

Grade 6 Unit Practice Test

Science

Sky Science

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1. The source of light that enables astronomers to see Jupiter through a telescope is
 - A. the Moon
 - B. the Sun
 - C. Jupiter
 - D. Earth

Use the following information to answer question 2.

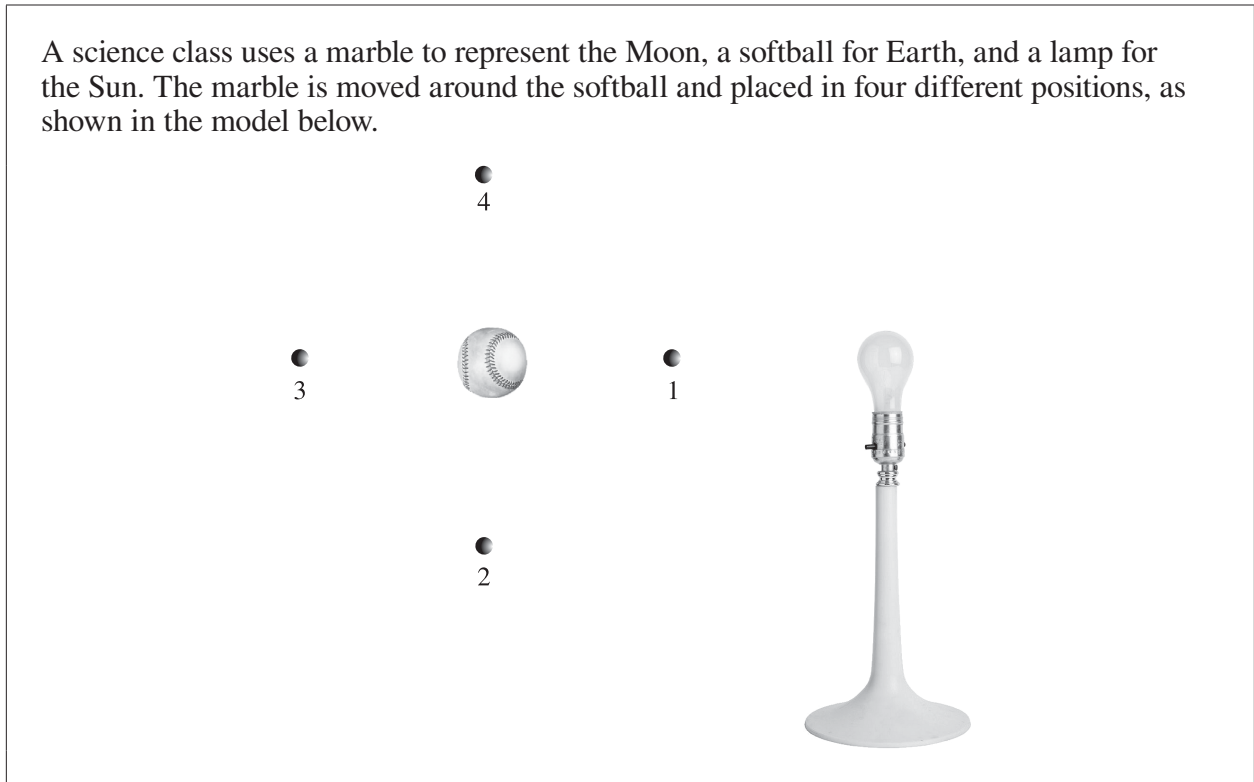
The following chart shows the approximate distance of several planets from the Sun and the time required for the planets to revolve around the Sun.

| Planet | Approximate Distance from the Sun (million kilometres) | Time Required to Revolve Around the Sun (Earth years) |
|---------------|---|--|
| Mercury | 58 | 0.24 |
| Venus | 108 | 0.62 |
| Earth | 150 | 1 |
| Jupiter | 778 | 12 |
| Uranus | 2 871 | 84 |
| Neptune | 4 498 | 165 |

2. It can be inferred from the chart above that the planet Saturn, which is approximately 1 430 million kilometres from the Sun, revolves around the Sun approximately once every
 - A. 3 years
 - B. 10 years
 - C. 30 years
 - D. 100 years

Use the following information to answer question 3.

