

# Space Science Jeopardy!

Structure of the Universe	Stars & HR Diagram	Seasons, Tides, Phases, Eclipses	Astronomical Bodies	The Sun & Gravity
<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>
<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>

10- Abby reads that light travels almost 900,000 times faster than sound. She also knows that it takes light from the Sun about 8 minutes to reach Earth. Why does it take light from the Sun so long to reach us on Earth when it is traveling so fast?

- a) Light slows down as it travels through space.
- b) It is difficult for light to pass through Earth's atmosphere.
- c) Light from the Sun travels a vast distance before it reaches Earth.
- d) Most of light from the Sun is absorbed by different objects in space.

Answer: C



20- )Which of the following correctly describes the relationship between astronomical bodies in outer space?

- a) Mars is larger than Earth.
- b) The Milky Way is much larger than our Solar System.
- c) The Moon is further away from the Sun than the asteroid belt.
- d) The orbits of planets are greater than the orbits of the satellites

Answer: B



30- Which answer correctly orders astronomical bodies according to their distance from the Sun?

- a) Venus < Earth < asteroid belt < Neptune
- b) asteroid belt < Saturn < Pluto < Uranus
- c) Pluto < Uranus < Neptune < asteroid belt
- d) asteroid belt < Earth's moon < Venus < Mercury

Answer: A



40- The table below shows the distance from the Sun of each planet in the solar system, as well as the diameters of each planet.

If a new object is observed in the solar system that has a distance of approximately 25 Astronomical units (AU) from the Sun, which of the following is most likely true?

- a) The object is a comet.
- b) The object is a planet.
- c) The object has a satellite
- d) The object has an irregular orbit.

Planet	Distance from the Sun	Diameter
Mercury	0.387 AU	4,900 km
Venus	0.723 AU	12,100 km
Earth	1.000 AU	12,800 km
Mars	1.524 AU	6,800 km
Jupiter	5.203 AU	143,000 km
Saturn	9.523 AU	120,500 km
Uranus	19.208 AU	51,100 km
Neptune	30.087 AU	49,500 km

