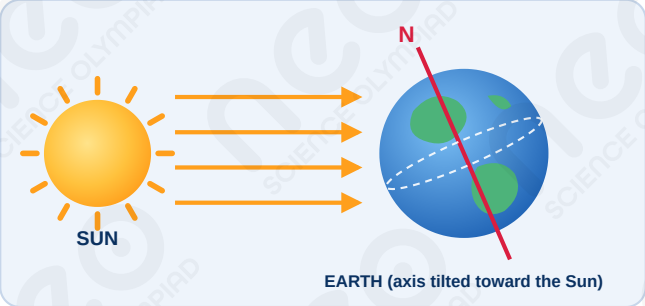
01



The diagram shows Earth tilted while orbiting the Sun. When the Northern Hemisphere tilts toward the Sun, what season is it there?

A) Winter
B) Summer
C) Autumn everywhere
D) Spring everywhere

02

Why does Earth experience different seasons during the year?

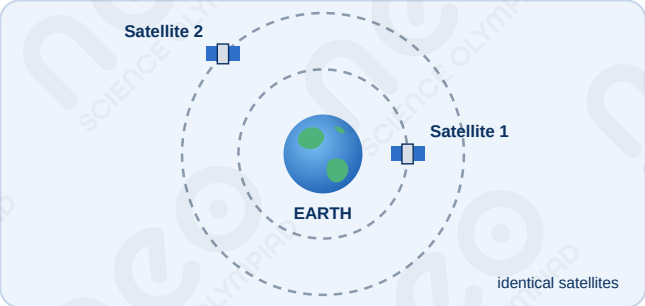
A) Earth's distance from the Sun changes dramatically.
B) The Sun becomes hotter every summer.
C) Earth's axis is tilted as it orbits the Sun.
D) The Moon blocks sunlight during winter.

03

A comet approaches the Sun. What usually happens to its icy surface?

A) It turns completely into solid rock.
B) Some ice turns into gas and forms a tail.
C) It hardens into a small planet.
D) Its gravity suddenly disappears.

04



Two identical satellites orbit Earth at different distances. Which one feels the stronger gravitational pull from Earth?

A) The closer satellite
B) The farther satellite
C) Both feel equal force
D) Neither feels any force

05

An astronaut stands on the Moon's surface. Why does the astronaut weigh less there than on Earth?

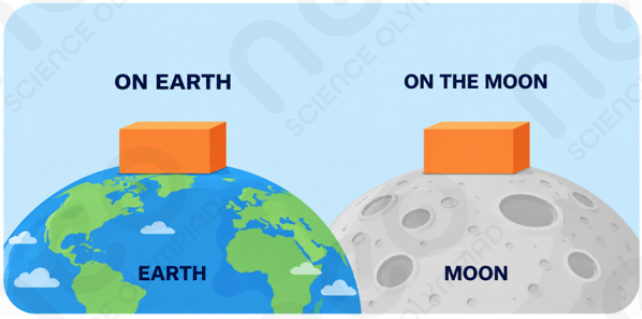
A) The Moon exerts a weaker gravitational pull on the astronaut.

B) The astronaut's mass decreases when they reach the Moon.

C) The Moon's rotation cancels most of its gravitational pull.

D) The absence of air on the Moon removes the force that causes weight.

06



Two identical objects are placed on Earth and on the Moon. Which measurement stays the same?

A) Weight

B) Gravitational force

C) Mass

D) Acceleration due to gravity

07

Which statement correctly describes the Milky Way?

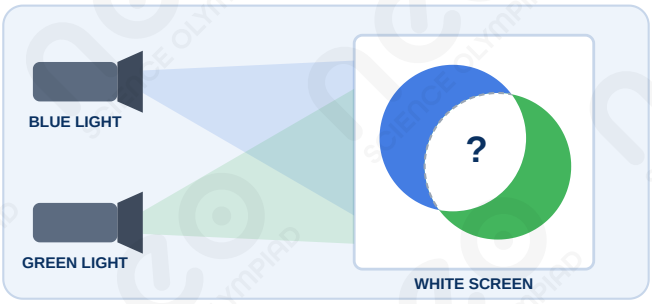
A) It is another name for our Solar System.

B) It is a single star near the Sun.

C) It is the collection of planets orbiting Earth.

D) It is the galaxy containing our Solar System.

08



Blue light and green light overlap on a white screen. What color appears where they overlap?

A) Red

B) Yellow

C) Cyan

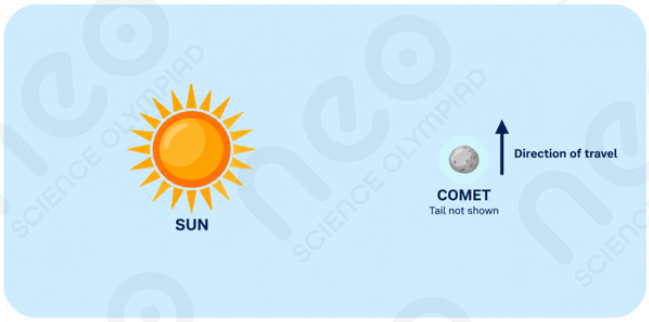
D) White

09

Why do scientists send robotic rovers to Mars?

A) To increase the temperature of Mars
B) To move Mars closer to Earth
C) To study rocks and soil on Mars
D) To make sunlight for future astronauts

10



A comet is near the Sun. In which direction does its tail generally point?

