8th Grade, Lewis County Middle School NTI Day 13

Contents:

- **Language Arts**
- **Math**
- **Science**
- **Social Studies**

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Argumentative Writing 3 - Day 13 - 100 points

Read the passage that goes along with this prompt and highlight the evidence FOR joining the water project in yellow and the evidence AGAINST in green.

Should the school participate in the water project?

A major company has created a water-based drink that contains vitamins and minerals. As part of the promotion of this drink, the company is recruiting schools to be part of a research study on the effects drinking water may have on weight loss and student health as measured through school attendance. For one year, the company pledges to provide schools with four bottles of the new drink per school day for every student. The water should be available to all students during the school day. Schools are asked to keep track of bottles of the new product consumed by every student for the entire year. Students will be weighed at the beginning and end of the year and the data turned over to the company. Opponents of your school's participating in this project argue that little is known about this new product and that the vitamins or minerals could be harmful to some students. Opponents have also suggested that providing students with free water to drink could discourage students from drinking milk or fruit juice, which are healthy choices. Some critics have also questioned whether providing free drinks would cut down on school vending machine sales. Some teachers have complained about having to keep track of students' water consumption. Teachers and principals are also concerned about the possible distraction that letting students have water in the classroom could have on learning. Supporters of the project point out the positive effects that drinking water can have on the body. Water makes people healthier by helping all parts of the body to work more efficiently. Drinking water can also improve people's immune systems. Fewer students who get sick means more students in school.

Use SPAT to analyze the prompt.

Highlight the situation in yellow.

Underline the purpose.

Make the **audience bold**.

Put the *task in italics*.

Writing Situation

Your school council will have to make the final decision about whether your school will participate in this water project, but currently they are seeking input from teachers and students. They have asked students to submit their opinions in writing.

Writing directions

Decide whether you think your school should participate in this water project. Write a letter to your school's council, presenting an argument to support your stance and develop your claims. Provide reasons and details to support your argument.

Pick a side: Imagine you are AGAINST implementing the water project at your school.

Write the first body paragraph of your response to the water project prompt.

Use this checklist to make sure you complete a proficient or distinguished paragraph.

___ Six sentences or more

___ Transition word/phrase

___ Topic sentence including a clear reason

___ At least 3 SMARTIES

___ A concluding/summary sentence

You may use one of the sentence starters listed below for the topic sentence of your paragraph.

The project would provide a significant distraction to students.
Keeping track of water consumption would place a burden on teachers.
Giving students water would discourage other healthy beverage choices.

Start writing here

Numbers 1 thru 3 are done for you as examples. Written parts not necessary when student answers question

