

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

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# The Solar System

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## CLASS NOTES

- Solar System - \_\_\_\_\_  
\_\_\_\_\_
  - The Sun accounts for \_\_\_\_\_ of the mass in the solar system
  
- Solar System Formation:
  - Forming \_\_\_\_\_ billion years ago from a cloud of gas and dust called a solar nebula
  - \_\_\_\_\_ caused the nebula to collapse and spin
  - A massive collection of gas and dust accumulated in the center
  - When it was massive enough it would undergo nuclear fusion and create the \_\_\_\_\_
  - The additional material clumped together to form planets, dwarf planets, asteroids and moons
  
- Terrestrial Planets - \_\_\_\_\_  
\_\_\_\_\_
  - Examples: Mercury — Venus — Earth — Mars
  
- Asteroids - \_\_\_\_\_  
\_\_\_\_\_
  - A large percentage of the known asteroids are between \_\_\_\_\_ and \_\_\_\_\_
  
- Jovian Planets - \_\_\_\_\_  
\_\_\_\_\_
  - Examples: Jupiter — Saturn — Uranus — Neptune
  
- Kuiper Belt - \_\_\_\_\_  
\_\_\_\_\_
  
- Comet - \_\_\_\_\_  
\_\_\_\_\_
  - As the solids melt they leave a trail behind known as a comets tail

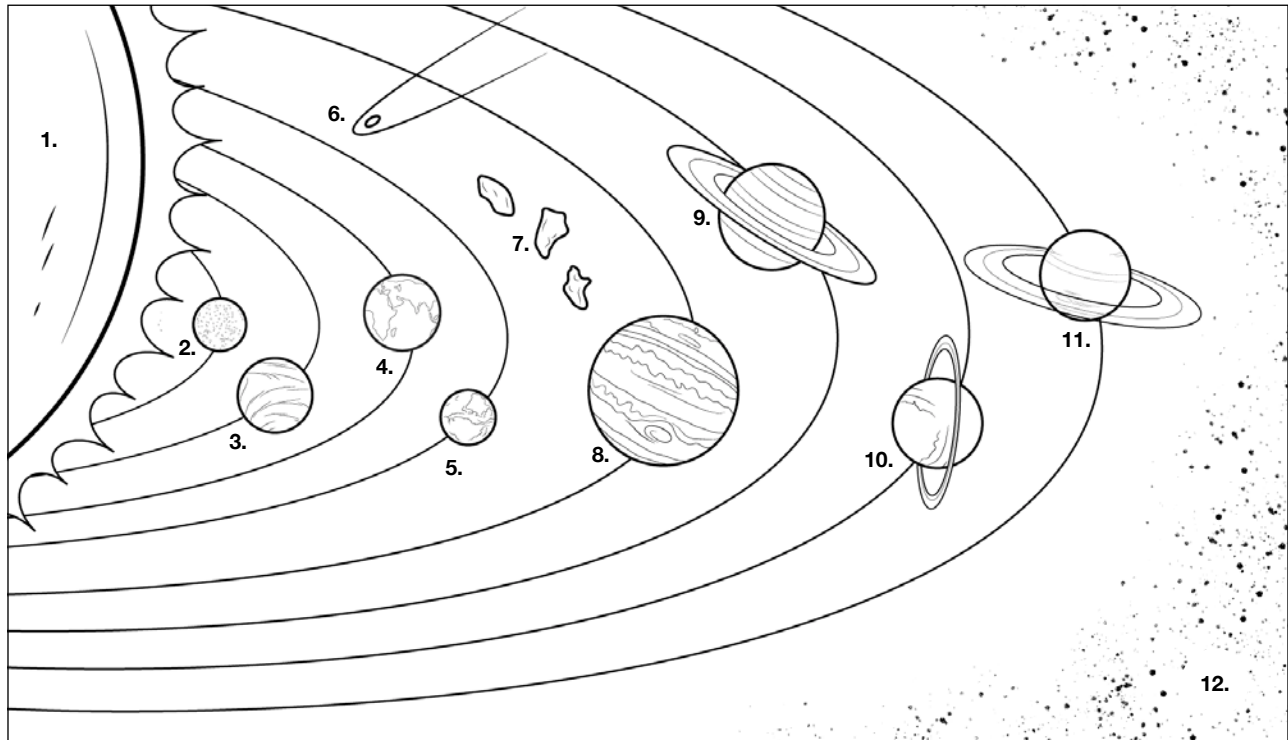
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- Oort Cloud - \_\_\_\_\_  
\_\_\_\_\_
- Thought to be the origin of most long-period comets
- Meteorites - \_\_\_\_\_  
\_\_\_\_\_
- aka: Shooting Stars

