CHAPTER 1: Exploring the Moon

1. Describe the appearance and location of Mare Crisium.

    Mare Crisium appears as a small, dark oval located at about two o'clock on the face of the full moon.

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2. Where did the first moon landing take place? _____The Sea of Tranquility_____

3. Describe the appearance and location of the Sea of Tranquility.

    The Sea of Tranquility is the large, dark plain located halfway along a line connecting Mare Crisium to

    the center of the moon. It is larger than Mare Crisium, but irregular in shape.

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    _____

4. Two craters on the moon named after famous astronomers are _____Tycho Crater_____

    and _____Copernicus Crater_____.

5. How much larger is the sun than the moon?

    The sun's diameter is 400 times the diameter of the moon.

    _____

    _____

6. If the sun is much larger than the moon, how can the moon eclipse the sun?

    The sun is 400 times farther from the earth than the moon, so the moon appears to be about the same

    size as the sun when viewed from earth.

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7. What causes tides? Under what circumstances does highest high tide (spring tide) occur?

    The pull of the moon's gravity attracts two heaps of water that seem to move as the earth rotates.

    Highest high tide occurs when the sun, moon, and earth are in a straight line.

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8. Contrast a waxing crescent moon with a waning gibbous moon.

    A waxing moon is growing in fullness; a waning moon is reducing fullness. Crescent is a sliver moon

    between new moon and quarter moon. Gibbous is fuller than a quarter moon, but not quite a full moon.

    So a waxing crescent is increasing from new moon to quarter moon, and a waning gibbous is reducing

    from a full moon to a quarter moon.

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9. What is the time from new moon to new moon? _____29.5 earth days_____

10. What is the average distance from the earth to the moon? ___240,000 miles___

11. The strength of the moon's gravity is about _____1/6_____ the earth's gravity.

12. What does "albedo" describe? Compare the earth's albedo to the albedo of the moon.

    Albedo is a measure of how much light a surface reflects. The earth reflects about 30% of the light

    that falls on it; the moon reflects about 14%.

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CHAPTER 2: Mars

1. What are the "aster planetes"?

    Aster planetes was the name given by the ancient Greeks to the five "wandering stars" which moved

    against the background of fixed stars. Our word "planets" derives from this origin.

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    _____

2. What is the name of the fourth planet from the sun? _____ Mars _____

3. List two features of Mars that are similar to Earth.

    Mars rotates on its axis once every 24 hours, 37 minutes; Earth rotates once every 24 hours.

    The tilt of Mars' axis is 25 degrees; Earth's tilt is 23 degrees, so they both have four seasons.

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4. What was the primary difference between Ptolemy's model and Copernicus' model of the planetary system?

    Ptolemy placed the earth at the center of the planetary system; Copernicus placed the sun at the center.

    _____

    _____

5. Galileo developed this tool and Christiaan Huygens improved it: _____ telescope _____

6. Asaph Hall was the first to view two moons of Mars. He named them ___ Phobos (fear) _____

    and ____ Deimos (panic) _____ , which were suitable names to accompany Mars, the god

    of _____ war _____ .

7. In 1877 Giovanni Schiaparelli marked narrow, dark lines on his map of the surface of Mars and called

    them *canali*. What did the photographs taken by *Mariner 9* in 1971 reveal?

    There were no channels (or canals) on the surface of Mars.

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