Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solar System

Due Date:

Reading \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Guide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Critical Thinking \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Concept Map \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Crossword ­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Test Prep ­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solar System Reading

1. Solar system
2. Nebula
3. Mass
4. Temperature
5. Solar nebula
6. Planetesimals
7. Giant gas planets
8. Rocky planets
9. Comet
10. Rotation
11. Orbit
12. Revolution
13. Period of revolution
14. Kepler’s first law of motion
15. Ellipse
16. Semi major axis
17. Astronomical unit
18. Kepler’s second law of motion
19. Kepler’s third law of motion
20. gravity

Solar System Guide

Solar system.

Nebula

Solar nebula

Planetesimals

Gas giants

Orbit

Revolution

Period of revolution

Ellipse

Astronomical unit

Solar System Review

Astronomical unit Orbit revolution solar nebula

Ellipse period of revolution rotation solar system

Nebula planetesimals

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ composed of the sun and planets and other bodies that travel around the sun.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ happens when Earth spins on its axis.
3. An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is an enclosed curve in which the sum of the distances from the edge of the curve to two points inside the ellipse is always the same.
4. Dust and gas together in huge interstellar clouds form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the name of the nebula that formed into our solar system.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the building blocks of planets.
7. The amount of time it takes for a single trip around the sun is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. The path around the sun is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is motion around the sun along its orbit.
3. An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the average distance between the Earth and the sun.
4. \_\_\_\_\_measure of the amount of matter a. pressure
5. \_\_\_\_\_measure of how fast particles are moving b. mass
6. \_\_\_\_\_the amount of force exhorted on a given area c. temperature
7. \_\_\_\_\_determines day and night a. period of revolution
8. \_\_\_\_\_determines a year b. rotation
9. \_\_\_\_\_moving around the sun c. orbit
10. \_\_\_\_\_path around the sun d. revolution

Determine whether the statements are true (T) or false (F).

1. \_\_\_\_\_Kepler’s first law states that planets move around the sun in a circle.
2. \_\_\_\_\_Kepler’s second law states that planets move slower when they are closer to the sun.
3. \_\_\_\_\_Kepler’s third law states that the distance from the sun can be calculated using the period of revolution.
4. \_\_\_\_\_Planets move faster when they are closer to the sun because of gravity.
5. \_\_\_\_\_Planetesimals always become planets.
6. \_\_\_\_\_An elliptical path is a circle.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the spinning of a body on its axis. (rotation or revolution)
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the movement of a smaller body around a larger body. (rotation or revolution)
9. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is composed of the sun, its planets and other bodies in orbit around the sun. (solar system or solar nebula)
10. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was an interstellar cloud of gas and dust that formed the sun and planets. (solar system or solar nebula)
11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (planets and planetesimals)
12. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the measure of how fast particles in an object move around. (pressure or temperature)
13. An astronomical unit is the
    1. Average distance between Earth and the moon
    2. Average distance between planets
    3. Average distance between stars
    4. Average distance between Earth and the sun
14. Planets in the solar system travel in a(n)
    1. Circle
    2. Ellipse
    3. Nebula
    4. Oval
15. The time it takes a planet to make one complete orbit.
    1. Period of revolution
    2. Period of rotation
    3. Period of orbit
    4. Period of ellipse
16. The elliptical motion of a body as it orbits another body in space.
    1. Rotation
    2. Orbit
    3. Ellipse
    4. Revolution
17. The spinning motion of a body on its axis.
    1. Orbit
    2. Revolution
    3. Period of revolution
    4. Rotation
18. Tiny building blocks of planets.
    1. Planetesimals
    2. Mini planets
    3. Asteroids
    4. Meteoroids
19. The solar nebula is the
    1. Nebula that made our solar system
    2. Nebula that made our sun
    3. Nebula that made our planets
    4. All of the above
20. Stars are formed from
    1. Nebulas
    2. Pressure
    3. Gravity
    4. All of the above
21. Planets follow a curved path called an ellipse.
    1. Kepler’s First Law
    2. Kepler’s Second Law
    3. Kepler’s Third Law
    4. Newton’s Universal Law of Gravitation
22. Planets move faster when they are closer to the sun.
    1. Kepler’s First Law
    2. Kepler’s Second Law
    3. Kepler’s Third Law
    4. Newton’s Universal Law of Gravitation
23. When we know a planet’s period of revolution we can calculate the planet’s distance from the sun.
    1. Kepler’s First Law
    2. Kepler’s Second Law
    3. Kepler’s Third Law
    4. Newton’s Universal Law of Gravitation
24. The force of gravity depends on the mass of the objects and the distance between them.
    1. Kepler’s First Law
    2. Kepler’s Second Law
    3. Kepler’s Third Law
    4. Newton’s Universal Law of Gravitation
25. What is the term for the speed of gas molecules?
    1. Temperature
    2. Pressure
    3. Gravity
    4. Force

Solar System Critical Thinking

1. What two forces balance each other to keep a nebula of dust and gas from collapsing or flying apart?
2. Why does the composition of the giant gas planets differ from that of the rocky inner planets?
3. Explain why there is only one planet in each orbit around the sun.
4. On what properties does the force of gravity between two objects depend?
5. Will a planet be moving faster in its orbit when it is farther from or closer to the sun? Explain.
6. How does gravity keep a planet moving in an orbit around the sun?
7. Why did the solar nebula begin to collapse to form the sun and planets if the forces of pressure and gravity are balanced?
8. How is the period of revolution related to the semi major axis of an orbit? Draw an ellipse and label the semi major axis.
9. Suppose a certain planet had two moons, one of which was twice as far from the planet as the other. Which moon would complete one revolution of the planet first? Explain.
10. Why do all of the planets go around the sun in the same direction and why do the planets all lie in a flat plane?