## The Solar System



[diagram not to scale]

- |          |          |           |
|----------|----------|-----------|
| 1. _____ | 5. _____ | 9. _____  |
| 2. _____ | 6. _____ | 10. _____ |
| 3. _____ | 7. _____ | 11. _____ |
| 4. _____ | 8. _____ | 12. _____ |

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## PART I QUESTIONS: MULTIPLE CHOICE

1. Compared to Jupiter and Saturn, Venus and Mars have greater
  - a. equatorial diameters
  - b. orbital velocities
  - c. mean distances from the Sun
  - d. periods of revolution
  
2. The planets known as "gas giants" include Jupiter, Uranus, and
  - a. Mars
  - b. Pluto
  - c. Earth
  - d. Saturn
  
3. The average temperature of the planets
  - a. decreases with greater distance from the Sun
  - b. has no relationship to the distance from the Sun
  - c. depends only on the chemical composition of the atmosphere of each planet
  - d. increases with greater distance from the Sun
  
4. The Moon has more surface craters than Earth does because the Moon has
  - a. a smaller diameter than Earth
  - b. no significant atmosphere
  - c. a surface more sensitive to impacts
  - d. a stronger gravitational force
  
5. Which member of the solar system has a diameter of  $3.48 \times 10^3$  kilometers?
  - a. Earth
  - b. Pluto
  - c. the Sun
  - d. Earth's Moon
  
6. The surface of Venus is much hotter than would be expected, considering its distance from the Sun. Which statement best explains this condition?
  - a. Venus has many active volcanoes.
  - b. The clouds of Venus are highly reflective.
  - c. Venus has a slow rate of rotation.
  - d. The atmosphere of Venus contains a high percentage of carbon dioxide.
  
7. Which planet's orbital shape would be most similar to Jupiter's orbital shape?
  - a. Uranus
  - b. Pluto
  - c. Mercury
  - d. Venus

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8. A belt of asteroids is located an average distance of 503 million kilometers from the Sun. Between which two planets is this belt located?
  - a. Mars and Earth
  - b. Jupiter and Saturn
  - c. Saturn and Uranus
  - d. Mars and Jupiter
  
9. The formation of the planet Uranus is estimated to have occurred approximately
  - a. 100,000 million years ago
  - b. 2.0 billion years ago
  - c. 4.6 billion years ago
  - d. 13.7 billion years ago
  
10. Compared to the Jovian planets in our solar system, the terrestrial planets have
  - a. less mass and are less dense
  - b. less mass and are more dense
  - c. more mass and are less dense
  - d. more mass and are more dense
  
11. Compared to the terrestrial planets, the Jovian planets
  - a. are less massive
  - b. are more dense
  - c. have greater orbital velocities
  - d. have shorter periods of rotation
  
12. Planets that are closest to the Sun are identified as
  - a. low-density Jovian
  - b. low-density terrestrial
  - c. high-density Jovian
  - d. high-density terrestrial
  
13. Which planet has a density that is less than the density of liquid water?
  - a. Mercury
  - b. Earth
  - c. Mars
  - d. Saturn
  
14. The asteroid Ceres lies at an average distance of 414 million kilometers from the Sun. The period of revolution of Ceres around the Sun is approximately
  - a. 438 days
  - b. 687 days
  - c. 4.6 years
  - d. 12.6 years