

8th Grade, Lewis County Middle School NTI Day 16

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Day 16 - Language Arts

Analyzing The Development of a Central Idea (RI 8.2)

"Get to the point!" When people you're talking with tell you to "get to the point," they want you to state your **central idea** as clearly and precisely as you can. A central idea is more than just a topic. The central idea is what the author has to say about the topic.

It's not enough to state a central idea and leave it at that. Authors must develop their central idea by giving you **supporting details**. Supporting details answer questions such as "How do you know?" or "Why is this so?"

When you read, think about the main point the author is trying to make. Look for details that support the point. Remember, though, that sometimes a central idea is implied rather than explicit or obvious.

Read the first two paragraphs of the historical account about the city of San Antonio.

San Antonio's Remarkable History

San Antonio is currently the seventh-largest city in the United States, but not many know the remarkable history behind the modern-day metropolis. In 1691, a group of Spanish explorers happened upon a river and a Native American settlement in what is now the state of Texas. They named both "San Antonio" because it was June 13, the feast day of Saint Anthony. Soon, the river became home to a fort, a Catholic mission, and a community, all of which they called San Antonio de los Llanos.

For the next 100 years, San Antonio was mostly under Spanish control. In the early 1800's, the Spanish turned the old mission into a fort called the Alamo. Texans took control of the fort in 1835. Shortly after, General Santa Anna arrived with an army 2,000 strong. Fewer than 200 soldiers and volunteers gathered in the Alamo, but they held off the Mexican, and on December 28, 1845, became a U. S. State.

Explore how to answer these questions: *"What is the central idea? How does the author use details to develop the central idea?"*

The topic of the account is San Antonio. But what is the author saying about San Antonio? To help you figure out the central idea, **highlight in green** important details about San Antonio in the first two paragraphs.

Based on the supporting details, what central idea is the author communicating about San Antonio?

What supporting details does the author use to develop this central idea?

Signal words such as *like, now, soon, and for the next 100 years* help you see how the supporting details are connected. So, how are the details connected, or related, to each other?

Continue reading about San Antonio. Use the Close Reading and the hint to help you answer the question.

San Antonio prospered after the Civil War, and in 1877, the first railway reached the town. By 1900, five railways served San Antonio, then the largest city in Texas with 50,000 people.

Today, San Antonio thrives. It is home to five military bases, more than one million people, and Market Square, the largest Mexican marketplace outside of Mexico. San Antonio is a lively city with a rich and memorable history.

Close Reading: *What is the central idea of the final paragraph? Underline details that support that idea. Remember that a single sentence might contain more than one detail.*

Highlight in yellow or circle (for those with paper)

Which sentence best states the central idea of this account? (Hint: Which choice summarizes all of the ideas in the account?)

- A. After the Civil War, the city of San Antonio prospered.
- B. San Antonio is famous because of The Alamo.
- C. Market Square is a Large Mexican marketplace in San Antonio.
- D. San Antonio is a thriving city with a fascinating history.

Read the historical article, which describes New York at the time John A. Roebling was designing the Brooklyn Bridge. Use the Study Buddy and Close Reading to guide your reading.



Study Buddy: The title tells me that this article will be about old New York. As I read, I'm going to look for details about what life was like in the city in 1869.

From "New Your City, 1869"

By Marcia Amidon Lusted, Cobblestone

As John A. Roebling was designing his bridge, life in New York and Brooklyn was teetering between old and new. No bridges existed between the two cities. Travelers used one of the 13 ferry-boats that crossed the East River night and day. From the river, the spire of Trinity Church in New York was the tallest landmark to ships sailing in New York Harbor.

People mostly traveled by horses and carriages and on sailing ships, but the use of railroads and steamships was growing. Communication was by mail or telegraph. Just a few years earlier, however, a telegraph cable had been laid across the Atlantic Ocean. In less than a decade, Alexander Graham Bell would invent the telephone.

All over the world, new and amazing engineering feats were being accomplished: The Suez Canal in Egypt, the Mont Cenis Tunnel (the longest railroad tunnel) in France, and the Transcontinental Railroad across the United States.

The idea of a bridge across the East River first gained support from civic leaders in Brooklyn. In 1869, Brooklyn and New York were independent cities. Brooklyn was the third largest and fastest growing city in the country, and a major manufacturing center. Brooklyn residents saw the bridge as a way to expand commercially as it offered better access to New York's markets. New Yorkers, meanwhile, saw the bridge as a way to relieve overcrowding in their city. Thanks in part to how the Brooklyn bridge created the first successful link between the two cities, an expanding metropolis emerged. By 1898, the modern city of New York - consisting of its five boroughs of Manhattan, the Bronx, Brooklyn, Queens, and Staten Island - was created.

Close Reading: Which sentence in the first paragraph captures the state of life in New York City in 1869? Underline the part of the sentence that describes the city.

Reread the last paragraph. Then restate in the box below in your own words why people in New York and Brooklyn supported the idea of the bridge.

Use the hints on this page to help you answer the questions.