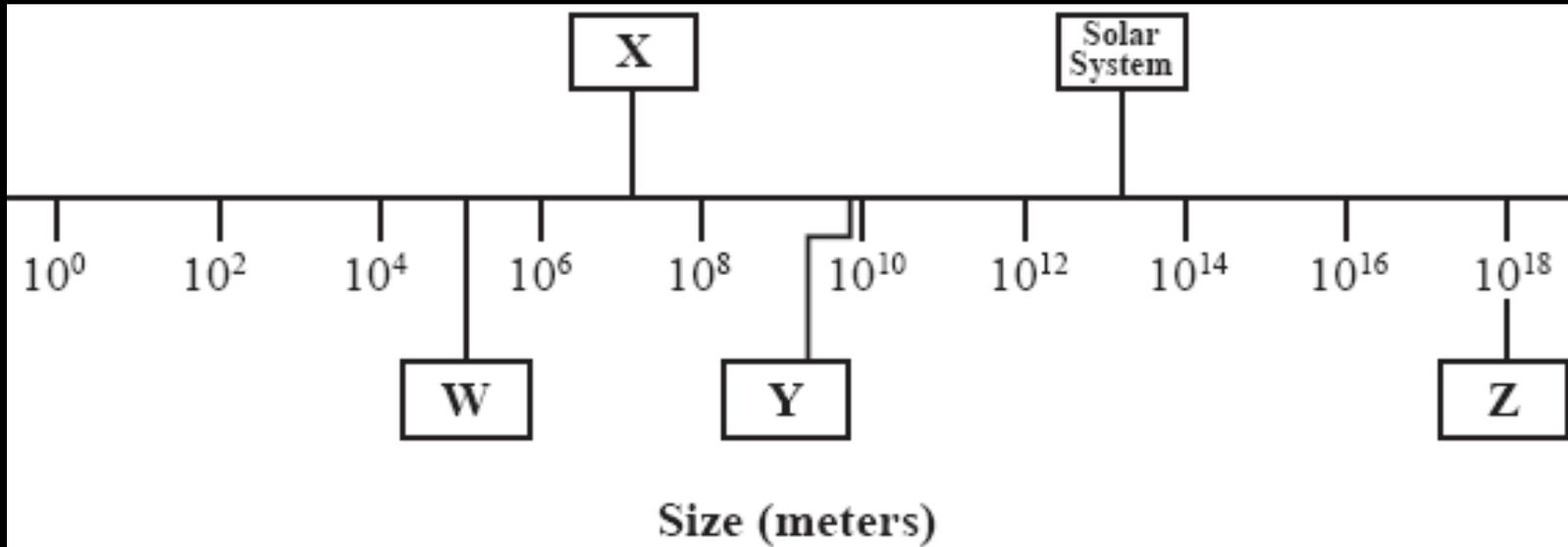


Answer: A

50-

The points labeled on the chart below represent the approximate size of Earth, the Milky Way, the Moon, and the Sun. The approximate size of the solar system is also shown. Which point on the chart **best represents the approximate size of the Sun**?

- a) W
- b) X
- c) Y
- d) Z



Answer: C



10-The surface temperature of a star is indicated by which characteristic?

a) shape

b) absolute brightness

c) color

d) size

Answer: C



20-While looking at the night sky, Dana sees that one star looks much brighter than the other stars. Which of the following is a property of stars used to describe how bright the star looks to an observer on Earth?

- a) apparent magnitude
- b) Luminosity
- c) stellar evolution
- d) temperature

Answer: A



30-Brandon learns that a star's luminosity is a measure of the star's absolute brightness, and is determined by a combination of the star's physical properties. Which of the following correctly describes the relationship between the luminosity of two stars that have the same radius?

- a) The star that is hotter will have a lower luminosity.
- b) The star that is hotter will have a higher luminosity.
- c) The stars' luminosities will depend on how close they are to the Sun.
- d) The stars will have the same luminosity since their radii are the same

Answer: B



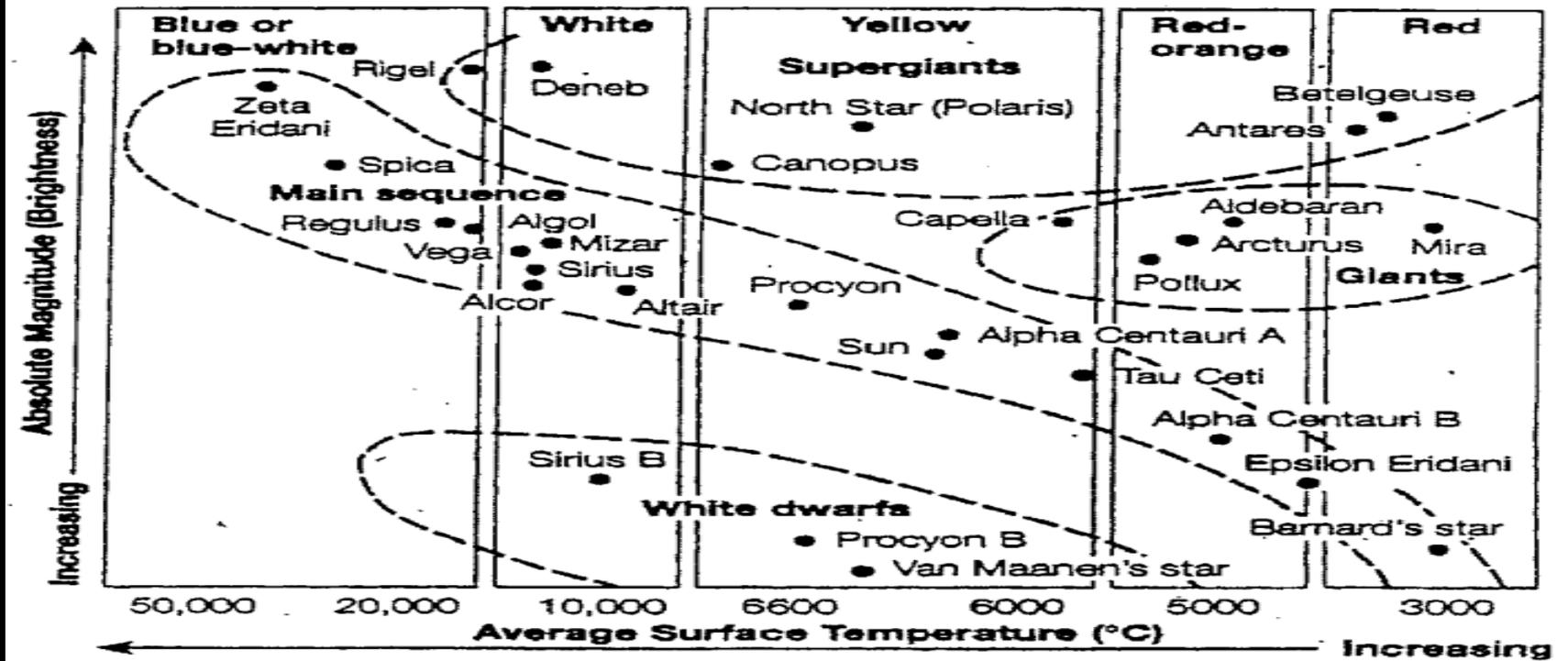
40-The stars, Rigel and Betelgeuse, are both found in the constellation, Orion. Rigel is a blue supergiant, and Betelgeuse is a red supergiant. Which of the following correctly compares the temperatures of Rigel and Betelgeuse?

