

6<sup>th</sup>  
Grade  
NTI  
Day 10

Day 10  
MTI  
Chicago  
to



### Answers

**Rewrite the number as a multiplication problem.**

1)  $9^2$

2)  $7^3$

3)  $3^3$

4)  $2^2$

5)  $3^5$

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

**Rewrite the multiplication problem in exponential notation.**

6)  $4 \times 4 \times 4$

7)  $4 \times 4 \times 4 \times 4 \times 4$

8)  $4 \times 4 \times 4 \times 4$

9)  $5 \times 5 \times 5 \times 5$

10)  $5 \times 5 \times 5$

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

**Solve the problem.**

11)  $7^2$

12)  $6^3$

13)  $2^2$

14)  $4^2$

15)  $4^3$

16) What is 7 cubed?

17) What is 8 to the power of two?

18) What is 5 cubed?

19) What is 6 cubed?

20) What is 4 to the power of three?

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_



## Lesson #10

### Why Go to College?

Should you be thinking about college? Well, you've probably heard that it's never too early to plan for your future! The sooner you start thinking about higher education and careers, the more options you're likely to have. By starting now, you'll have plenty of time to narrow your focus and work to improve in areas that will support your goals.



Some say college isn't for everyone. But there are compelling reasons to at least consider higher education. The Bureau of Labor Statistics reports that over a lifetime, a college graduate will earn more than someone equipped with only a high school diploma—as much as a million dollars more! According to economists, employers are more willing to offer big bucks to an applicant who has a college degree. That's because a person with an advanced degree is more likely to have the knowledge and expertise a company is looking for. Moreover, a college degree opens doors to opportunities that would be otherwise out of reach. Careers in nursing, web design, finance, pharmaceuticals, engineering, and software development all require some form of higher education.

Many US presidents, from Lincoln to Obama, have thrown their support behind higher education. Thomas Jefferson and Millard Fillmore were instrumental in setting up universities. Lyndon B. Johnson was a former teacher himself. He focused on increasing aid to students from low-income families. President Obama worked to decrease student loan debt and expand funding to make a college education more affordable.

While college can definitely prepare a student for the future, it can also help right away. Attending college presents opportunities to grow and develop as a person. At a college or university, students can explore their interests, play sports, and attend campus events. They can join clubs and take part in student government. Higher education provides opportunities to meet people, visit foreign countries, and participate in internships.

College is an excellent place to become resourceful and build a sense of independence. It helps a young person transition into adulthood. Being successful in college requires problem-solving and time-management skills. Living in a dorm means learning to get along well with others. Being away from home means learning to manage a budget and find places on your own. These are all life-long survival skills. Is college right for you? Now is not too soon to start thinking about it!

- RI.6.6 1. Explain the author's purpose in this passage.
- 
- 
- RI.6.8 2. According to economists, employers are more willing to offer big bucks to an applicant who has a college degree. What reason is given to support this statement? Underline your answer in the text.
- RI.6.5 3. The second paragraph begins with "Some say college isn't for everyone." Which statement best explains why the author brings this up?
- A) The author is pointing out an opposing view in order to argue against it.
  - B) The author knows that most students will agree with the statement.
  - C) The author is not really sure whether college is for everyone or not.
  - D) The author is about to list reasons why college is not for everyone.
- RI.6.4 4. Presidents Fillmore and Jefferson were "instrumental in setting up universities." What does that mean?
- A) Both presidents played musical instruments when they were in college.
  - B) Both presidents were very involved in starting a university.
  - C) Both were teachers and members of a college board.
  - D) all of these
- L.6.5.A 5. Underline the idiom in this sentence.
- Moreover, a college degree opens doors to opportunities that would be otherwise out of reach.
- Which of these best restates the idiom?
- A) Everyone who wants to earn money should go to college.
  - B) Only students enrolled in college can participate in student government.
  - C) A college degree makes it possible to have and do certain things.
  - D) Being successful in college requires problem-solving skills.
- RI.6.5 6. How does paragraph four support the author's purpose?
- A) It tells why attending college, not getting a degree, is most important.
  - B) It gives specific examples of how college can benefit students right away.
  - C) It shows the opposing opinions and facts.
  - D) both A and C

Name:

Science

## Lesson 45 6<sup>th</sup> - NTI Day 10

### Inner and Outer Solar System

In the vastness of space, our **solar system** is a small but fascinating corner, home to the sun, eight official planets, at least three dwarf planets, over 130 planet satellites, comets, asteroids, cosmic dust, cosmic rays, and heated plasma.

The planets in our solar system are divided into two main groups: the inner and outer solar system. The inner part houses Mercury, Venus, Earth, and Mars. Being the closest to the sun, these are known as **terrestrial planets** due to their solid, rocky surfaces.

**Mercury**, the smallest planet, lies closest to the sun, leading to faster orbits than any other planet in our solar system. Its sparse atmosphere, composed of hydrogen and helium traces, allows temperatures to soar to 800 degrees Fahrenheit (400 degrees Celsius), which is more than four times hotter than boiling water!

Following Mercury, **Venus** is the second planet from the sun. Its similarity in size to Earth does not extend to its surface, which is mainly flat with occasional craters and active volcanoes. Its dense atmosphere is largely made of carbon dioxide, which applies immense pressure on the surface. Venus's bright clouds, composed of sulfuric acids, reflect sunlight, making it hotter than Mercury despite its greater distance from the sun. It's also the third brightest object in our sky after the sun and moon.

Third in line is our home, **Earth**, followed by **Mars**, the fourth planet from the sun. Often referred to as the Red Planet, Mars gets its name from the reddish-orange dust covering its surface. It boasts rocky canyons and craters, yet it is only half the size of Earth.