Adding and Subtracting with Scientific Notation

➤ **Find each sum or difference. Write your answer in scientific notation.**

1 $(6 \times 10^1) + (9 \times 10^1)$

$(6 \times 10^1) + (9 \times 10^1)$ add mantissa, exponents must be the same

15×10^1

change mantissa, it is to large mantissa became smaller, exponent becomes larger

1.5×10^2

2 $32 - (2.1 \times 10^1)$

$32 - (2.1 \times 10^1)$ change 32 to scientific notation

$(3.2 \times 10^1) - (2.1 \times 10^1)$ subtract mantissa, exponent must be same

1.1×10^1

mantissa is between 1 and 10, no need to change

3 $(7 \times 10^0) + (3 \times 10^1)$

$(7 \times 10^0) + (3 \times 10^1)$ exponents different so must be made the same

$7.0 \times 10^0 = 0.7 \times 10^1$

$(0.7 \times 10^1) + (3 \times 10^1)$

3.7×10^1

add mantissa, exponent must be the same

4 $100 - (1.4 \times 10^1)$

5 $(8.8 \times 10^2) + (3 \times 10^2)$

6 $(3.05 \times 10^2) + 64$

Adding and Subtracting with Scientific Notation *continued*

7 $(4 \times 10^2) + 120.5$

8 $(2.75 \times 10^3) - 100$

9 $(9.5 \times 10^2) - (4.3 \times 10^1)$

10 $18 - (2 \times 10^{-1})$

11 $0.071 + (6 \times 10^{-2})$

12 $2{,}000 + (8 \times 10^3)$

Day 13

NTI 13

Jones 8th Grade

7.1 What Are Cells?

Look closely at the skin on your arm. Can you see that it is made of cells? Of course not! Your skin cells are much too small to see with your eyes. Now look at one square centimeter of your arm. That square centimeter contains about 100,000 skin cells. Cells are so small that they weren't even discovered until the invention of the microscope. What are cells and how were they discovered?

You are made of cells

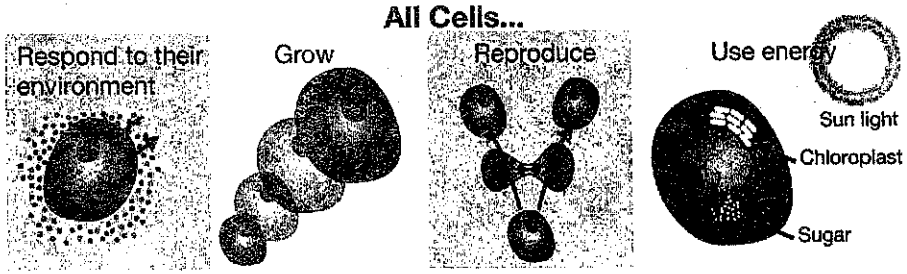
A cell is the smallest unit of a living thing

A cell is the basic unit of structure and function in a living thing. Your body is composed of trillions of cells. You have skin cells, muscle cells, nerve cells, blood cells, and many other types as well. Each type of cell has a unique structure and function, but they all share similarities. Figure 7.1 shows pictures of different types of cells found in your body.

A cell is the basic unit of structure and function in a living thing.

Each cell carries out the living functions

Each cell in your body shares the characteristics of all living things. Each cell can respond, grow, reproduce, and use energy. Like larger organisms, cells respond to changes in their surroundings in ways that keep them alive. In Chapter 2 we learned that this process is called *homeostasis*.



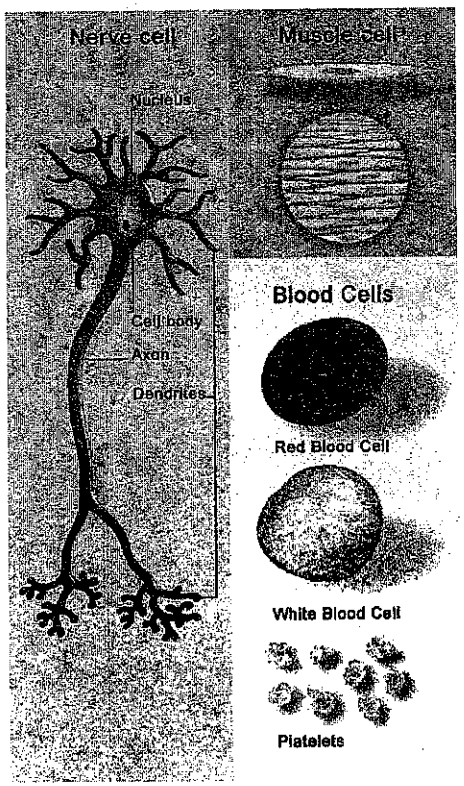


Figure 7.1: *Different types of cells found in your body. Platelets are found in your blood but are particles, not cells.*

