Name



Comparing Apparent Magnitudes

Date

Directions: Study the following tables and then answer the questions below. Table 1 identifies the apparent magnitudes of objects that can be seen in the sky. The naked-eye limit and the telescope limit indicate the minimum magnitude of sky objects that can be seen. Table 2 identifies the differences in apparent magnitude and the ratio of light that is emitted based on the differences.

Table 1

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Object	Apparent Magnitude
Sun	-26.5
Full moon	-12.5
Venus (at its brighte	st) -4.0
Jupiter, Mars (at the	r brightest) -2.0
Sirius	-1.5
Naked-eye limit	6.5
15-cm telescope lim	it 13.0

Table 2

Difference in Apparent Magnitude	Ratio e of Light
0.0	1:1
1.0	2.5:1
2.0	6.3:1
3.0	16:1
4.0	40:1
5.0	100:1
10.0	10 000:1
15.0	1 000 000:1
20.0	100 000 000:1
25.0	10 000 000 000:1
30.0	1 000 000 000 000:1

Class

1. What is the apparent magnitude of the Sun?

- 2. What is the apparent magnitude of Sirius?
- 3. What is the difference in the magnitudes of the Sun and Sirius?

4. How much more light does the Sun provide than Sirius?

- 5. What is the difference in the Sun's apparent magnitude from that of the full Moon?
- 6. About how much more light does the Sun provide than the full Moon?
- 7. What is the greatest apparent magnitude that can be viewed by the naked eye? _____
- 8. What is the difference in the apparent magnitude of the Sun and an object with the greatest apparent magnitude that can be viewed by the naked eye?
- 9. How much more light does the Sun give off than an object with the least apparent magnitude that can be viewed by the naked eye? _
- 10. If a star has an apparent magnitude of 7.5, would you be able to see it with the aid of a 15 cm telescope?
- **11.** What is the difference in magnitudes between Venus and Mars at their brightest?
- 12. What is the ratio of light of Venus and Mars at their brightest?