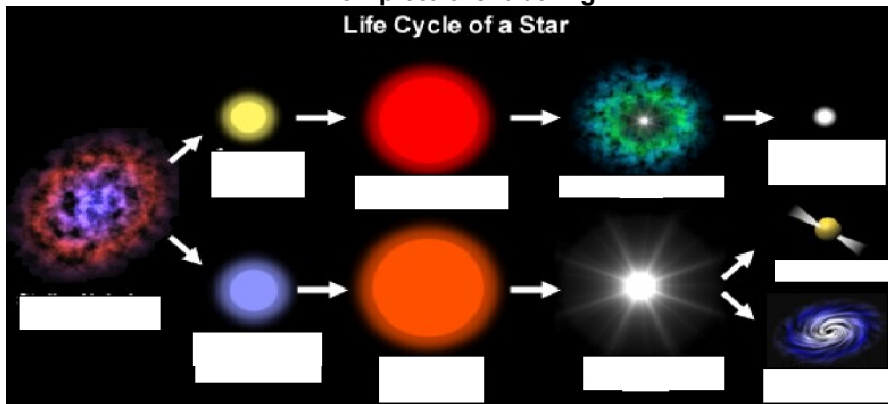


NAME: _____ PD _____ SCI# _____

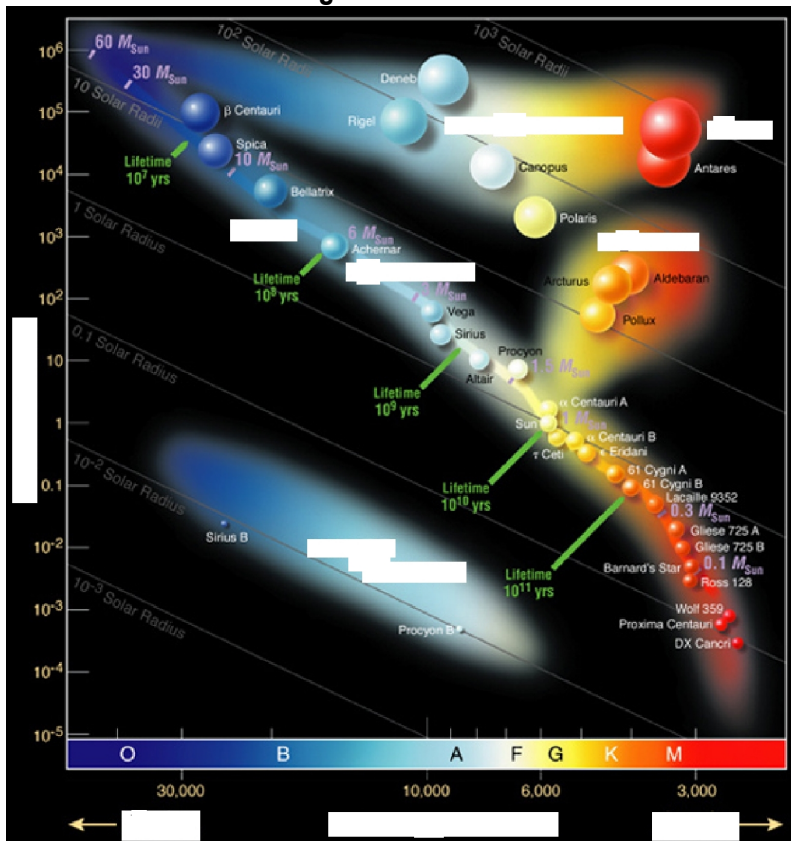
WK 3: MISSION SYLLABUS

USE THE ON-LINE INFORMATION AND CHP 19 IN YOUR HOLT BOOK

Complete the labeling



Label The HR Diagram Below:



The Universe Beyond

WK 3: MISSION SYLLABUS

6. Stars

7. Galaxies & Black Holes

Introduction

You have been selected by NASA to explore the universe. You will explore the universe in a series of missions. You will need to keep a mission log with all of your findings to report back to Mrs Gillum and NASA.

Mission Log

For each mission, you will attempt to master 1-4 learning goals, provided in the form of questions within this Little Book. Resources to support your quest are provided online at Mrs. Gillum's Web page:

http://www.mrsgillumscience.com/16_8th/16_8_dir.htm

While researching, take notes and answer the questions in this little book to facilitate your quest. This Little Book will also be your cheat sheet for your Space Final Exam. It is expected to be completed during class and as home work.

Mission Logs will be submitted to Mrs. Gillum for scoring.