- a) Betelgeuse is hotter than Rigel, because red stars are hotter than blue stars.
- b) Rigel is hotter than Betelgeuse, because blue stars are hotter than red stars.
- c) Rigel and Betelgeuse are close to the same temperature, because they are both supergiants.
- d) Betelgeuse and Rigel are close to the same temperature, because they are about the same distance from the Sun.

Answer: B



The Hertzsprung-Russell Diagram



50-Which star would have a higher absolute brightness than our Sun?

- a) Alpha Centauri B
- b) Barnard's Star
- c) Canopus
- d) Sirius B



Answer: C

10-While Deena is watching the news on TV, she hears that there is going to be a solar eclipse the next day. The news announcer gives advice on how to view a solar eclipse safely, and describes what is happening when a solar eclipse occurs. What causes a solar eclipse to occur?

- a) The Moon passes between the Sun and Earth.
- b) The Sun, the Moon, and Earth form a right angle.
- c) Earth and the Moon are on opposite sides of the Sun.
- d) Earth and the Moon are at their farthest distance from the Sun.

Answer: A



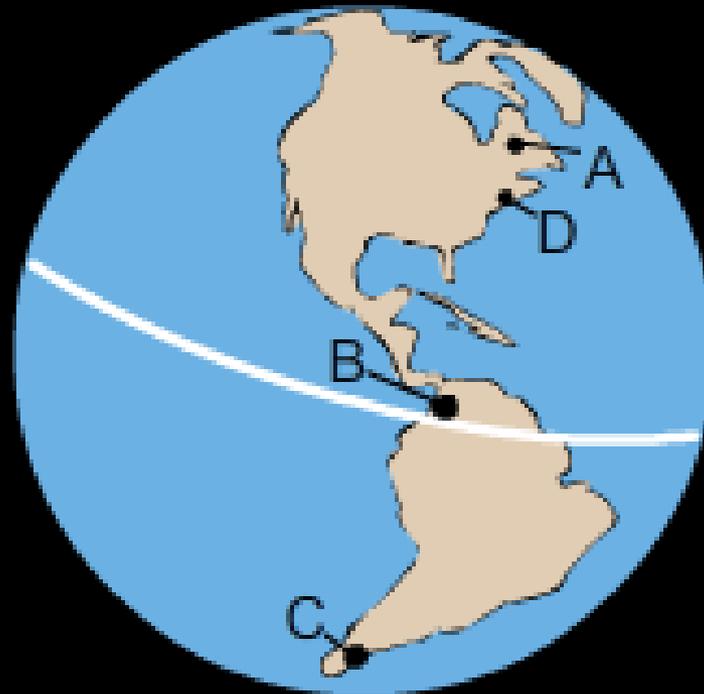
20-Kyle and Ryan are camping in Ryan's backyard in order to watch a lunar eclipse through a telescope that they have set up. Which of the following describes the positions of Earth, the Moon, and the Sun during a lunar eclipse?

- a) The Sun passes between Earth and the Moon.
- b) The Moon passes between Earth and the Sun.
- c) Earth passes between the Moon and the Sun.
- d) The Sun and the Moon pass Earth at the same time.