The cell theory

VOCABULARY

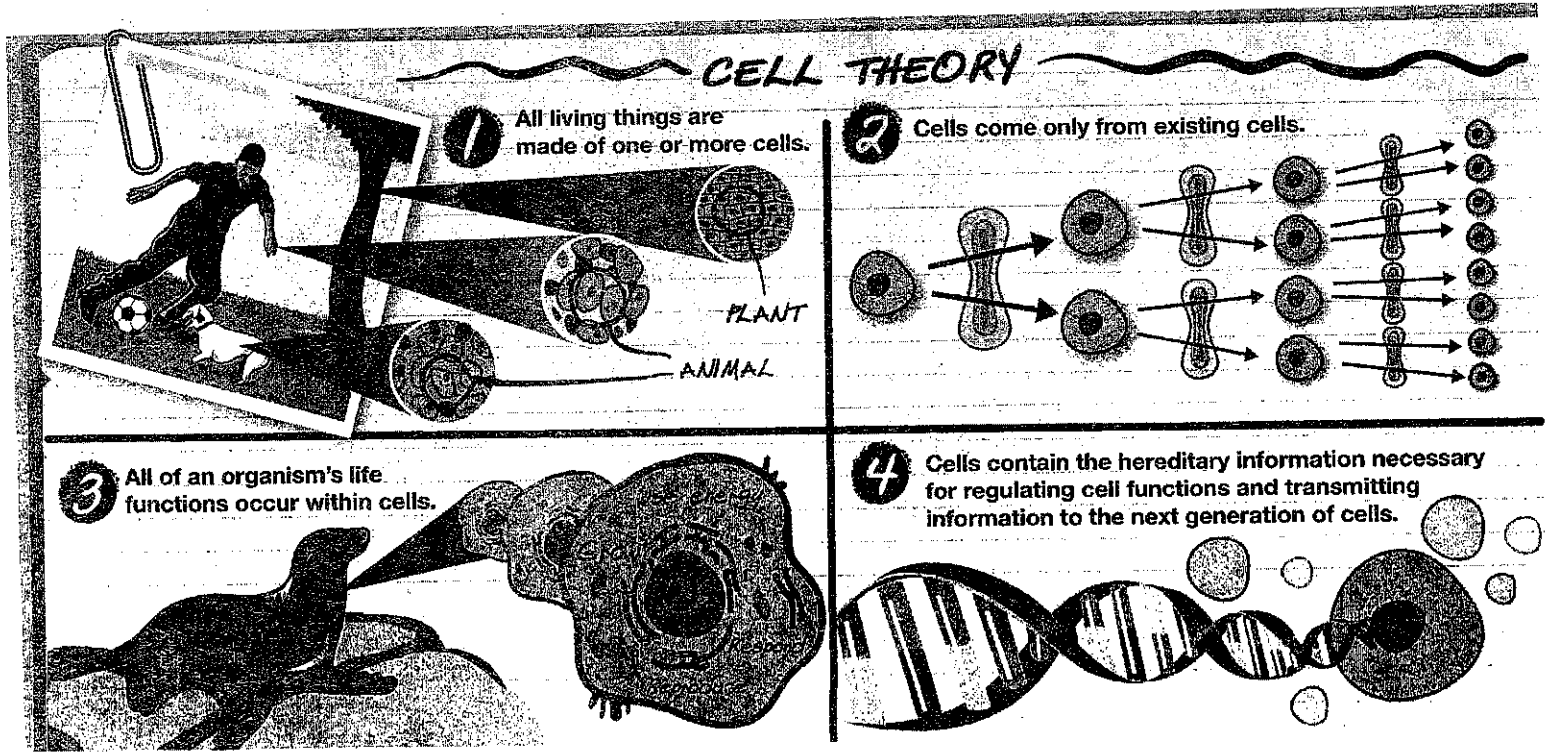
cell theory - a theory that explains the relationship between cells and living things.

Cells only come from other cells

Schleiden and Schwann's theory was widely accepted by other scientists. But where did cells come from? In the 1800s it was believed that living things came from nonliving objects. Did cells come from some tiny, nonliving objects? In 1855, a German physician named Rudolf Virchow (1821–1902) proposed that cells can only come from other cells.

Statements of the cell theory

The work of Hooke, Leeuwenhoek, Schleiden, Schwann, Virchow, and others led to an important theory in life science. The **cell theory** explains the relationship between cells and living things.