RUBRIC

Each **Mission Log** will be evaluated individually using this scale:

Emergent 1	Progressing 2	Proficient 3	Exceptional 4
<ul style="list-style-type: none"> Log and/or notes present little understanding of the mission's learning goals Log is incomplete and/or inaccurate 	<ul style="list-style-type: none"> Log and/or notes present an understanding of the mission's learning goals Log is mostly complete and accurate, attempts to use academic language 	<ul style="list-style-type: none"> Log presents a good understanding of the mission's learning goals Log is somewhat creative and original, attempts to use academic language, and is accurate 	<ul style="list-style-type: none"> Log presents a thorough understanding of the mission's learning goals Log is creative and original, uses academic language, and is accurate

What grade do YOU give yourself for this assignment?

_____ Parent Signature: _____

Mission 6: Stars

Mrs Gillum & NASA are excited to announce the discovery of 5 new stars. Prior to an official announcement, they would like your help classifying and naming each star. To assist you, you will be presented a sample of the Hertzsprung-Russell (HR) Diagram, along with a comprehensive series of known stars. Work as a team with 3-4 other scientists to plot each star on the H-R Diagram, according to their known properties.

Learning Goals

1. How does a star's size affect its brightness?
2. How does a star's color affect its temperature?
3. What does a star's size and color indicate about its age?

Watch the videos and answer these 3 questions:.

How does a star's size affect its brightness?

How does a star's color affect its temperature?

What does a star's size and color indicate about its age?

The HR Diagram

1. Label the Y-axis in black ink.
2. Label the Spectral Type on the X axis using black ink
3. Label the Temperature on the X-axis using the colors from the book
4. Draw, label & color our sun
5. 4. Draw, label & color Polaris, the North Star
6. 4. Draw, label & color ONE **white dwarf star**

Additional Notes:

Follow the directions & use pgs 492&3 to complete the HR diagram

7. Draw, label & color ONE **red giant**
8. Draw, label & color TWO **red dwarf stars**
9. Draw, label & color THREE **blue star**
10. Draw, label & color FIVE **main-sequence** stars
11. **Shade** in the Main-Sequence

Additional Notes:

Mission 7: Galaxies and Black Holes

Can an astronaut be sent into the black hole at the center of our Milky Way Galaxy? In order to prepare for the mission, you must discover how the shape of our galaxy compares to other galaxies in the universe and send a “drone” to a black hole. In case of survival, share the harrowing experience with Mrs. Gillum. In the case of death and destruction of the drone, predict what might have occurred.

Learning Goals

1. What are the main shapes of galaxies?
2. What is a black hole?
3. What is the relationship between a black hole and a galaxy?
4. Why do we know so little about black holes?

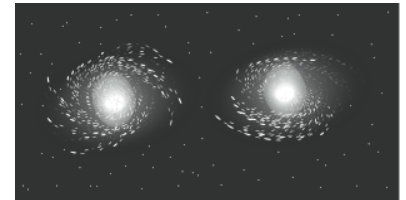
1. Use pages 496-497 in your HOLT BOOK to complete the chart below:

Types of Galaxies		
Name	Description	DRAW the Picture
_____ Galaxy		
_____ Galaxy		
_____ Galaxy		

Review Questions:

1. A star's ___ magnitude does not depend on its distance from Earth.
a. big bang theory b. absolute c. cosmology d. apparent e. elliptical
2. The study of the formation of the universe is called ____
a. big bang theory b. absolute c. cosmology d. apparent e. elliptical
3. Our sun is located in the arm of a pinwheel-shaped ___ galaxy called the Milky Way
a. spiral b. absolute c. black hole d. neutron e. elliptical
4. A ___ is so small and massive that not even light can escape its gravitational pull.
a. spiral b. absolute c. black hole d. neutron e. elliptical
5. Elliptical galaxies and the halos of spiral galaxies contain groups of stars called:
a. spiral b. globular clusters c. black hole d. supernovas e. elliptical
6. Which of the following magnitudes indicates the brightest star?
a. -1 b. 0 c. -0.11 d. +4
7. Which of the following is the largest?
a. nebula b. galaxy c. neutron star d. globular cluster
8. Which of the following is hottest?
a. red supergiant star b. small black-dwarf star c. yellow star d. blue star
9. According to the big bang theory, the universe is about:
a. 470 billion yrs old b. 500 billion yrs old c. 4.7 billion yrs old d. 15 billion yrs old
10. A star's apparent magnitude is dependent on
a. its distance from Earth b. its energy output c. its size d. all of these

11. The galaxies pictured would *best* be classified as
a. irregular galaxies b. symmetrical galaxies
c. barred galaxies d. spiral galaxies



12. A galaxy is *best* described as a cluster of
a. millions of stars b. billions of stars.
c. hundreds of stars d. thousands of stars
13. To express the distance between the Milky Way galaxy and other galaxies, the *most* appropriate unit of measurement is the
a. meter b. kilometer c. light-year d. astronomical unit
14. Which of the following sets contains only objects that shine as a result of reflected light?
a. moons, planets & comets b. planets, stars & comets
c. moons, comets & stars d. planets, stars & moons