1. Which sentence best states the central idea of the first paragraph? (*Hint: Which choices contain only supporting details? Which contains an important idea that is developed later in the article?*)
 - a. Life in New York was teetering between old and new.
 - b. People once traveled mostly by horse, carriage, and ship.
 - c. New Engineering feats were being accomplished in the 1800s.
 - d. People crossed the East River by ferry-boat, night and day.

2. Which detail best supports the idea that the Brooklyn Bridge helped create modern-day New York city? (*Hint: Which choice connects to the idea of the growth of New York City?*)
 - a. The bridge had the support of civic leaders in Brooklyn.
 - b. The bridge helped ease overcrowding in New York.
 - c. The Brooklyn Bridge successfully linked what had been two independent cities, Brooklyn and New York.
 - d. John A. Roebling designed the Brooklyn Bridge to make travel easier between New York and Brooklyn.

3. Use the box below to describe how the author connects the final paragraph to the paragraphs that came before it. Explain how all four paragraphs in the article work together to develop the central idea. Use at least two details from the text in your response. (*Hint: What key ideas were developed in each of the first three paragraphs? How does the last paragraph bring those ideas together?*)

To find slope from a table, use $m = \frac{\text{change in } y}{\text{change in } x}$

To find slope from a graph, use $m = \frac{\text{rise}}{\text{run}}$

Remember to watch your scale when using $\frac{\text{rise}}{\text{run}}$

Finding the Slope of a Line

- Use the information provided to find the slope of each line. State what the slope represents.

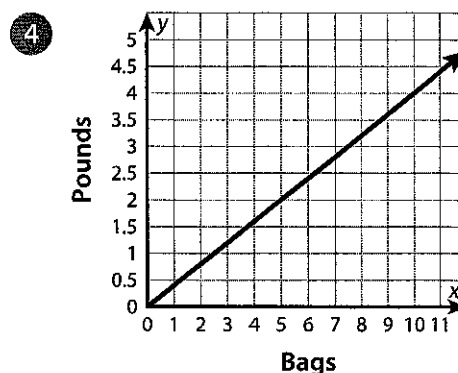
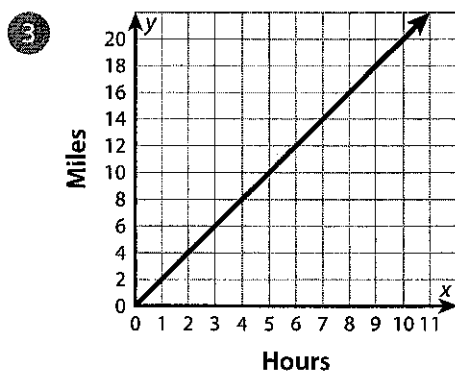
1

Seconds	0	5	10
Feet	0	30	60

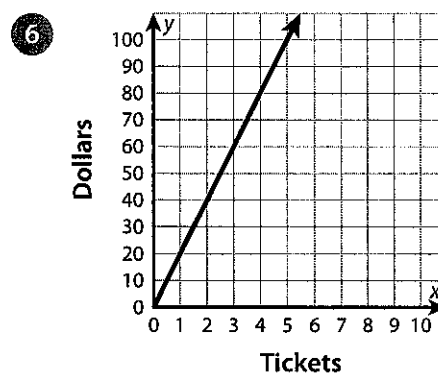
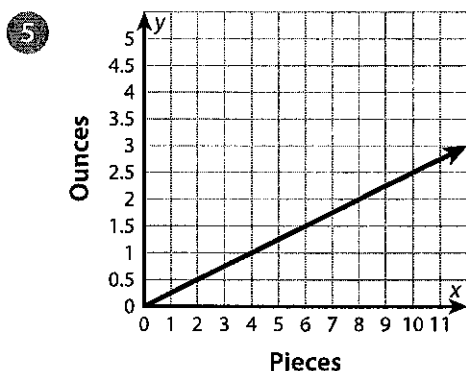
2

Hours	0	2	5
Dollars	0	18	45

$$m = \frac{\text{change in } y}{\text{change in } x} = \frac{30}{5} = 6$$

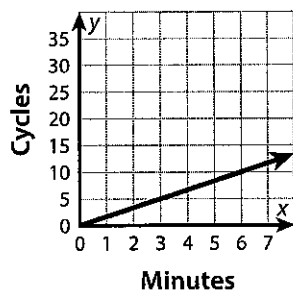


$$m = \frac{\text{rise}}{\text{run}} = \frac{2}{1} = 2$$

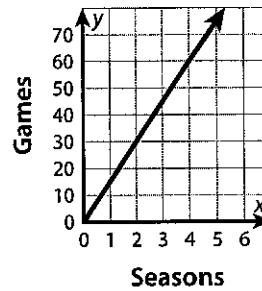


Finding the Slope of a Line *continued*

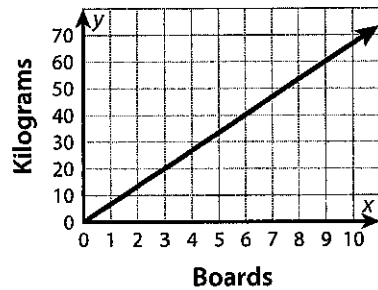
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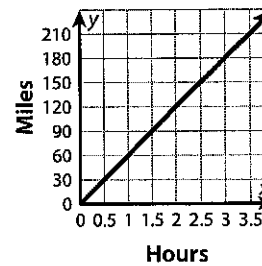
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9



10



11

Compare finding the slope using a table and using a graph.