Similarities among cells

There are many different types of cells

Some organisms are made of only a single cell. You are made of billions of cells. In multicellular organisms like you, there are many different types of *specialized* cells. For example, the cells that line the retina of your eye have a structure and function that is very different from your skin cells. About 200 different types of specialized cells make up the tissues and organs of your body.

There are different types of cells but all cells share similar characteristics.

All cells share some similarities

Even though there are many different types of cells, they all share similar characteristics (Figure 7.4). These include:

1. **All cells are surrounded by a cell membrane.** The **cell membrane** is a barrier between the inside of the cell and its environment. It also controls the movement of materials into and out of the cell.
2. **All cells contain organelles.** An **organelle** is a structure inside of a cell that helps the cell perform its functions. Although all cells contain organelles, they don't all contain the same kinds. You'll learn more about the organelles in the next section.
3. **All cells contain cytoplasm.** The **cytoplasm** is a fluid mixture that contains the organelles. It also contains the compounds cells need to survive such as water, salts, enzymes, and other carbon compounds.
4. **All cells contain DNA.** The cell theory states that all cells come from other cells. When cells reproduce, they make copies of their DNA and pass it on to the new cells. DNA contains the instructions for making new cells and controls all cell functions.

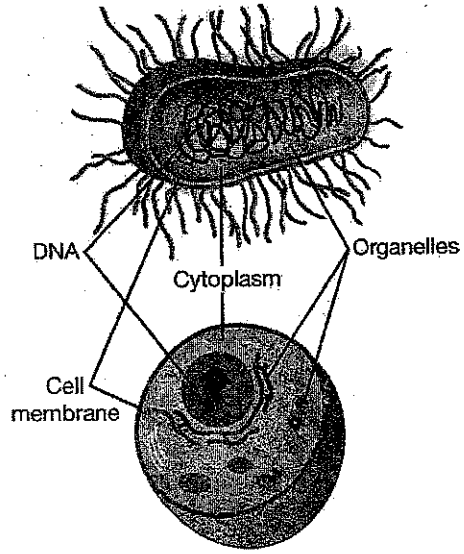


Figure 7.4: *All cells have a cell membrane, organelles, cytoplasm, and DNA.*

VOCABULARY

cell membrane - a separating barrier that controls movement of materials into and out of the cell.

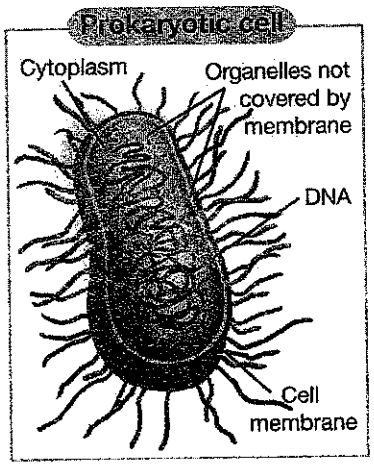
organelle - a structure inside of a cell that helps it perform its functions.

cytoplasm - a fluid mixture that contains the organelles and the compounds the cell needs.

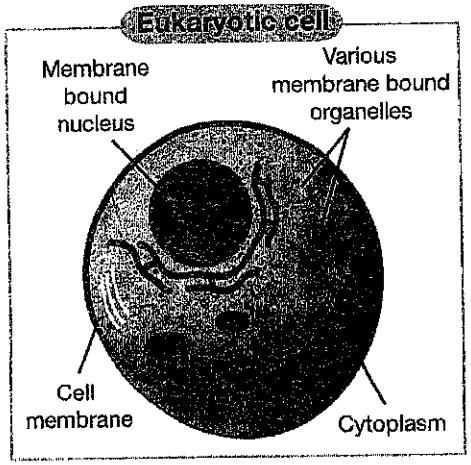
Classifying cells

Two types of cells Based on the organization of their structures, all living cells can be classified into two groups: prokaryotic and eukaryotic (Figure 7.5). Animals, plants, fungi, and protozoans all have eukaryotic cells. Only bacteria have prokaryotic cells.