A science class uses a marble to represent the Moon, a softball for Earth, and a lamp for the Sun. The marble is moved around the softball and placed in four different positions, as shown in the model below.

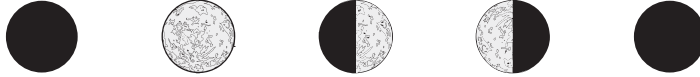


3. A full moon is modelled when the marble is in position

- A. 1
- B. 2
- C. 3
- D. 4

4. Which of the following sequences **best** represents the phases of the Moon as seen from Earth over the course of one month?

A.



B.



C.



D.



Use the following information to answer question 5.

From a particular location on Earth, the constellation Orion appears to be in a different position in the sky at 7 P.M., 11 P.M., and 3 A.M. over the course of the same day.

5. The change in position described above is caused by

- A. the constellation revolving through space
- B. the constellation rotating around the Sun
- C. Earth revolving around the Sun
- D. Earth rotating on its axis

6. Which of the following planets is **larger** than Earth?

- A. Mercury
- B. Neptune
- C. Venus
- D. Mars

Use the following information to answer question 7.

Angle of Sun at Solar Noon and Number of Daylight Hours

| Location | Angle of Sun at Noon (December 21) | Amount of Daylight (December 21) | Angle of Sun at Noon (June 21) | Amount of Daylight (June 21) |
|-----------------|---|---|---------------------------------------|-------------------------------------|
| 1 | 13° | 8 h, 12 min | 60° | 17 h, 48 min |
| 2 | 16° | 8 h, 31 min | 63° | 17 h, 29 min |
| 3 | 19° | 8 h, 50 min | 66° | 17 h, 10 min |
| 4 | 21° | 9 h, 9 min | 69° | 16 h, 51 min |

7. Based on the information in the table above, the **best** prediction of the number of daylight hours at Location 3 on February 21 is approximately

- A. 17 h
- B. 15 h
- C. 10 h
- D. 8 h

Use the following information to answer question 8.

The position of the Big Dipper changes throughout the year. Its position at midnight in the December night sky is shown below.



**December
(midnight)**

8. Which of the following rows shows the position of the Big Dipper at midnight in the March, June, and September night sky?

| Row | March | June | September |
|-----|-------|------|-----------|
| A. | | | |
| B. | | | |
| C. | | | |
| D. | | | |

Use the following information to answer question 9.

To model the phases of the Moon, a student uses a globe to represent Earth, a marble to represent the Moon, and a flashlight to represent the Sun.

Model I



Marble



Flashlight

Model II



Marble



Flashlight

Model III

Marble



Flashlight

Model IV



Marble



Flashlight

9. In which of the models has the student positioned the marble to represent the Moon in its new moon phase, as observed from Earth?
- A. Model I
 - B. Model II
 - C. Model III
 - D. Model IV

Use the following information to answer question 10.

A student records the times at which the Sun rises and sets over one week.