NTI 16

10.2 Sexual Reproduction and Meiosis

Jones 8th grade

There are thousands of different species of organisms. Each species produces more of its own. A species of bacteria splits to make two identical bacteria. A eucalyptus tree produces more eucalyptus trees. Humans produce more humans. The formation of new organisms of the same species is called **reproduction**. Reproduction is an important life function. In this section, you will learn about the process of reproduction.

Two types of reproduction

Asexual There are two types of reproduction: asexual and sexual.

reproduction **Asexual reproduction** is reproduction that requires only one parent. Most single-celled organisms like bacteria and protozoans reproduce this way. Cell division is a type of asexual reproduction. Your body cells reproduce this way. In asexual reproduction, the DNA and internal structures are copied. Then the parent cell divides, forming two cells that are exact copies of the original.

Sexual reproduction **Sexual reproduction** is a type of reproduction that involves special types of cells called sex cells. **Sex cells** (also known as *gametes*) contain half the number of chromosomes as *body cells* (all of the other cells in a multicellular organism). Human body cells have 46 chromosomes. Human sex cells have 23 chromosomes. The male sex cells are called *sperm*. The female sex cells are called *eggs*.

Homologous chromosomes **In body cells, the chromosomes occur in pairs.** The chromosomes in each pair are called *homologous* (equivalent) pairs. Figure 10.6 shows a complete set of chromosomes found in a human body cell. Each sex cell has only one of the chromosomes from each homologous pair.

VOCABULARY

reproduction - the formation of new organisms of the same species.

asexual reproduction - a type of reproduction that requires only one parent.

sexual reproduction - a type of reproduction that involves special cells called sex cells.

sex cells - special cells that contain half the number of chromosomes as body cells.

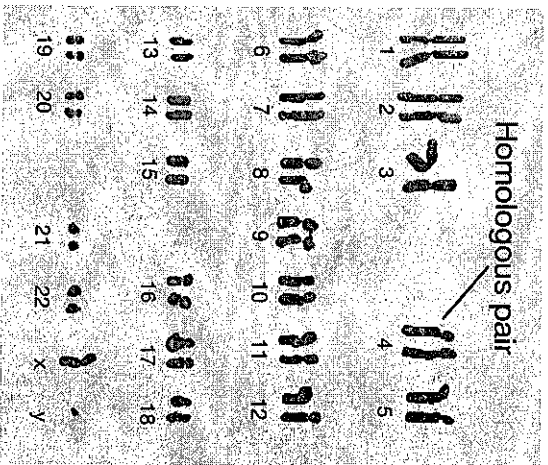


Figure 10.6: A complete set of human chromosomes found in a body cell.



Meiosis

What is meiosis?

A body cell has the same number of chromosomes as its parent cell. How do sex cells end up with only *half* the number of chromosomes? **Meiosis** is cell division that produces sex cells with half the number of chromosomes. During meiosis, a cell undergoes two divisions to produce four sex cells, each with half the number of chromosomes of the parent cell. Figure 10.7 shows slides of meiosis in the part of a plant that produces the male sex cells.

The first division of meiosis

In the first division of meiosis, the homologous pairs of chromosomes separate. Remember, just before a cell divides, the chromosomes double. The doubled chromosome pairs line up along the center of the cell. Spindle fibers attach and pull the pairs apart. Two cells form. Each cell contains one doubled chromosome from each homologous pair.

The second division of meiosis

In the second division of meiosis, the doubled chromosomes are split apart. The doubled chromosomes line up in the center of the cell. Spindle fibers pull the chromosomes apart at the center. The two halves move to opposite ends of the cell.

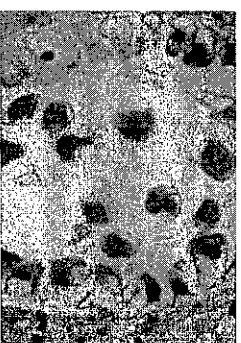
The final result of meiosis

The final result of meiosis is four sex cells, each with half the number of chromosomes of the original parent cell. Each cell has only one chromosome from each original homologous pair. When male and female sex cells combine to form offspring, each sex cell contributes half the normal number of chromosomes. The offspring has the normal number of chromosomes, half from the male parent and half from the female parent.

