

The Inner Solar System

Fill in the blanks.  Reading Skill: Compare and Contrast - questions 5, 6, 7, 13, 15

How Can We Tell Planets from Stars?

1. Large bodies that orbit a star are _____.
2. Early astronomers believed that the Sun, the Moon, and the stars revolved around _____.
3. The Sun and all of the planets, moons, and other bodies that travel around it make up the _____.

What Do We Know About Mercury and Venus?

4. The closest planet to the Sun is _____.
5. Mercury's density is about the same as _____ density.
6. Venus rotates in a direction _____ that of Earth's rotation.
7. A day on Venus is longer than its _____.
8. Temperatures on Venus are very high due to a strong _____.

What Is Earth Like?

9. Earth is the _____ planet from the Sun.
10. Earth is the only planet in the solar system that is known to _____.
11. Areas around Earth where particles from the Sun are trapped are called _____.
12. Earth is protected from small debris from space by the _____.

The Inner Solar System

Vocabulary

- a. orbit
- b. troposphere
- c. solar system
- d. planets
- e. Venus
- f. asteroids
- g. ozone
- h. Mars
- i. Mercury

Match the correct letter to the description.

- _____ 1. the Sun and all bodies traveling around it
- _____ 2. the closest planet to the Sun
- _____ 3. the planet studied by space probe Magellan
- _____ 4. the Red Planet
- _____ 5. the part of Earth's atmosphere where all weather occurs
- _____ 6. absorbs harmful ultraviolet radiation from the Sun in the stratosphere
- _____ 7. large bodies orbiting a star
- _____ 8. rocky, metallic objects that orbit the Sun but are too small to be considered planets
- _____ 9. the path a planet or asteroid takes as it travels around the Sun

Answer each question.

10. Earth's atmosphere is mostly made up of which two elements?

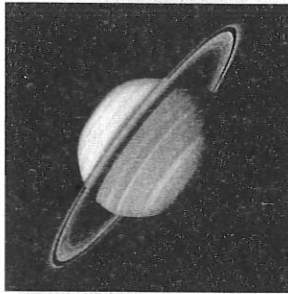
11. What causes Venus's very high temperatures?

12. Where does the oxygen in Earth's atmosphere come from?

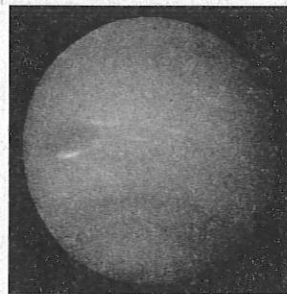
13. Which planet has a longer year: Earth or Mars? Why?

How Do the Outermost Planets Compare?

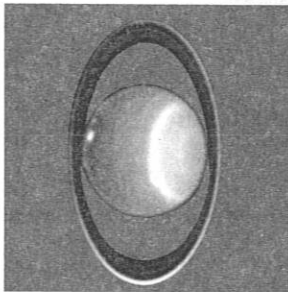
The chart below gives facts about the four outer planets: Saturn, Uranus, Neptune, and Pluto.



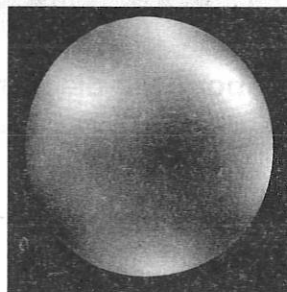
- Saturn is the second largest planet.
- It is about 1.4 billion kilometers from the Sun.
- It has seven major rings.



- Neptune is about 4.5 billion kilometers from the Sun.
- It has at least 5 rings.
- It has at least 13 moons. Neptune's moon called Triton is larger than Pluto.



- Uranus is the third largest planet.
- It is about 2.9 billion kilometers from the Sun.
- It has 11 rings.



- The orbits of Neptune and Pluto overlap, but Pluto is usually farther from the Sun than Neptune.
- Pluto is the smallest planet.
- It has one satellite called Charon.

Use the chart to answer the questions.

1. Which of these outer planets is closest to the Sun? _____
2. Which of the outer planets have rings? _____
3. Which of these planets have the most rings? _____
4. What is the smallest planet in our solar system? _____
5. Which of the outer planets are farthest from the Sun? Explain.

The Outer Solar System

Match the correct letter to the description.

- _____ 1. small asteroids are often called
- _____ 2. the largest planet in the solar system
- _____ 3. the planet with seven major rings around it
- _____ 4. the seventh planet from the Sun which looks like it was knocked on its side
- _____ 5. like Uranus, it appears blue due to methane in its atmosphere
- _____ 6. the smallest planet in the solar system
- _____ 7. a ball of rock and ice that orbits the Sun
- _____ 8. a meteoroid that enters Earth's atmosphere
- _____ 9. any part of a meteoroid that reaches Earth's surface

Vocabulary

- a. Uranus
- b. Saturn
- c. meteor
- d. Pluto
- e. meteoroids
- f. meteorite
- g. Jupiter
- h. Neptune
- i. comet

Answer each question.