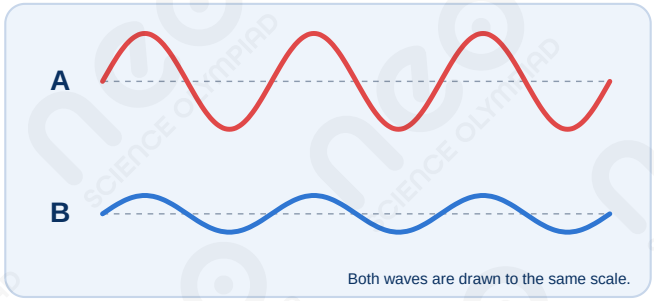
A) Away from the Sun
B) Always toward the Sun
C) Always toward Earth
D) In the direction of travel only

11

What is the main advantage of placing a telescope in space?

A) It makes distant stars physically closer.
B) It avoids interference from Earth's atmosphere.
C) It lets astronomers travel inside stars.
D) It stops distant galaxies from moving.

12



Which wave has the greater amplitude?

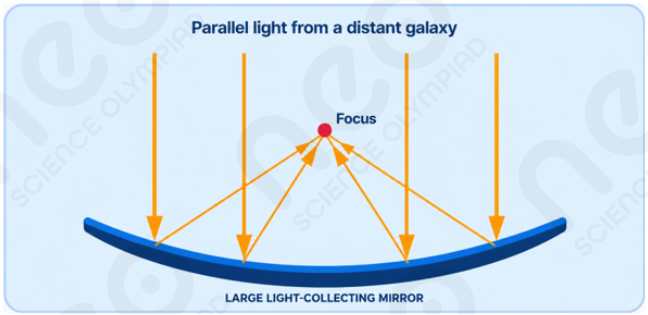
A) Wave A
B) Wave B
C) They are equal
D) It cannot be determined

13

Which star would generally have the highest surface temperature?

A) A blue star
B) A red star
C) An orange star
D) A yellow star

14



A telescope has a large light-collecting mirror. What is the main benefit of a larger mirror?

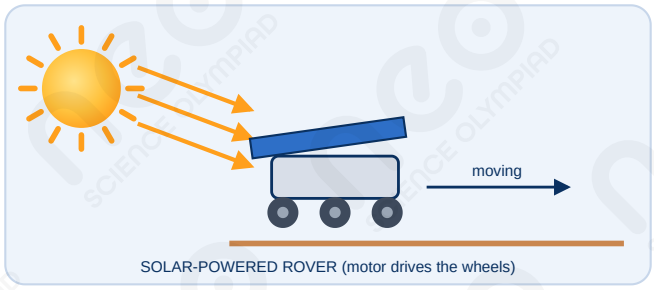
A) It speeds up the light coming in.
B) It changes the real colors of stars.
C) It moves distant stars closer to us.
D) It collects more light from dim objects.

15

What is a meteor?

A) A small moon orbiting Jupiter and reflecting sunlight
B) A bright star that falls toward Earth at night
C) A spacecraft returning to Earth from the Moon
D) A streak of light as a space rock enters the atmosphere

16



What is the correct energy sequence for a sunlight-powered rover?

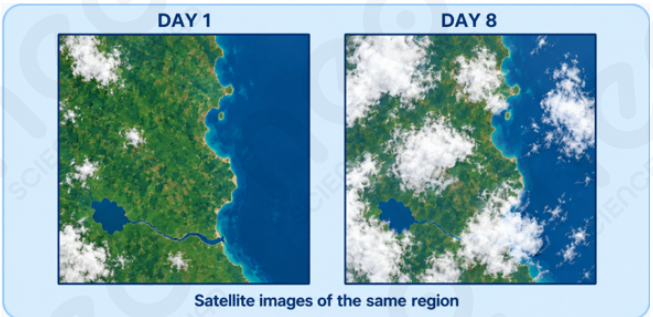
A) Light energy to electrical energy to kinetic energy
B) Kinetic energy to light energy to electrical energy
C) Heat energy to sound energy to light energy
D) Electrical energy to light energy to chemical energy

17

What can powerful solar storms sometimes affect on Earth?

A) The length of Earth's year
B) The size of the Moon's orbit
C) Satellites and power grids
D) The salt content of the oceans

18



A weather satellite observes the same region on two dates. Which change is most directly measurable from the images?

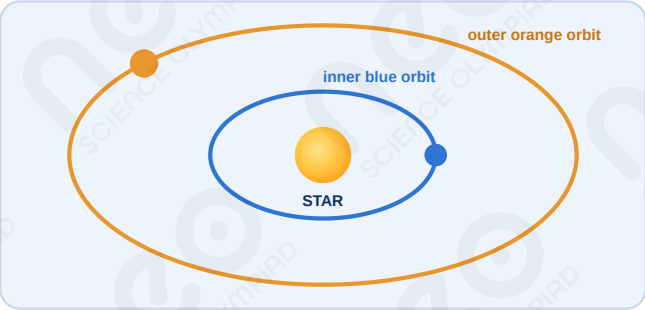
A) The Sun's core temperature
B) The area covered by clouds
C) The mass of Jupiter
D) The age of the Milky Way

19

A satellite takes images of Earth's forests every week. What is one important scientific use of these images?

A) Measuring the Sun's core temperature
B) Tracking deforestation over time
C) Finding planets in other galaxies
D) Changing Earth's gravitational pull

20



Which orbit has the greater average distance from the star?

A) The inner blue orbit
B) The outer orange orbit
C) Both are equal
D) Neither is an orbit

Answer Key

1	B
2	C
3	B
4	A
5	A
6	C
7	D
8	C
9	C
10	A
11	B
12	A
13	A
14	D
15	D
16	A
17	C
18	B
19	B
20	B