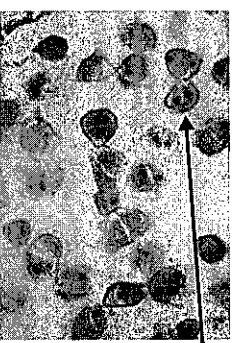
VOCABULARY

meiosis - cell division that produces sex cells with half the number of chromosomes.

Start of meiosis

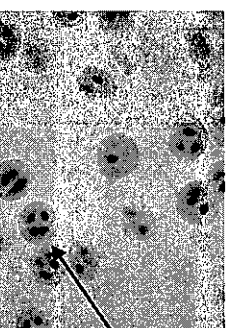


First division



two cells

Second division

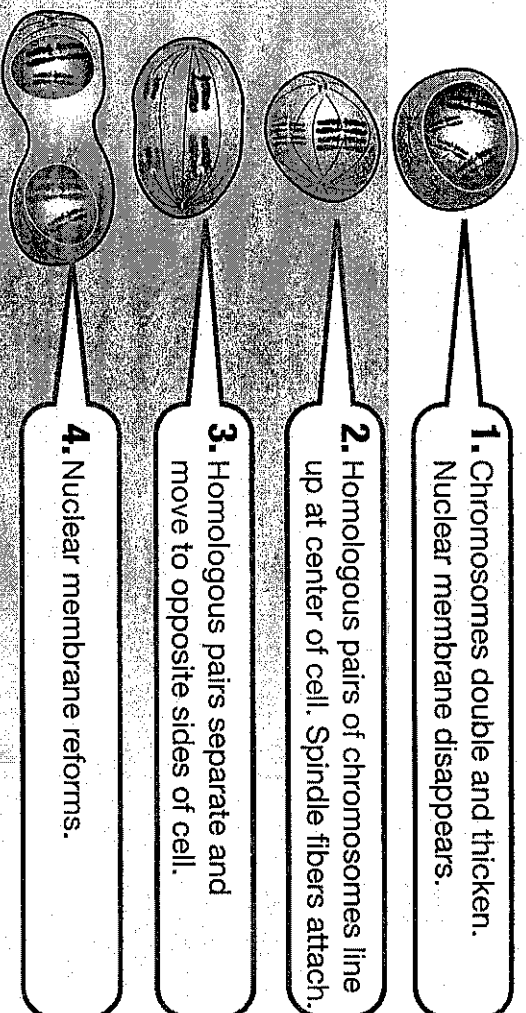


four cells

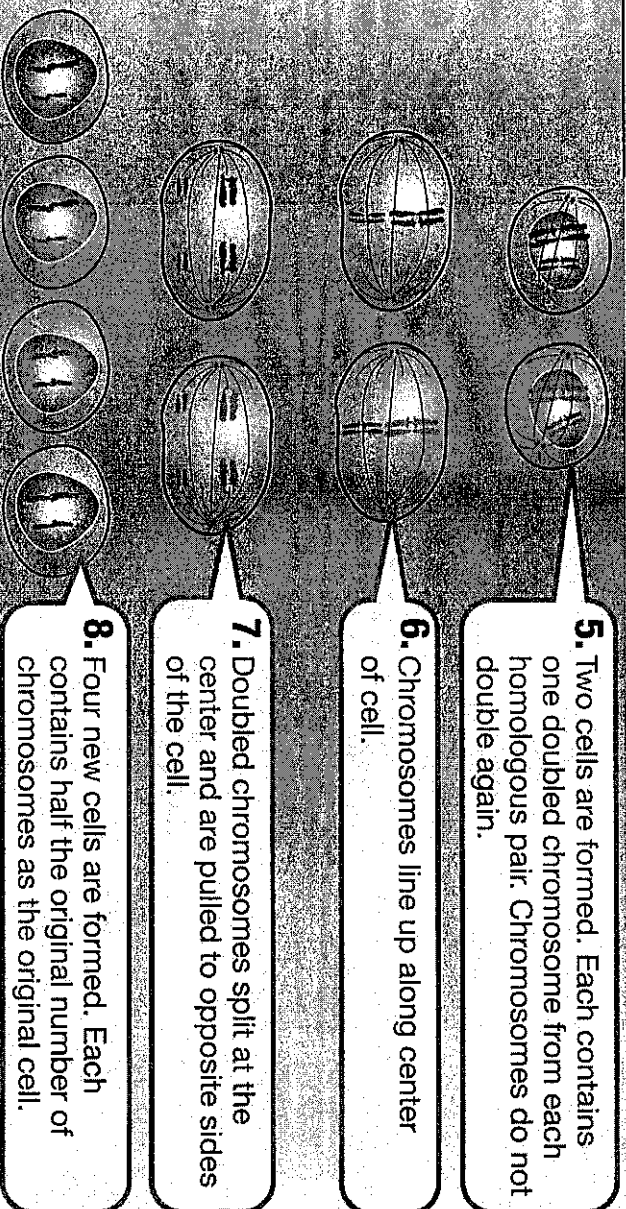
Figure 10.7: Prepared slides showing meiosis in plant tissues.

What happens during meiosis?