Planet Statistics Table

Planet	Distance From Sun (in Millions of km)	Distance Across (in km)	Length of Year (in Earth Days)
Earth	150	12,750	365
Jupiter	778	143,000	4,380
Mars	228	6,800	730
Mercury	58	4,900	88
Neptune	4,505	49,000	60,225
Saturn	1,427	120,000	10,585
Uranus	2,869	51,000	30,660
Venus	108	12,000	225

Further out lie the **Jovian Planets** or gas giants: Jupiter, Saturn, Uranus, and Neptune. These planets derive their names from their shared characteristics with Jupiter. Mostly composed of gas, it's speculated that they may possess small solid cores.

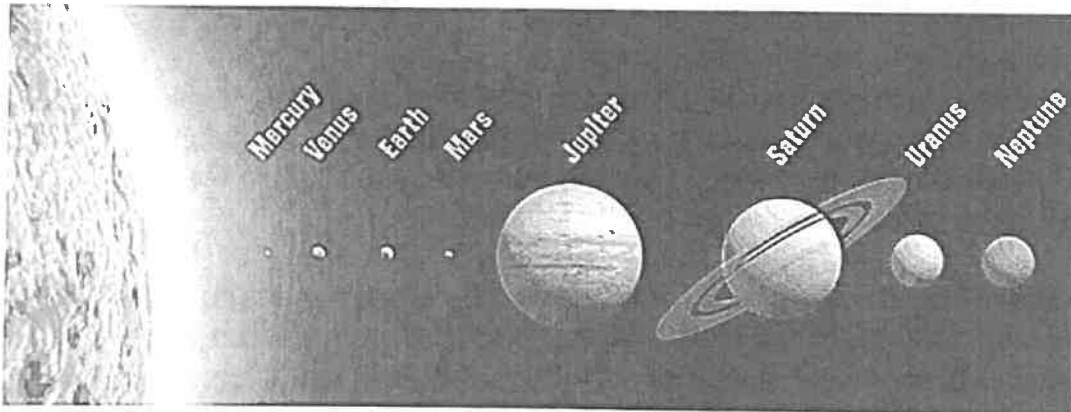
**Jupiter**, the most substantial planet, is approximately 1,500 times Earth's size and twice as heavy as all other planets combined. Predominantly composed of hydrogen and helium gas, Jupiter's immense mass causes the gasses to act as a liquid near its center, where it boasts a solid, rocky core. The Great Red Spot on its surface is a massive storm.

Next in line is **Saturn**, the solar system's second-largest planet. It's primarily made up of liquid and solid hydrogen and helium, making it lighter compared to other planets. Often referred to as the Ringed Planet, Saturn is known for its rings comprising dust, ice, and rocks. Modern space probes have revealed that many other planets also possess rings.

Four times wider and 14 times larger than Earth, **Uranus** spins uniquely on its side around the sun, causing each of its days and nights to last an astonishing 42 years. Uranus also possesses rings, composed of dark dust.

Finally, we have **Neptune**, the smallest and the most distant planet from the sun. Its pale blue appearance is due to the gasses methane, helium, and ammonia that it's composed of. Neptune may also contain an outer layer of liquid hydrogen, adding to its mystery. Our solar system, though small in the cosmic scale, is teeming with wonders that continue to captivate our curiosity.

#### Our Solar System





Name: \_\_\_\_\_

## Lesson 45

6<sup>th</sup> - Day 10

### Inner and Outer Solar System

1. What makes up our solar system?
  - A. Only the Sun and eight planets
  - B. Only the Sun, eight planets, and three dwarf planets
  - C. The Sun, eight planets, three dwarf planets, over 130 satellites, comets, asteroids, cosmic dust, cosmic rays, and heated plasma
  - D. The Sun, three dwarf planets, and cosmic dust
  
2. Why are Mercury, Venus, Earth, and Mars called terrestrial planets?
  - A. They have solid, gaseous surfaces
  - B. They are the closest planets to the sun
  - C. They are the farthest planets from the sun
  - D. They have solid, rocky surfaces
  
3. Which planet is the smallest and closest to the sun?
  - A. Venus
  - B. Mars
  - C. Earth
  - D. Mercury
  
4. Why is Venus hotter than Mercury despite being farther from the sun?
  - A. Its dense clouds reflect the sun's rays
  - B. It is actually closer to the sun
  - C. Its atmosphere is made up of helium
  - D. It has a solid core
  
5. Why is Mars sometimes referred to as the Red Planet?
  - A. Its surface is covered with reddish-orange dust
  - B. It has a red-colored moon
  - C. Its atmosphere is made up of red gas
  - D. Its core is made up of red rocks

Name: \_\_\_\_\_

## Lesson 45

### Inner and Outer Solar System

6. What are Jupiter, Saturn, Uranus, and Neptune known as?

- A. Terrestrial Planets
- B. Jovian Planets
- C. Inner Planets
- D. Outer Planets

7. Why is Jupiter considered a gas giant?

- A. It is mostly made of gas
- B. It is the largest planet in the solar system
- C. It is closer to the sun
- D. It has a liquid surface

8. Why is Saturn referred to as the Ringed Planet?

- A. It has rings around it made up of dust, ice, and rocks
- B. It has a ring-shaped core
- C. It orbits the sun in a ring pattern
- D. Its surface is shaped like a ring

9. What is unique about Uranus's rotation?

- A. It spins faster than any other planet
- B. It spins on its side
- C. It doesn't spin at all
- D. It spins in the opposite direction

10. Why does Neptune appear blue?

- A. It is made up of methane, helium, and ammonia gasses
- B. It reflects the blue light from the sun
- C. It is covered in blue dust
- D. It has a blue core