

Name _____

Date _____

**Environmental Science Review Sheet - Exam III
The Solar System and Astrobiology**

**THIS REVIEW SHEET IS DUE ON WEDNESDAY, OCTOBER 21st
EXAM DATE - FRIDAY, OCTOBER 23rd**

Section I - Overview of the Planets (Pages 626-628 and class notes)

1) _____% of the solar system's mass lies within the sun.

2) List the planets in order from the Sun outward: _____

3) Explain how the solar system formed. Make sure to include the terms *solar nebula*, *protosun*, *planetesimals*, and *protoplanet*, and *nuclear fusion*.

4) List at least two (2) differences between the terrestrial planets and the Jovian planets

1) _____

2) _____

5) What are the three compositional groups the planets are divided into?

6) What are the densities of Jovian planets like compared to the terrestrial planets? _____

7) How do the Jovian planets retain their immense atmospheres? _____

8) How does temperature affect escape velocity? Relying on temperature alone, which planet would have the highest escape velocity? Ignore size in this case.

Section II - Earth's Moon (Pages 629-632)

1) Compared to Earth, what is the gravitational attraction of the moon? ____

2) What would a person we weights 26lbs on the Moon would weight _____lbs on Earth.

3) What were *maria* once thought to be? What are they really?

4) Most of the moon is covered by _____ which are elevated several kilometers above the maria.

5) What is once piece of evidence that supports the Moon violent beginning?

6) The Moon has virtually remained unchanged since its formation approximately 4 billion years ago. How is this possible?

7) How was the Moon created? _____

Section III - The Planets: A Brief Tour (Pages 632-643)

1) _____ is the closest planet to the sun and the smallest.

2) Why are there such temperature extremes on Mercury? _____

3) Why was Venus called Earth's twin? _____

4) What is the atmosphere of Venus like? _____

5) Venus has what is known as a "runaway" greenhouse effect. What does this mean? Is this why Venus is the hottest planet in the solar system?

6) _____ is known as "The Red Planet"

7) What is the atmosphere of Mars like? _____

8) Compared to Earth Mars is _____ the size?

9) The largest volcano in the solar system is _____

and located on Mars. How tall is it? _____

10) Why is it really not possible for Mountains to get that high on Earth?

11) What are two pieces of evidence that liquid water once flowed on Mars?

12) What are the names of Mars's Moons? _____ & _____

13) The largest planet in the solar system is _____.

14) What spacecraft explored Jupiter and the rest of the gas giants for that matter? _____

15) What is Jupiter's Great Red Spot? _____

16) What is the atmosphere of Jupiter like? _____

17) Explain what would happen as you descend down into Jupiter's atmosphere to its core: _____

18) What are the names of Jupiter's four largest moons? _____

19) _____ is the second largest planet in the solar system.

20) Saturn is know for _____

21) What are Saturn's rings composed of? _____

22) What is the atmosphere of Saturn composed of? Please give percentages. _____

23) Saturn's largest moon, _____, has the attention of scientists because..._____

24) What is unique about Uranus? _____

25) The atmospheres of Uranus and Neptune are composed of

26) Why do Uranus and Neptune have a blue-green tinge? _____

27) What is special about Neptune's moon Triton? _____

Section III - Minor Members of the Solar System (Pages 643-649 and class notes)

1) What are the differences between *asteroids*, *comets*, *meteoroids*, and *dwarf planets*?

Asteroid - _____

Comet - _____

Meteoroids - _____

Dwarf Planet - _____

2) When was the asteroid impact that wiped out the dinosaurs?

3) What is probably the most famous existing crater on Earth and when did the meteorite that formed it strike Earth?

4) About how many asteroids cross Earth's orbital path each year? _____

5) Eventually, will another impact occur? How do you know? _____

6) What is the difference between Kuiper Belt comets and Oort Cloud comets? _____

7) What is the most famous short-period comet? _____

8) What is the difference between a *meteoroid*, *meteor*, and *meteorite*?

Meteoroid - _____

Meteor - _____

Meteorite - _____

Section IV - Astrobiology (Class Notes)

1) What is astrobiology? _____

2) What are the three requirements for life as we know it?

1) _____

2) _____

3) _____

3) What exactly is the "Goldilocks" Zone? _____

4) Has life been found on Earth in locations that technically do not meet

"Goldilocks" conditions? Explain! _____

5) What satellite of Jupiter has the interest of so many astrobiologists?
Why?