Answer: C



30-Look at the cities shown on the picture.  
Which city receives the most direct light  
throughout the year?



Answer: B

## 40-What causes the phases of the Moon?

- a) the tilt of Earth on its axis
- b) Earth's shadow being cast on the Moon
- c) the relative positions of the Sun, Moon, and Earth
- d) the elliptical orbit that Earth travels around the Sun

Answer: C



50-Charlotte's class is learning about the movements of Earth, the Sun, and the Moon. They discover that different phenomena result when the relative positions of Earth, the Sun, and the Moon change. Which of the following happens when the Sun, the Moon, and Earth are lined up in a straight line?

- a) Seasons on Earth last longer than normal.
- b) The shape of Earth's orbit around the Sun changes.
- c) Earth experiences higher high tides and lower low tides.
- d) Gravity from both Earth and the Sun prevents the Moon from rotating.



Answer: C

10-When moving from the outer planets to the inner planets, what can be said about their periods of revolution?

- a) They triple.
- b) They double.
- c) They decrease.
- d) They do not change.

Answer: C



20-Of all the planets in our Solar System, Earth is the only one on which life as we know it exists. Which of the following best describes a factor that allows Earth to be capable of supporting life, while other planets are unable to do so?

- a) Earth revolves slowly enough for seasons to occur.
- b) Earth is large enough to sustain a variety of species.
- c) Earth has an atmosphere to filter and trap energy from the Sun.
- d) Earth rotates fast enough for gravity to hold objects on its surface.

Answer: C



30-Based on the position of Venus as it relates to Earth and the Sun, which of the following describes the length of a year on Venus?

- a) The length of a year on Venus is the same as a year on Earth.
- b) The length of a year on Venus is shorter than a year on Earth.
- c) The length of a year on Venus is twice as long as a year on Earth.
- d) The length of a year on Venus is nearly ten times as long as a year on Earth.

Answer: B



40-As you travel from the inner to the outer planets, which of the following decreases?

- a) the number of moons
- b) the surface temperature
- c) the time for one revolution
- d) the distance from the Sun



Answer: B

50-The planets in our Solar System share some similarities, but their differences often outnumber the similarities. For example, one day on Neptune is only about 16.1 hours, and while Earth and Neptune both have natural satellites, Earth has only one moon, while Neptune has 13. Which of the following is also an accurate comparison of Earth and Neptune?

- a) Neptune has a more solid surface than Earth.
- b) Earth has a shorter period of revolution than Neptune.
- c) Neptune has a longer period of rotation than Earth.
- d) Earth has a lower average temperature than Neptune



Answer:B

10-Which of the following is the most violent of all solar disturbances?

- a) solar winds
- b) sunspots
- c) prominences
- d) solar flares

Answer: D



20-

There are many objects that are part of our Solar System including planets, moons, asteroids, and the Sun. Which of those objects has the greatest gravitational force?

- a) asteroids
- b) the Sun
- c) moons
- d) planets



Answer:B

30-The Sun's energy and composition is provided by which of the following?

- a) The burning of fossil fuels within the Sun
- b) Solar power that produces electricity in the Sun
- c) The Sun's magnetic field
- d) The fusion of hydrogen into helium

Answer: D



40-Sunspots are dark regions on the visible surface of the Sun. Which of the following is responsible for sunspots?

- a) fusion reactions in the Sun
- b) gravitational force between Earth and the Sun
- c) the Sun's magnetic field
- d) solar flares



Answer: C

50-Cara is building a model of the solar system, which includes the Sun. She plans to include a written description to provide details about each piece in her model. In order for her model to be realistic, which of the following should she include in her representation of the Sun?

- a) She should show that sunspots can be seen as white areas on the Sun's surface.
- b) She should explain that the Sun is made up of gaseous layers that surround an iron core.
- c) She should show that the Sun revolves around the planets, determining the length of year.
- d) She should explain that the Sun rotates, even though different parts rotate at different rates.



Answer: D

# Final Jeopardy! Rules

- You can wager any amount you want up to your current score.
- I will accept only one answer for the question.
- Your team must decide on this answer together, take a vote if needed.

# FINAL JEOPARDY!

Place the following astronomical bodies in order from the center of the solar system outward:

Gas Giants, Asteroid Belt, Sun,  
Dwarf Planets, Terrestrial Planets