

Many Moons Ago

Read each source below and on page 23. Then complete the activities on pages 24–25.

Source 1

A moon is a large, natural object in space. It orbits (goes around) a larger object in space. Earth has one moon. Our moon orbits Earth. It takes about one month for our moon to do this.

Some other planets have many moons. Some planets do not have any moons.

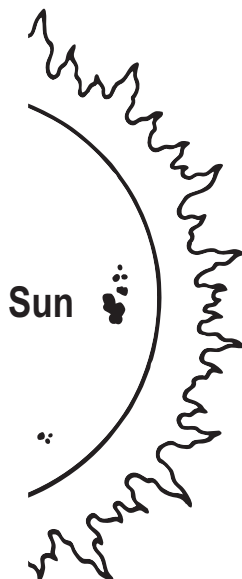
Source 2

The Sun is the center of our solar system. It gives light and heat. It is the largest object in our solar system.

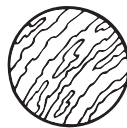
Our solar system contains eight planets. These eight planets orbit the Sun. They can be divided into two groups: Inner Planets and Outer Planets.

The four planets closest to the Sun are the Inner Planets. These four planets are Mercury, Venus, Earth, and Mars. Mercury and Venus are the closest planets to the Sun. These two planets are very hot. Our planet is the third planet from the Sun. Mars is the fourth planet. There is a lot of space between Mars and the fifth planet. The fifth planet is Jupiter.

Jupiter, Saturn, Uranus, and Neptune are the four Outer Planets. They are very far away and very cold.



Mercury



Venus



Earth



Mars

Many Moons Ago *(cont.)*

Source 3

“many moons ago”

This saying means “a long time ago.”

Example: The old man said, “Many moons ago, I was the fastest runner at my school.”

Source 4

The charts below show how many moons orbit each planet in our solar system. Some moons have been discovered within the last 10 years. In fact, one of Neptune’s moons was discovered in 2013. How do these new moons suddenly appear?

They don’t suddenly appear. They have been there all along. We just need newer and better equipment to see them. With new telescopes and spacecraft, we are able to discover moons that are farther and farther away. This means that there may be other moons that we have not yet discovered.

The chart below shows the moons we knew about at two different times: 2004 and 2014.

Planets (in order from the Sun)

| | 1. Mercury | 2. Venus | 3. Earth | 4. Mars | 5. Jupiter | 6. Saturn | 7. Uranus | 8. Neptune |
|--|------------|----------|----------|---------|------------|-----------|-----------|------------|
| Number of Moons as of January 1, 2004 | 0 | 0 | 1 | 2 | 62 | 32 | 27 | 13 |
| Number of Moons as of January 1, 2014 | 0 | 0 | 1 | 2 | 67 | 62 | 27 | 14 |

Many Moons Ago *(cont.)*

Name: _____

Part 1: Read each idea. Which source gives you this information? Fill in the correct bubble for each source. (Note: More than one bubble may be filled in for each idea.)

| Information | Sources → | 1 | 2 | 3 | 4 |
|--|-----------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Earth is the third planet from the Sun. | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Earth is one of the Inner Planets. | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Some planets do not have any moons. | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Part 2: Fill in the bubble next to the best answer to each question.

4. Which of these things happened “many moons ago”?
- (A) The first telescope was invented.
 - (B) Neptune’s 14th moon was discovered.
 - (C) Our moon last orbited Earth.
 - (D) You woke up this morning.
5. The drawing in Source 2 shows the Sun and
- (A) all of the planets in our solar system.
 - (B) just the Inner Planets in our solar system.
 - (C) just the Outer Planets in our solar system.
 - (D) all of the moons in our solar system.
6. Most likely, what is the main reason why the Outer Planets are colder than the Inner Planets?
- (A) because the word “outer” means “colder”
 - (B) because they have many more moons
 - (C) because they are farther from the Sun
 - (D) because they are far from Earth

Part 3: Search Source 1 of “Many Moons Ago” to find a word that means the following:

7. the opposite of “artificial” _____

Many Moons Ago *(cont.)*

Name: _____

Part 4: Use the sources to answer the following questions.

11. Complete the paragraph. On each blank line, write either the word **moons** or the word **planets**.

There are eight _____ in our solar system.

Combined, there are over 170 _____ in our solar system. Many _____ have two or more _____.

Mercury and Venus do not have any _____.

Many _____ ago, we knew less about our solar system. With new telescopes and spacecraft, we learn more and more all of the time.

12. In the year 2006, astronomers used a special new telescope. With this telescope, they discovered nine small moons orbiting one of the planets. Use Source 4 to figure out which planet this must have been. Name the planet. Explain your answer.

13. Source 4 contains moon charts from the years 2004 and 2014. Imagine seeing a moon chart from the year 2024. Why could it be different than the one from 2014?

Answer Key *(cont.)*

Unit 4. Award-Winning Cookies (page 18)

Part 1

1. Sources 1 and 2
2. Sources 2 and 3
3. Source 2

Part 2

4. B
5. A
6. D

Part 3

7. prize

Part 4

8. The recipe calls for 24 tablespoons of sugar. In Source 1, the recipe tells us that $1\frac{1}{2}$ cups of sugar are needed. In Source 4, we learn that 8 tablespoons equal $\frac{1}{2}$ cup and 16 tablespoons equal one cup. $16 \div 8 = 2$. That means that 24 tablespoons equal $1\frac{1}{2}$ cups.
9. Accept appropriate responses. The person in the picture should look unhappy or disgusted. The sentence should describe the person as not liking the taste and/or texture of the cookie.
10. Lily's cookies did not taste or look right because she used too much baking soda. The recipe in Source 1 calls for two teaspoons of baking soda. In Source 2, we learn that she used two tablespoons of baking soda. Based on the information in Source 4, two tablespoons would equal six teaspoons. That is three times as much baking soda as was needed.

Unit 5. Many Moons Ago (page 22)

Part 1

1. Sources 2 and 4
2. Source 2
3. Sources 1 and 4

Part 2

4. A
5. B
6. C

Part 3

7. natural

Part 4

8. There are eight **planets** in our solar system. Combined, there are over 170 **moons** in our solar system. Many **planets** have two or more **moons**. Mercury and Venus do not have any **moons**. Many **moons** ago, we knew less about our solar system. With new telescopes and spacecraft, we learn more and more all of the time.
9. The planet must have been Saturn. From 2004 to 2014, Saturn is the only planet around which we discovered that many moons.
10. A chart from 2024 might show that there are even more moons in our solar system. We may develop new telescopes or spacecraft that allow us to discover moons that are there but haven't been found yet.

Unit 6. Supply the Answer (page 26)

Part 1

1. Sources 1, 2, and 3
2. Sources 2 and 3
3. Sources 1 and 2

Part 2

4. B
5. C
6. B

Part 3

7. metal

Part 4

8. 1. Turn left onto Apple Ln. 2. Turn right onto Orange Ave. 3. Turn right onto Peach St. 4. Turn right onto Lime St. 5. Turn left onto Cherry Way. 6. Turn left onto Lemon St. Office World is on the right.
9. She will pay him \$75. She will give him \$70 to pay him back for what he spent at Office World. She will give him \$5 for gas money. Together, these amounts equal \$75.
10. Accept appropriate responses. In short messages, students should nicely point out to Trevor that he forgot to buy a box of pencils.