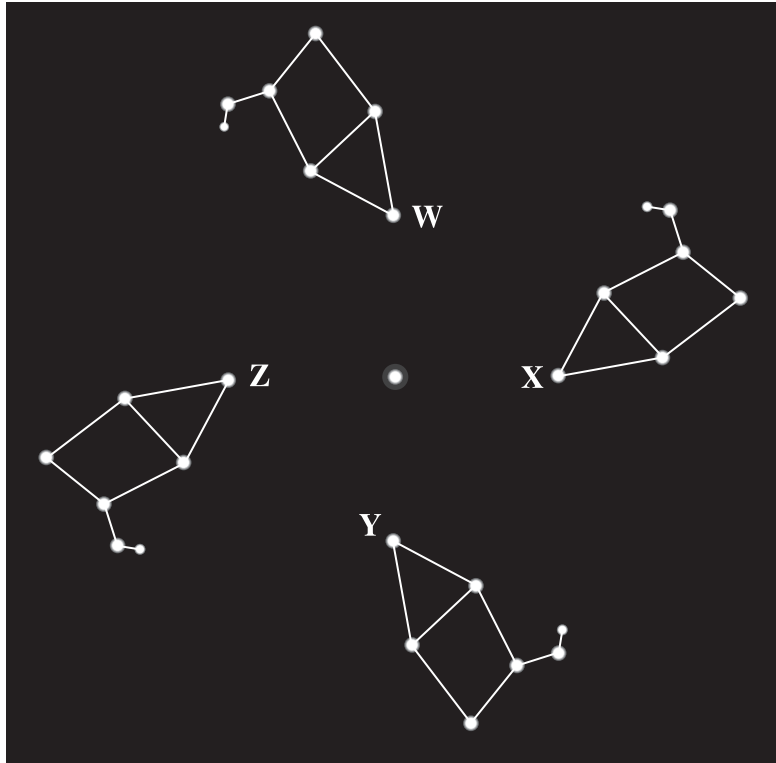
| Day | Time of Sunrise | Time of Sunset |
|-----------|-----------------|----------------|
| Monday | 7:33 A.M. | 7:12 P.M. |
| Tuesday | X | Cloudy |
| Wednesday | 7:37 A.M. | 7:08 P.M. |
| Thursday | Y | 7:06 P.M. |
| Friday | 7:41 A.M. | 7:04 P.M. |
| Saturday | 7:43 A.M. | Z |
| Sunday | 7:45 A.M. | 7:00 P.M. |

10. Which of the following rows identifies the times that replace X, Y, and Z in the chart?

| Row | X | Y | Z |
|-----|-----------|-----------|-----------|
| A. | 7:34 A.M. | 7:38 A.M. | 7:01 P.M. |
| B. | 7:34 A.M. | 7:38 A.M. | 7:02 P.M. |
| C. | 7:35 A.M. | 7:39 A.M. | 7:02 P.M. |
| D. | 7:35 A.M. | 7:39 A.M. | 7:03 P.M. |

Use the following information to answer question 11.

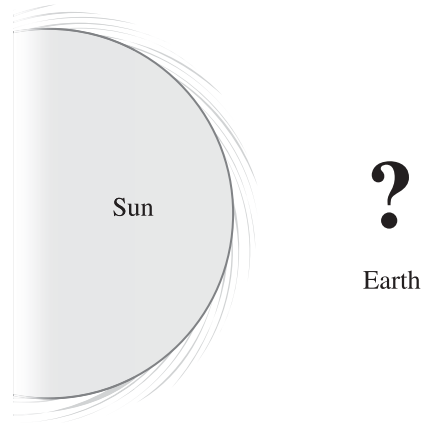
The constellation Cepheus can be seen in the northern night sky. The position of Cepheus appears to change throughout the year in relation to the North Star, shown in the centre of the diagram below.



11. If the position marked W on the diagram above represents the constellation Cepheus in June, then the position marked Y represents the constellation Cepheus in
- A. March
 - B. May
 - C. September
 - D. December

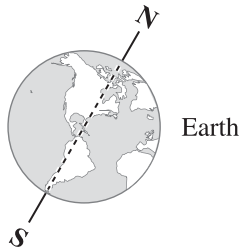
Use the following information to answer question 12.

The Orientation of Earth During Summer in Canada

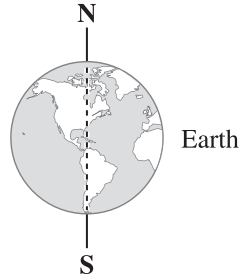


12. Which of the following diagrams **most appropriately** replaces the question mark in the information above?

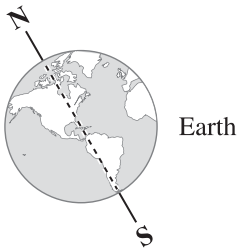
A.