1st division of meiosis



2nd division of meiosis



Diploid, haploid, and fertilization

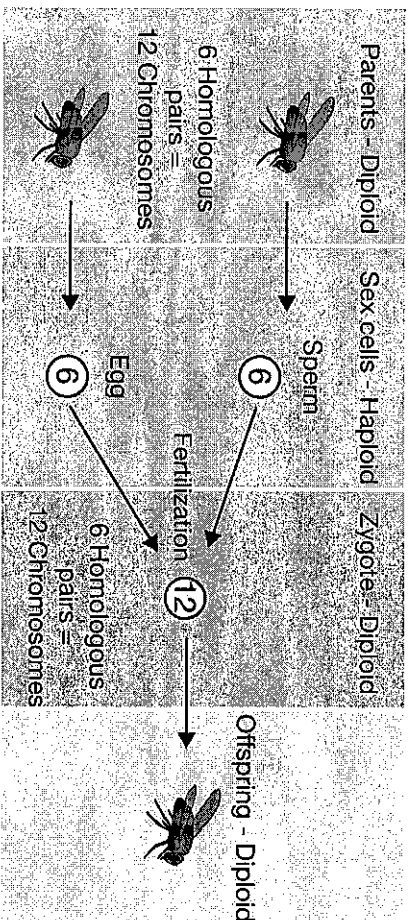
Diploid and haploid sets

A complete set of chromosomes is called a **diploid set**. Most animal cells except the sex cells have a diploid set of chromosomes. The diploid human set has *23 pairs* of chromosomes (a total of 46). Sex cells have half of a complete set of chromosomes, or only one chromosome from each homologous pair. A half set of chromosomes is called a **haploid set**. Humans have 23 chromosomes in their sex cells—a haploid set. Figure 10.8 shows the diploid and haploid number of chromosomes for various organisms.

What is fertilization?

Fertilization is the union of egg and sperm to form a new organism. When an egg is fertilized by a sperm, the haploid set of chromosomes from the father unites with the haploid set of chromosomes from the mother. A fertilized egg, called a **zygote**, has a diploid set of chromosomes. For each homologous pair, one chromosome comes from the mother, and one from the father.

In a diploid set, chromosomes are found in homologous pairs. For each pair, one chromosome comes from each parent.



VOCABULARY

diploid - a double set of chromosomes.

haploid - a half set of chromosomes.

fertilization - the union of egg and sperm.

zygote - a fertilized egg.

Diploid set	Haploid set
Human 46	Human 23
Chicken 78	Chicken 39
House fly 12	House fly 6
Tomato 24	Tomato 12

Figure 10.8: The diploid and haploid number of chromosomes for various organisms.

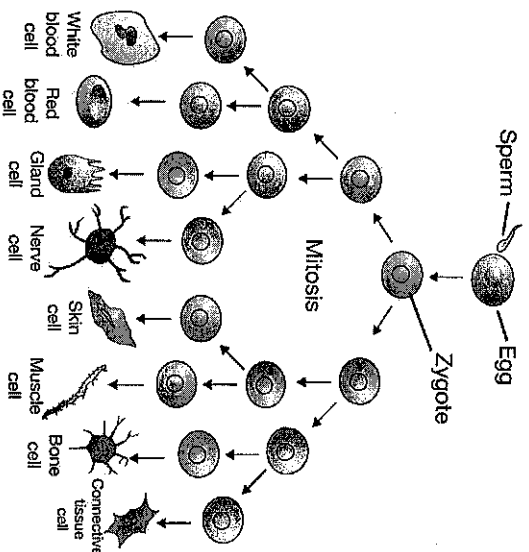
Cell differentiation

Specialized cells

After fertilization, the zygote rapidly divides by mitosis and becomes an embryo. An **embryo** is an organism in its earliest stages of development. Figure 10.9 shows embryo development of a fish, calf, and rabbit. The final outcome is a multicellular organism with many different types of *specialized* cells. You have brain cells, stomach cells, skin cells, and muscle cells to name just a few. All of those cells can be traced back to the zygote.

Differentiation

Where do all of the different types of cells come from? An organism that is not fully developed is called an *embryo*. In the developing embryo, cells begin to *differentiate*. **Cell differentiation** is the process of cell specialization. For example, cells that eventually divide to



Further specialization

As the embryo continues to develop, some cells become even more specialized. For example, some cells in the retina of your eye become *rod cells* (for vision in dim light) and others become *cone cells* (for color vision). After differentiation is complete, most cells lose the ability to become other types of cells.

VOCABULARY

embryo - an organism in its earliest stage of development.

cell differentiation - the process of cell specialization.