10. Name the five outer planets in order of their distance from the Sun.

11. What are the outer planets, excluding Pluto, made up of?

12. What is the largest satellite in our solar system?

Stars

Fill in the blanks.  Reading Skill: **Compare and Contrast** - questions 13, 20

How Can You Recognize a Star?

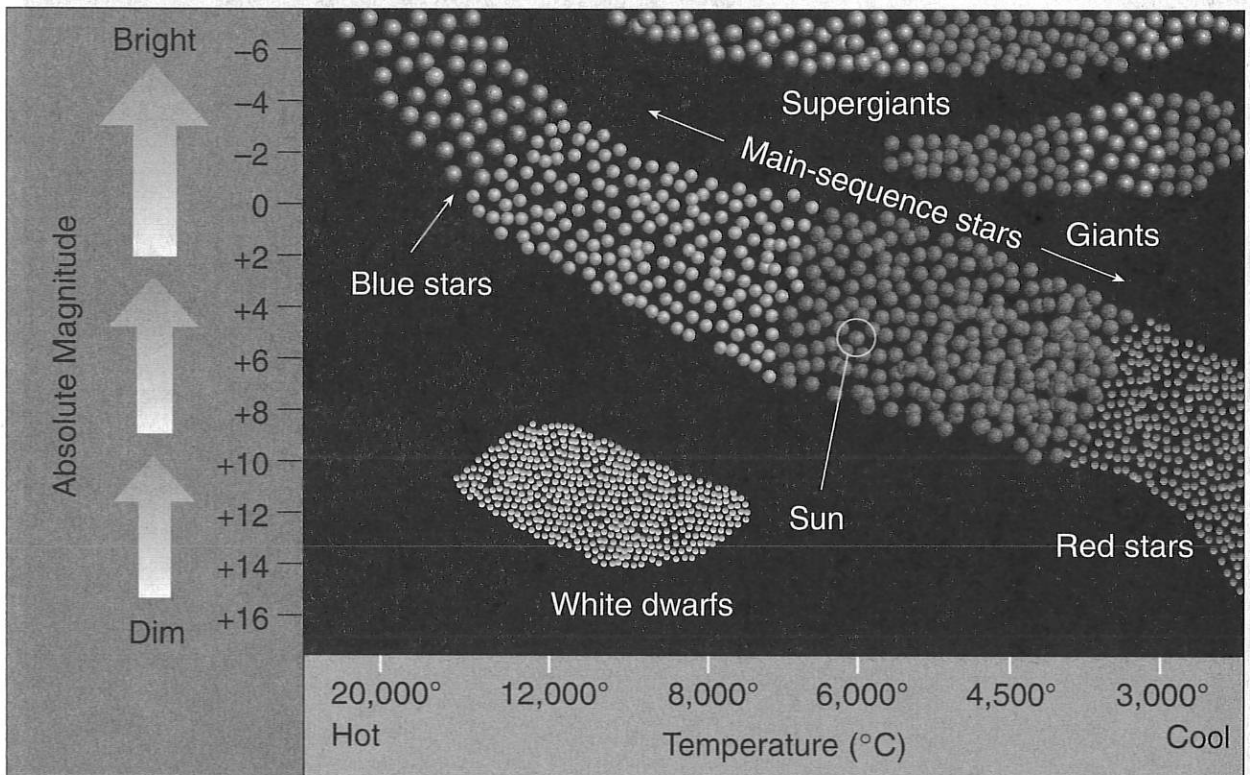
1. A large, hot ball of gas, which is held together by gravity and gives off its own light, is a(n) _____.
2. A number of stars that appear to form a pattern are a(n) _____.
3. The constellation Orion can be seen in _____ from the Northern Hemisphere.
4. The brightest star in the winter sky is _____ which is in the constellation Canis Major.
5. The word magnitude is used to describe the brightness of a(n) _____.
6. The actual brightness of a star is its _____ magnitude.
7. The apparent shift of an object's location when viewed from two positions is called _____.
8. Astronomers use a unit called the _____ to describe distances in space.

What Properties Does a Star Have?

9. A star's color is related to its surface _____.
10. The coolest stars are _____ and orange.
11. The hottest stars are _____ in color.
12. An H-R diagram compares the temperatures and _____ of stars.
13. In the main sequence, the hotter a star is, the _____ it is.

What Properties Does a Star Have?

Look at the H-R diagram comparing the temperature and absolute magnitude of stars. Each axis is labeled to identify the variable it shows.



Answer these questions about the diagram above.

1. What variable is shown on the vertical axis? _____
2. What variable is shown on the horizontal axis? _____
3. What range of absolute magnitude is shown in the diagram?

4. What type of star can have an absolute magnitude of -6?

5. What type of star can have a temperature of 3,000°C?

Stars

Match the correct letter to the description.

- _____ 1. the apparent shift of an object's location when viewed from two positions
- _____ 2. the unit astronomers use to measure distances in space
- _____ 3. a number of stars that appear to form a pattern in the sky
- _____ 4. the brightness of a star
- _____ 5. an enormous cloud of gas and dust in space
- _____ 6. a young star that glows as gravity makes it collapse
- _____ 7. a star that explodes
- _____ 8. an object whose gravity is so strong that even light cannot escape from it
- _____ 9. a large, hot ball of gas held together by gravity and giving off its own light

Vocabulary

- a. magnitude
- b. black hole
- c. parallax
- d. star
- e. light-year
- f. supernova
- g. constellation
- h. protostar
- i. nebula

Answer each question.