Solar System Concept

Use the following terms to create a concept map: 1st Law, Kepler’s Laws of Motion, 2nd Law, ellipse, planets faster closer to sun, period of revolution and distance, 3rd Law

Use the following terms to create a concept map: rotation, years, revolution, days, orbit, planetary motion, path around sun,

1. Put the steps of solar system formation in order, use numbers.

\_\_\_\_\_planetesimals begin to form within the swirling disk

\_\_\_\_\_the young solar nebula begins to collapse because of gravity

\_\_\_\_\_the largest planetesimals begin to sweep up more and more dust and gas

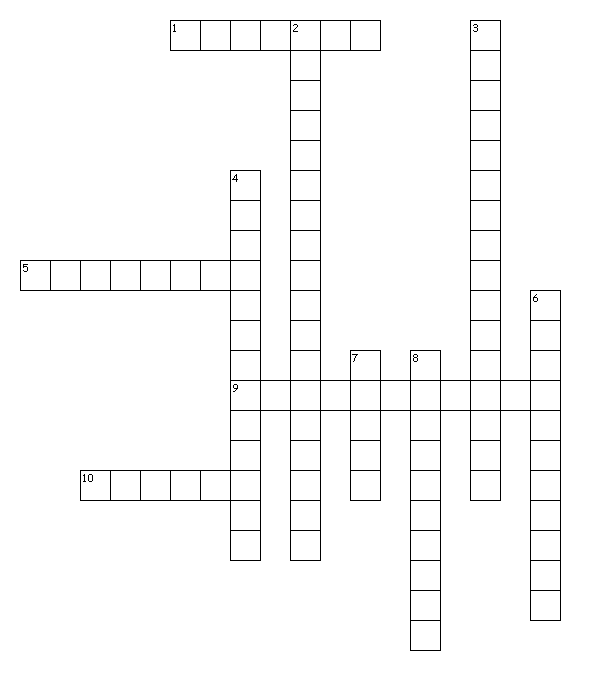
\_\_\_\_\_the remaining dust and gas are gradually removed from the solar nebula, leaving planets

around the sun

\_\_\_\_\_smaller planetesimals collide with the larger ones, planets begin to grow

\_\_\_\_\_the solar nebula begins to rotate, flatten and get warmer near its center

**Solar System**



Across

1. an enclosed curve in which the sum of the distances from the edge of the curve to two points inside the ellipse is always the same

5. Earth spins on its axis

9. the name of the nebula that formed into our solar system.

10. dust and gas together in huge interstellar clouds

Down

2. the amount of time it takes for a single trip around the sun

3. the average distance between the Earth and the sun

4. building blocks of planets

6. composed of the sun and planets and other bodies that travel around the sun

7. path around the sun

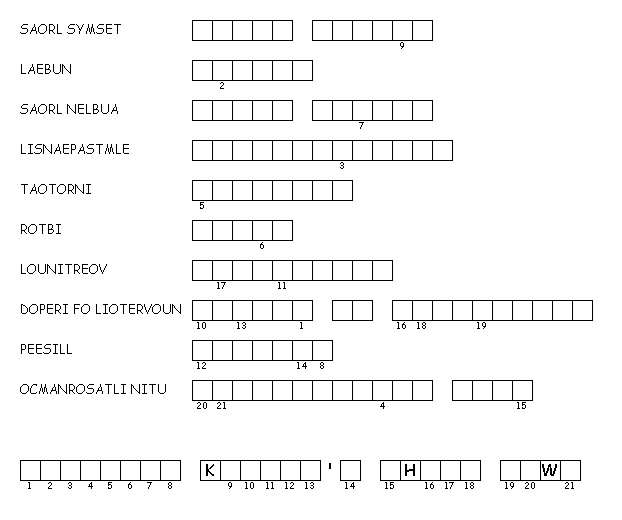
8. motion around the sun along its orbit

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**Solar System**

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|  |
| ASTRONOMICALUNIT | ELLIPSE | NEBULA |
| ORBIT | PERIODOFREVOLUTION | PLANETESIMALS |
| REVOLUTION | ROTATION | SOLARNEBULA |
| SOLARSYSTEM |  |  |

**Solar System**



Test Prep

21) If a spoonful of salt is mixed in a glass of water, what is the water called?

A) a solute

B) a solution

C) a solvent

D) an element

22) An element contains only one kind of

A) particle.

B) property.

C) protein.

D) raw material.

23) What is formed when particles of two or more substances are distributed evenly

among each other?

A) a compound

B) solubility

C) a solution

D) an element

24) How is a compound different from a mixture?

A) Compounds have two or more components.

B) Each substance in a compound loses its characteristic properties.

C) Compounds are commonly found in nature.

D) Solids, liquids, and gases can form compounds.

25) The particles in a solution

A) cannot scatter light.

B) can settle out.

C) are insoluble.

D) can pass through a fine filter.