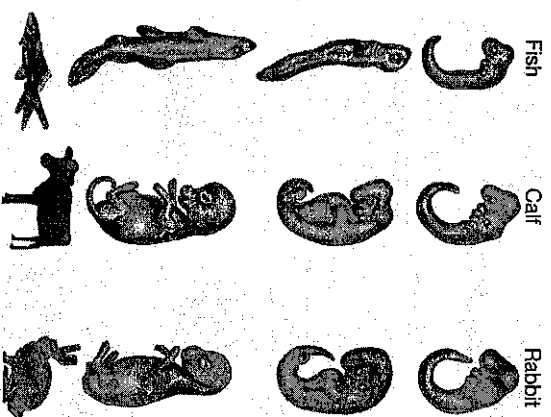


Figure 10.9: An embryo is an organism in its earliest stages of development. The embryos of a fish, calf and rabbit, over time, develop into young organisms.

Jones 8th grade Science

NTI Day 16-Reproduction-Sexual Reproduction and meiosis.

Materials

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

Task

- Students read pages 202-206 in chapter 10.
- Students complete a 5 question quiz.

Quiz-Section 10.1

1. _____ is the process of producing offspring.
 - a) Fertilization
 - b) Differentiation
 - c) Cytokinesis
 - d) Reproduction
 - e) Mitosis
2. _____ involves a single parent producing identical offspring without the aid of sex cells.
 - a) Fertilization
 - b) Asexual reproduction
 - c) Differentiation
 - d) Sexual reproduction
 - e) Sex cells
3. In _____, sperm and eggs unite to form new offspring .
 - a) Fertilization
 - b) Asexual reproduction
 - c) Differentiation
 - d) Sexual reproduction
 - e) Sex Cells
4. _____, contain half the number of parental chromosomes.
 - a) Fertilization
 - b) Asexual reproduction
 - c) Differentiation
 - d) Sexual reproduction
 - e) Sex Cells

5. As cells develop they specialize in different functions, this is the result of

-
- a) Fertilization
 - b) Asexual reproduction
 - c) Differentiation
 - d) Sexual reproduction
 - e) Sex Cells