Prokaryotic cells **Prokaryotic cells** do not have a nucleus. The word *prokaryotic* means "before nucleus" in Greek. Scientists believe that all life on Earth came from these cells. The oldest fossils of bacteria are estimated to be 3.5 billion years old. The DNA in a prokaryotic cell is bunched up in the center of the cell. The organelles are not covered with a membrane. All prokaryotic cells are much smaller than eukaryotic cells.



Eukaryotic cells **Eukaryotic cells** have a nucleus and membrane-covered organelles (with the exception of the red blood cells of mammals). The word *eukaryotic* means "true nucleus" in Greek. The oldest fossils of eukaryotic cells are about 2 billion years old. There is more DNA in these types of cells and it is found in the nucleus. These cells have membrane-covered organelles. They tend to be about ten times larger than prokaryotic cells.



VOCABULARY

prokaryotic cell - a cell that does not have a nucleus or membrane-covered organelles.

eukaryotic cell - a cell that has a nucleus and membrane-covered organelles.

Prokaryotic cells	Eukaryotic cells
Bacteria	All other cells
No nucleus	Nucleus
Organelles not membrane-covered	Membrane-covered organelles
DNA is bunched up in the center of the cell	DNA is found in the nucleus

Figure 7.5: *Comparing prokaryotic and eukaryotic cells.*

Jones 8th grade Science

NTI Day 13-Cell structure and function-What are cells?

Materials

- CPO life science Ebook that is uploaded into google classroom
- 5 question quiz

Task

- Students read pages 135-140 in chapter 7.
- Students complete a 5 question quiz.