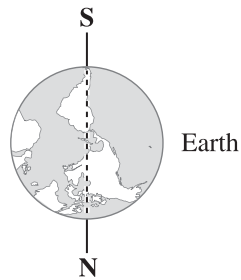
B.



C.







D.











Use the following information to answer question 13.

Jill's class observes the phases of the Moon over the course of 28 days. They then fill in the following table.

| Day | Drawing of Moon Phase | Day | Drawing of Moon Phase |
|-----|---|-----|--|
| 1 |  | 18 |  |
| 4 |  | 21 | ? |
| 14 | ? | 28 |  |

13. Which of the following rows shows the phases of the Moon that would be seen on day 14 and day 21?

| Row | Day 14 | Day 21 |
|-----|---|---|
| A. |  |  |
| B. |  |  |
| C. |  |  |
| D. |  |  |

Use the following information to answer question 14.

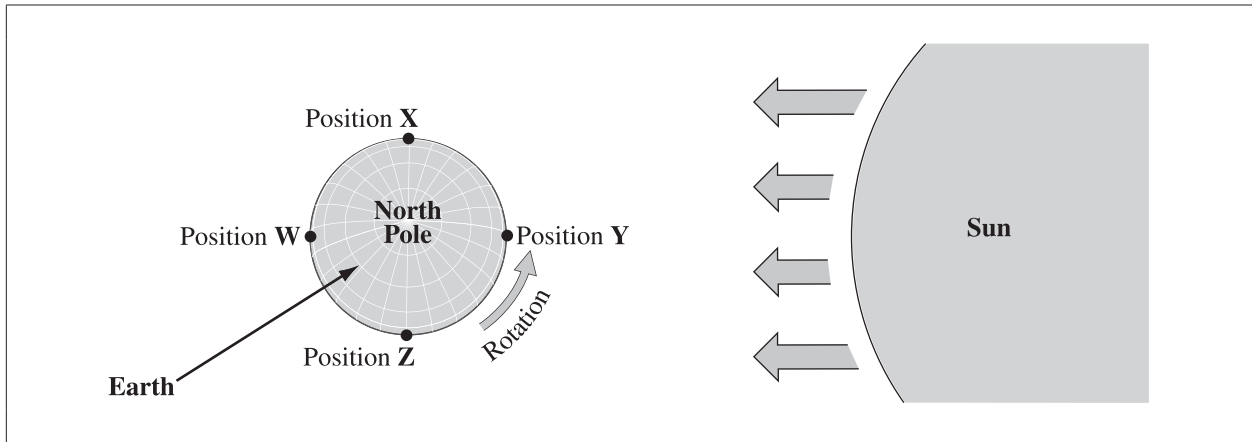
Paul wanted to study the movement of the Sun over the course of a day. He used a sundial to measure the length of a shadow once every hour from sunrise to sunset.

14. Which of the following variables must be kept the same in order to obtain reliable data from this study?
- A. Type of sundial and location of sundial
 - B. Type of sundial and the times at which measurements are taken
 - C. Length of shadow and location of sundial
 - D. Length of shadow and the times at which measurements are taken

15. Which of the following rows identifies an object in space that reflects light and an object in space that emits light?

| Row | Object in Space That Reflects Light | Object in Space That Emits Light |
|-----|-------------------------------------|----------------------------------|
| A. | Comet | Sun |
| B. | Comet | Moon |
| C. | Star | Sun |
| D. | Star | Moon |

Use the following information to answer question 16.



16. How long will it take for Earth to rotate so that Position X is directly facing the Sun?
- A. 6 hours
 - B. 8 hours
 - C. 12 hours
 - D. 18 hours

Use the following information to answer question 17.