The shifting political landscapes during Lincoln's presidency

By WGBH, adapted by Newsela staff on 01.21.20

Word Count **656**

Level **1120L**

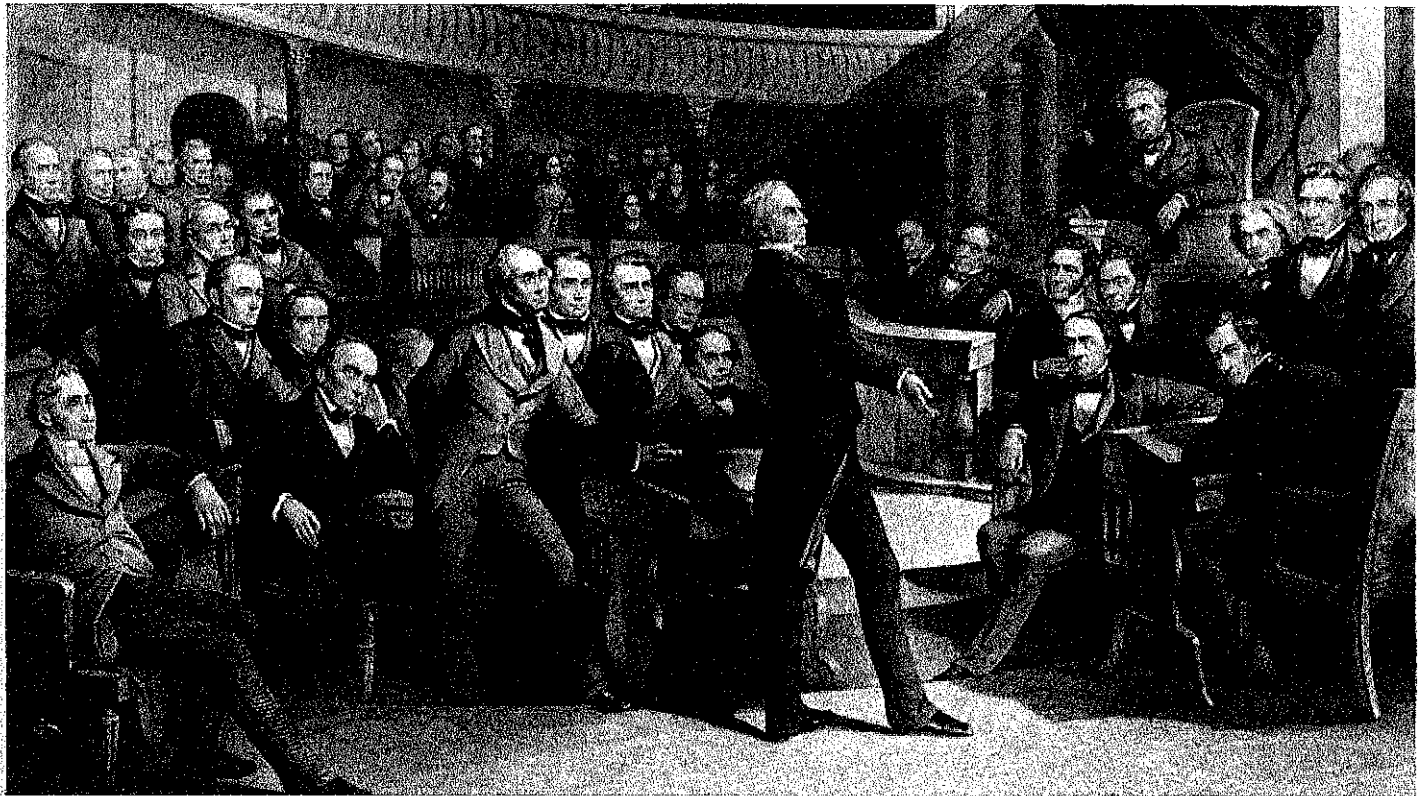


Image 1. Senator Henry Clay, standing in the center, speaking about the Compromise of 1850 in the Old Senate Chamber. This engraving was created circa 1855. Photo from: Library of Congress.

As the United States expanded its territory westward, the dispute over slavery intensified. Would the territories applying to become states try to keep slavery, or prohibit it, once they entered the Union? At the time of the Missouri Compromise, former President Thomas Jefferson once described the difficult situation slavery presented, saying: "We have the wolf by the ears, and we can neither hold him, nor safely let him go. Justice is in one scale, and self-preservation in the other."

The Missouri Compromise, 1820

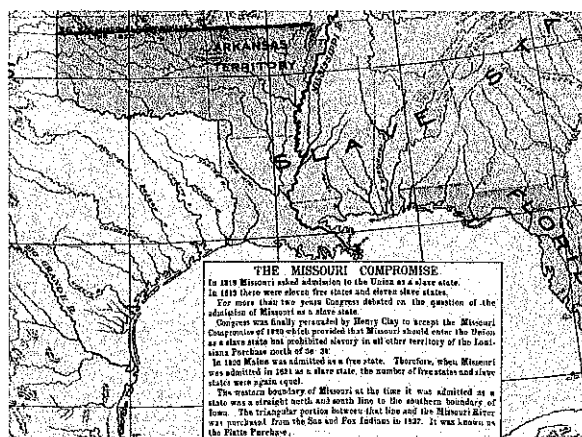
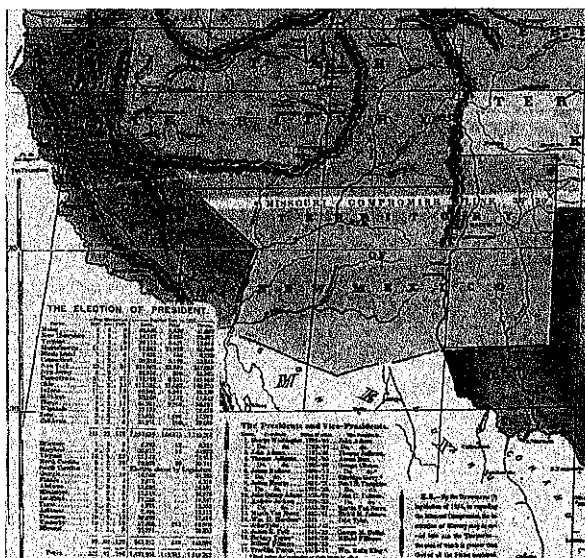
When Missouri was considered for statehood in 1819, the question of whether it would be admitted to the Union as a slave or free state set off a fierce debate between Northern and Southern legislators. Missouri's ratification threatened to upset the tenuous balance between slave and free states in the U.S. Senate. The U.S. had just 22 states then, of which 11 allowed slavery and

11 didn't. This meant that there was an equal number of senators from slave and free states in the Senate.

To resolve the controversy, statesman and orator Henry Clay of Kentucky worked out a compromise of three parts. Firstly, Maine would separate from Massachusetts and be admitted as a free state. Secondly, Missouri would enter the Union as a slave state. Lastly, the remaining territory of the Louisiana Purchase, which lay north of the 36-30 parallel, would not allow slavery.

The Compromise Of 1850

The slavery question arose again when California applied to the Union as a slave-free state. Many people had recently moved west in the Gold Rush of 1849 and the state's



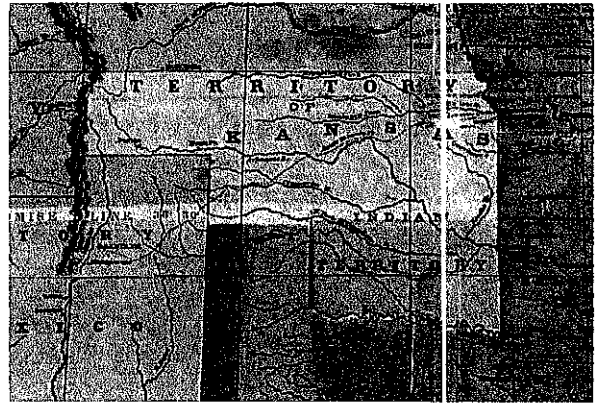
population grew. At the same time, people on both sides of the slavery debate were arguing over recently acquired land from Mexico, which included present-day Arizona, New Mexico, Utah, Nevada, and parts of Colorado and Wyoming. Clay again suggested a compromise.

