

FSA Reach for the Stars School Wide Competition 12/13/2008**Part I Constellation Charts** 50pts

Use the SC001 Constellation chart to fill in the grid below.

Type of object: star, double star, variable star, galaxy, cluster (open or globular), nebula as found on the chart. More specific questions will be asked later.**Object Name/ Messier number:** Name of star; proper name of deep sky object and it's Messier Number.**Constellation:** Duh.**Right Ascension:** Answers +/- 5 minutes counted correct**Declination:** Answers +/- 1 degree counted correct

	Type of object	Object name/ Messier Number	Constellation	Right Ascension	Declination
1				00 h 43 m	+41 degrees
2				14 h 16 m	+19 degrees
3		Crab Nebula M1			
4	Galaxy		Canes Venatica		
5		Procyon			
6				16 h 29 m	-26 degrees
7	Double Star			05 h 15 m	-08 degrees
8				03 h 08 m	+41 degrees
9				18 h 37 m	+39 degrees
10	Nebula			18 h 54 m	+33 degrees
11				10 h 08 m	+12 degrees
12		Sirius			
13	Nebula			19 h 59 m	+23 degrees
14	open cluster			08 h 40 m	+20 degrees
15		Deneb			

Part II 20pts

State the stage of evolutionary development for these stars and DSO's:

(Main Sequence, Red dwarf, giant, super giant, white dwarf, stellar nursery, planetary nebula, Type Ia SNR, Type II SNR, pulsar, open cluster, globular cluster, Galaxy type – spiral, elliptical, lenticular, irregular) **And Identify Images where asked.**

1. **Andromeda Galaxy** _____ **Image #** _____

2. **Arcturus** _____

3. **Crab Nebula** _____ **Image #** _____

4. **Large Magellanic Cloud** _____ **Image #** _____

5. **Procyon** _____

6. **Antares** _____

7. **Rigel** _____

8. **Algol** _____

9. **Vega** _____

10. **Ring Nebula** _____ **Image #** _____

11. **Sirius A** _____ **Image #** _____

Sirius B _____

12. **Orion Nebula** _____ **Image #** _____

13. **Wolf 359** _____

Part III Stellar Evolution 17pts

Pick up image sets from me when you get to this point and return them when you are done.

14. Place the following images in a sequence that shows the evolution of a **mid-sized star and it's end result is a Type Ia supernova event.**

Image #'s 1,2,10,12,14,18,19,20,21

Beginning ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, End

15. Place the following images in a sequence to represent **the lifecycle of a Massive Star.**

Image #'s 3,5,7,8,15,17,22,26

Beginning ____, ____, ____, ____, ____, ____, then ____, or ____, End

Part IV H-R Diagram 21pts

Given the Spectral Class and Absolute Magnitude (M_v) of 7 stars, plot them on the attached H-R Diagram. Label with star's name.

<u>Star</u>	<u>Spectral Class</u>	<u>Absolute Magnitude (M_v)</u>
<u>Sun</u>	<u>G2 V</u>	<u>4.8 M_v</u>
<u>Wolf 359</u>	<u>M6.5 Ve</u>	<u>16.64 M_v</u>
<u>Sirius A</u>	<u>A1 V</u>	<u>1.42 M_v</u>
<u>Sirius B</u>	<u>B2 VII</u>	<u>11.18 M_v</u>
<u>Rigel</u>	<u>B8 Ia</u>	<u>-6.7 M_v</u>
<u>Betelgeuse</u>	<u>M2 Iab</u>	<u>-5.14 M_v</u>
<u>Aldebaran</u>	<u>K5 III</u>	<u>-0.63 M_v</u>

Absolute Magnitude

-6
-4
-2
0
+2
+4
+6
+8
+10
+12
+14
+16

0

5

0

B

5

0

A

5

0

F

5

0

G

5

0

K

5

0

M

5

Spectral Type