A student compares the four inner planets.

| | Mercury | Venus | Earth | Mars |
|--|---------|--------|--------|-------|
| Average distance from the Sun (AU) | 0.39 | 0.72 | 1.00 | 1.52 |
| Period of revolution around the Sun (approximate Earth days) | 88 | 226 | 365 | 686 |
| Size (km) | 4 879 | 12 104 | 12 756 | 6 792 |
| Average temperature (°C) | 167 | 464 | 15 | -63 |

17. Which of the following statements can be made based on the data in the chart?
- A. Mars has the shortest year of the inner planets.
 - B. Venus is the planet closest in size to Earth.
 - C. Earth is the coldest of the inner planets.
 - D. Mercury is the closest planet to Venus.

Use the following information to answer question 18.

Components of the Universe

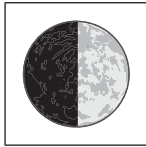
- Stars
- Planets
- Comets

18. Which of the following lists orders the components of the universe above from the **largest** to the **smallest**?

- A. Stars, comets, planets
 - B. Stars, planets, comets
 - C. Planets, comets, stars
 - D. Comets, planets, stars
-

19. Which of the following diagrams represents the phase of the Moon seen from Earth when the Moon is directly between Earth and the Sun?

A.



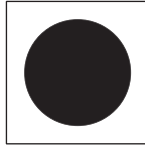
B.



C.



D.

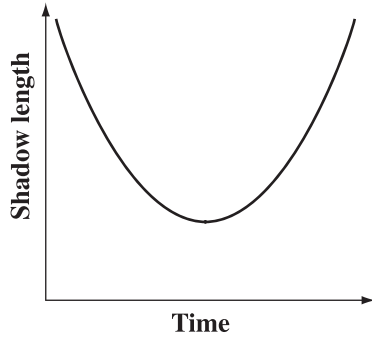


Use the following information to answer question 20.

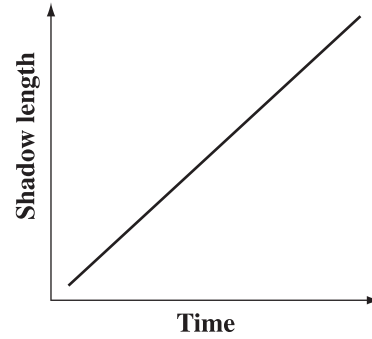
Students are asked to measure the length of the shadow on a sundial once each hour from sunrise to sunset.

20. Which of the following graphs **most likely** represents data gathered during summer?

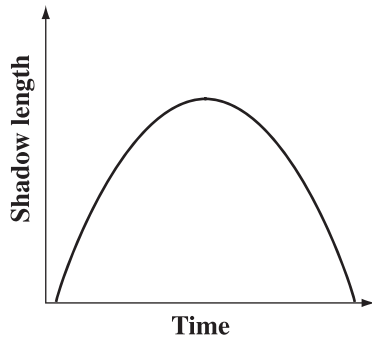
A.



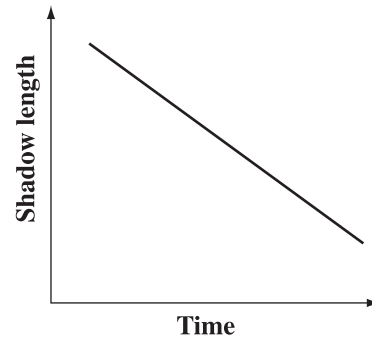
B.



C.



D.



Science 6 – Practice Test 2020

Sky Science Key

| Question # in Document | Key |
|---------------------------|-----|
| 1 | B |
| 2 | C |
| 3 | C |
| 4 | B |
| 5 | D |
| 6 | B |
| 7 | C |
| 8 | D |
| 9 | A |
| 10 | C |
| 11 | D |
| 12 | C |
| 13 | D |
| 14 | A |
| 15 | A |
| 16 | D |
| 17 | B |
| 18 | B |
| 19 | D |
| 20 | A |