Quiz-Section 7.1

1. Bacteria are _____ cells

a) nucleus
b) Cell wall
c) Cell membrane
d) Prokaryotic
e) Organelle

2. The____ controls what enters and exits the cell.

a) nucleus
b) Cell wall
c) Cell membrane
d) Prokaryotic
e) Organelle

3. Eukaryotic cells all have a _____ that contains DNA.

a) nucleus
b) Cell wall
c) Cell membrane
d) Prokaryotic
e) Organelle

4. A structure inside a cell that does a certain job is called an _____.

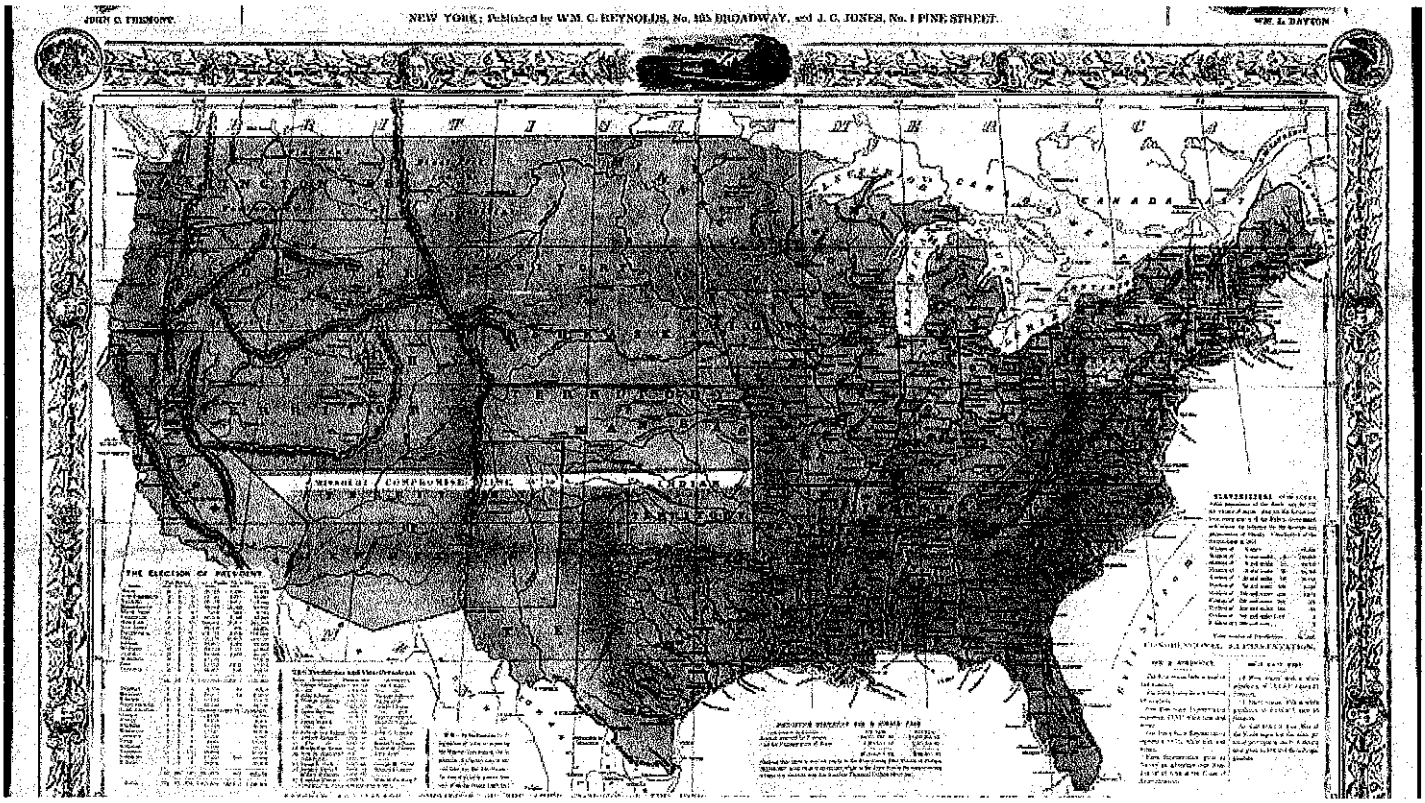
a) nucleus
b) Cell wall
c) Cell membrane
d) Prokaryotic
e) Organelle

5. Which of the following is Not part of the Cell Theory?

a) Cells only come from existing cells.
b) All of an organism's life functions occur within cells.
c) The two major types of cells are prokaryotic and eukaryotic.
d) All living things are made of one or more cells.

The Missouri Compromise and Slavery in the Western U.S.

By USHistory.org, adapted by Newsela staff on 05.12.17
Word Count **654**
Level **1130L**



Printed on map: "Designed to exhibit the comparative area of the free and slave states and the territory open to slavery or freedom by the repeal of the Missouri compromise. With a comparison of the principal statistics of the free and slave states, from the census of 1850." Free states are in red, slave states are in dark blue, and the territories that could be slave or free if the Missouri compromise was ended are in gray-blue.

Most white Americans agreed that western expansion was crucial to the growth of the U.S. as a nation. The question was what should be done about slavery in the West?

Huge numbers of slaves had been forcibly moved to the new Western territories. Slavery became a pressing issue. At the Constitutional Convention in 1787, the Founding Fathers sought to balance the interests of slave and free states. Their compromise sacrificed the rights of African-Americans in favor of a stronger union among the states. The issue exploded once more in 1819 when Missouri petitioned to join the United States as a slave state.

Balance between free and slave states

In 1819, the nation contained 11 free and 11 slave states. Each state got two senators in Congress, so free and slave states had an equal number of senators, which created a balance in the U.S.

Senate. Missouri's entrance into the U.S. as a slave state threatened to give more power to slave states. Congressman James Tallmadge from New York proposed that slavery be prohibited in the new state. The debate in Congress was extraordinarily bitter.