Senators Stephen A. Douglas of Illinois and Daniel Webster of Massachusetts supported Clay's idea. California would enter the Union as a free state, while the remainder of the land acquired from Mexico, divided into the territories of New Mexico and Utah, would determine slavery status by "popular sovereignty." This allowed inhabitants to decide if they wanted to be in a slave-free area. In addition, the compromise outlawed the slave trade in the District of Columbia, although slavery was still allowed. The rule also created a stricter fugitive law that made it easier to capture

escaped slaves back from the North. The compromise, while not entirely satisfactory for the North or the South, temporarily held together the country.

The Kansas-Nebraska Act, 1854

Senator Douglas, the chairman of the Senate Committee on Territories, pushed the Kansas-Nebraska Act through Congress in 1854. Because most of the Western territories lay north of the boundary set by the Missouri Compromise, they had to be free states. Southern representatives acted to preserve their power in the Senate by blocking territories that applied for statehood. To get around this problem, the Kansas-Nebraska Act allowed a territory to have slaves if the population voted for it. Unsurprisingly, both pro-slavery and anti-slavery settlers quickly flooded these areas. This resulted in violent confrontations between the groups.



Quiz

1 According to the article, some areas were allowed to decide on their own if they wanted to allow slavery.

Which paragraph BEST supports the idea outlined above?

- (A) When Missouri was considered for statehood in 1819, the question of whether it would be admitted to the Union as a slave or free state set off a fierce debate between Northern and Southern legislators. Missouri's ratification threatened to upset the tenuous balance between slave and free states in the U.S. Senate. The U.S. had just 22 states then, of which 11 allowed slavery and 11 didn't. This meant that there was an equal number of senators from slave and free states in the Senate.
- (B) To resolve the controversy, statesman and orator Henry Clay of Kentucky worked out a compromise of three parts. Firstly, Maine would separate from Massachusetts and be admitted as a free state. Secondly, Missouri would enter the Union as a slave state. Lastly, the remaining territory of the Louisiana Purchase, which lay north of the 36-30 parallel, would not allow slavery.
- (C) The slavery question arose again when California applied to the Union as a slave-free state. Many people had recently moved west in the Gold Rush of 1849 and the state's population grew. At the same time, people on both sides of the slavery debate were arguing over recently acquired land from Mexico, which included present-day Arizona, New Mexico, Utah, Nevada, and parts of Colorado and Wyoming. Clay again suggested a compromise.
- (D) Senators Stephen A. Douglas of Illinois and Daniel Webster of Massachusetts supported Clay's idea. California would enter the Union as a free state, while the remainder of the land acquired from Mexico, divided into the territories of New Mexico and Utah, would determine slavery status by "popular sovereignty." This allowed inhabitants to decide if they wanted to be in a slave-free area. In addition, the compromise outlawed the slave trade in the District of Columbia, although slavery was still allowed. The rule also created a stricter fugitive law that made it easier to capture escaped slaves back from the North. The compromise, while not entirely satisfactory for the North or the South, temporarily held together the country.

2 Read the list of sentences from the article.

1. *This meant that there was an equal number of senators from slave and free states in the Senate.*
2. *At the same time, people on both sides of the slavery debate were arguing over recently acquired land from Mexico, which included present-day Arizona, New Mexico, Utah, Nevada, and parts of Colorado and Wyoming.*
3. *The rule also created a stricter fugitive law that made it easier to capture escaped slaves back from the North.*
4. *Southern representatives acted to preserve their power in the Senate by blocking territories that applied for statehood.*

Which two sentences taken together provide the BEST evidence to support the idea that the expansion of slavery was controversial?

- (A) 1 and 3
- (B) 1 and 4
- (C) 2 and 3
- (D) 2 and 4

3

Read the section "The Kansas-Nebraska Act, 1854."

What is the MOST likely reason for including information about fighting in Kansas and Nebraska?

- (A) to highlight that tensions over slavery were leading to physical altercations
- (B) to show how the Kansas-Nebraska Act prevented fighting in the United States
- (C) to explain why Henry Clay worked to protect slavery in any territories that joined the United States
- (D) to describe why free states were required to help slave owners recover runaway slaves

4

Read the following paragraph from the section "The Missouri Compromise, 1820."

When Missouri was considered for statehood in 1819, the question of whether it would be admitted to the Union as a slave or free state set off a fierce debate between Northern and Southern legislators. Missouri's ratification threatened to upset the tenuous balance between slave and free states in the U.S. Senate. The U.S. had just 22 states then, of which 11 allowed slavery and 11 didn't. This meant that there was an equal number of senators from slave and free states in the Senate.

What is the MAIN reason why the author includes this paragraph in the article?

- (A) to show how thinking about slavery in the United States evolved over time
- (B) to describe the important political figures who influenced the debate about slavery
- (C) to explain how new states could tip the balance of power in favor of free or slave states in the Senate
- (D) to highlight how earlier compromises about slavery were altered