10. When is the constellation Orion visible from the Northern Hemisphere?

11. What does a star's color depend on?

12. What is the activity of a main-sequence star?

13. What does an H-R diagram compare?

CHAPTER 6, LESSON 4

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 1. The Sun and all the bodies traveling around it is/are the ____.
- asteroids
 - planets
 - troposphere
 - solar system
- ___ 2. ____ is the closest planet to the Sun.
- Earth
 - Mercury
 - Venus
 - Mars
- ___ 3. ____ is the planet studied by space probe Magellan.
- Venus
 - Mars
 - Mercury
 - Asteroid
- ___ 4. The Red Planet is another name for ____.
- Venus
 - Earth
 - Mercury
 - Mars
- ___ 5. The ____ is the part of Earth's atmosphere where all weather occurs.
- mesosphere
 - thermosphere
 - troposphere
 - stratosphere

Name: _____

- _____ 6. _____ absorbs harmful ultraviolet radiation from the Sun in the atmosphere.
- Magnetism
 - Ozone
 - Radiation
 - Solar wind
- _____ 7. Large bodies orbiting a star are _____.
- asteroids
 - magnetic fields
 - Van Allen belts
 - planets
- _____ 8. Small, rocky, metallic objects that orbit the Sun are _____.
- planets
 - mercuries
 - asteroids
 - ozones
- _____ 9. The path a planet or asteroid takes as it travels around the Sun is a(n) _____.
- orbit
 - troposphere
 - ozone
 - belt

Short Answer

- Earth's atmosphere is mostly made up of which two elements?
- What causes Venus' very high temperature?
- Where does the oxygen in Earth's atmosphere come from?
- Which planet has a longer year: Earth or Mars? Why?

CHAPTER 6, LESSON 5

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 1. Small asteroids are often called _____.
 - a. meteorites
 - b. meteors
 - c. meteoroids
 - d. comets

- ___ 2. The largest planet in the solar system is _____.
 - a. Uranus
 - b. Saturn
 - c. Neptune
 - d. Jupiter

- ___ 3. _____ is the planet with seven major rings around it.
 - a. Uranus
 - b. Neptune
 - c. Saturn
 - d. Jupiter

- ___ 4. _____ is the planet that looks like it was knocked on its side.
 - a. Saturn
 - b. Uranus
 - c. Pluto
 - d. Neptune

- ___ 5. _____ has a moon called Triton and appears blue due to methane in its atmosphere.
 - a. Neptune
 - b. Uranus
 - c. Jupiter
 - d. Pluto

- ___ 6. The smallest planet in the solar system is ____.
- a. Meteoroid
 - b. Jupiter
 - c. Uranus
 - d. Pluto
- ___ 7. A ____ is a ball of rock and ice that orbits the Sun.
- a. meteoroid
 - b. meteor
 - c. comet
 - d. meteorite
- ___ 8. A(n) ____ is a meteoroid that enters Earth's atmosphere.
- a. meteor
 - b. meteorite
 - c. comet
 - d. asteroid
- ___ 9. Any part of a meteoroid that reaches Earth's surface is a(n) ____.
- a. comet
 - b. meteor
 - c. meteorite
 - d. asteroid

Short Answer

1. Name 2 ways the outer planets are different (not Pluto)

a.

b.

2. Name 2 ways the outer planets are similar (not Pluto)

a.

b.

3. Name 2 of Jupiter's moons and give 1 fact of each.

a.

b.

chapter 6, lesson 6

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 1. The apparent shift of an object's location when viewed from two positions is ____.
- a. H-R diagram
 - b. magnitude
 - c. parallax
 - d. fusion
- ___ 2. The ____ is the unit astronomers use to measure distances in space.
- a. light-year
 - b. parallax
 - c. magnitude
 - d. main-sequence
- ___ 3. A ____ is a number of stars that appear to form a pattern in the sky.
- a. magnitude
 - b. light-year
 - c. nebula
 - d. constellation
- ___ 4. The brightness of a star is its ____.
- a. nebula
 - b. parallax
 - c. black hole
 - d. magnitude
- ___ 5. An enormous cloud of gas and dust in space is a ____.
- a. black hole
 - b. protostar
 - c. nebula
 - d. star

- ___ 6. A ___ is a young star that glows as gravity makes it collapse.
- black hole
 - supernova
 - protostar
 - nebula
- ___ 7. A ___ is a star that explodes.
- supernova
 - black hole
 - protostar
 - nebula
- ___ 8. A ___ is an object whose gravity is so strong that even light cannot escape from it.
- star
 - supernova
 - parallax
 - black hole
- ___ 9. A large, hot ball of gas held together by gravity and giving off its own light is a ____.
- star
 - planet
 - constellation
 - black hole

Short Answer

- When is the constellation Orion visible from the Northern Hemisphere?
- What does a star's color depend on?
- What is the activity of a main-sequence star?
- What does an H-R diagram compare?