The defenders of slavery relied on a central principle of fairness. How could the Congress deny a new state the right to decide for itself whether or not to allow slavery? If Congress controlled the decision, then any new states would have fewer rights than the original ones. Henry Clay, a leading congressman, played a crucial role in negotiating a two-part solution known as the Missouri Compromise. First, Missouri would be admitted to the union as a slave state, but it would be balanced by the admission of Maine, a free state, which had long wanted to be separated from Massachusetts. Second, slavery was to be excluded from all new states in the Louisiana Purchase north of the southern boundary of Missouri. People on both sides of the controversy saw the compromise as deeply flawed. Nevertheless, it lasted for over 30 years until the Kansas-Nebraska Act of 1854 determined that new states north of the boundary could choose slavery if they wished.

"This momentous question"

In the Missouri Compromise, slave states were trying to use the principles of democracy and self-determination to justify slavery. But slavery went against the American belief in equality. The Missouri crisis exposed an enormously problematic area of American politics that would explode in a civil war. As Thomas Jefferson observed about the Missouri crisis, "This momentous question, like a fire-bell in the night, awakened and filled me with terror," as he believed the compromise would eventually tear the country apart.

African-Americans obviously opposed expanding slavery in the West. News of opposition to it in Congress circulated widely within slave communities. Denmark Vesey was a free black minister living in Charleston, South Carolina. He quoted the Bible as well as congressional debates over the Missouri issue to denounce slavery from the pulpit of his African Methodist Episcopal Church. Along with a key ally named Gullah Jack, Vesey organized a slave rebellion in 1822 that planned to capture the Charleston arsenal and seize the city long enough for its black population to escape to the free black country of Haiti. The rebellion was betrayed just days before it was supposed to begin. It resulted in the execution of 35 organizers, including Vesey, as well as the destruction of the black church where he preached.

Opposition to slavery grows

With anti-slavery sentiment building in the North and opposition among African-Americans in the South, slaveholders were on the defensive. As one white Charlestonian complained, "By the Missouri question, our slaves thought, there was a charter of liberties granted them by Congress." African-Americans knew that Southern whites would not end slavery. However, they recognized the increasing divide between North and South. Their battle over western expansion could open opportunities for blacks to rebel. The most explosive of these actions was Nat Turner's Virginia Slave Revolt in 1831.

Quiz

1 Which answer choice BEST explains the author's purpose in this article?

(A) to argue the Missouri Compromise was a direct and leading cause of the Civil War

(B) to show the Missouri Compromise became a problem that was solved by later federal acts

(C) to describe the Missouri Compromise and its place in the growing debate over slavery in the U.S.

(D) to explain the Missouri Compromise and the opinions Founding Fathers had about it

2 Which answer choice BEST describes the opposing viewpoints that led to the Missouri Compromise?

(A) Northern states opposed admitting any new slave states into the union because they did not want to give slave states more power in Congress; slave states argued that it was unfair and undemocratic to deny states the right to choose for themselves whether to allow slavery.

(B) Northern states opposed admitting Missouri as a slave state because Maine had been prohibited from joining the union as a free state; slave states argued that allowing both states to join the union would maintain the balance of power in Congress.

(C) Northern states believed that slavery should be illegal in all new states and also outlawed across the nation; slave states argued that all states should have the right to determine whether they wanted to allow or forbid slavery.

(D) Northern states believed permitting more slave states to join the union would encourage more slaves to rebel in the West and South; slave states argued allowing more slave states would prevent any further rebellions.

3 What is the MOST likely reason for including information about the Kansas-Nebraska Act?

(A) to show the law that formed the idea behind the Missouri Compromise

(B) to show the future problems caused by the Missouri Compromise

(C) to show the Missouri Compromise was only a temporary solution

(D) to show the effects of the Missouri Compromise on future legislation

4 Fill in the blank.

The final paragraph develops a key concept of the article by _____

(A) showing that Southerners were more likely than Northerners to dislike the Missouri Compromise.

(B) demonstrating how the Missouri Compromise affected attitudes toward slavery and rebellion.

(C) contrasting the effects of Nat Turner's slave revolt with the earlier one led by Denmark Vesey.

(D) illustrating that many people viewed western expansion more negatively than positively.