

Read the text. Then answer the questions.

Developing Robot Brains

Scientists have been working on how to build robot brains that develop in the same way as human brains. In the past, scientists have tried to copy human brains exactly. The trouble is, there is still so much that scientists do not know about how human brains work. But a group of scientists at Michigan State University have developed a new plan. They are using nature as an example to follow for robots. We know that things change and adapt in nature. These scientists want to make robots that can change and adapt, too. The robots would learn to do tasks over time. The goal is to have robots with brains that develop like human brains do, over many years.

One task this team of scientists worked on was to get robots to enter and exit a room. This action is easy for humans to complete, but not for robots. The scientists used a math equation to program the robots on this task. They created a program where the robots had to work on the task in connection with other robots. The robots watched each other and took on special roles for the task. This made them more successful. Then, the robot brains that worked the best on a task were the models used for future brains. This is very much like what happens in nature. A characteristic that works well for an animal gets passed on to its babies.

Overall, this group of scientists thinks that following what happens in nature is the key to creating robots that can think like humans. The robot brains will start young, like humans. Robots will learn and explore for many years. Then they will develop higher intelligence and understanding. This is very much like how human brains develop!

GO ON →

Student Name _____

- 1 How did the team of scientists try to solve the problem of improving robot brains?
- A by studying older robots
 - B by working with brain doctors
 - C by developing exact copies of the human brain
 - D by imitating the way brains develop in nature
- 2 Which statement gives the solution to the problem of how to make robots do a task such as entering a room?
- A The robots with the better programs lead the group.
 - B The robots do the task by interacting with each other.
 - C The robots repeat the task the same way again and again.
 - D The robots become more like humans over time.

Read the text. Then answer the questions.

Problem Solving with Peanuts and Sweet Potatoes

For years, farmers in Alabama grew cotton and nothing else. As a result, farmers had damaged fields that could no longer cultivate crops. The fields broke down from planting the same thing year after year. Then, in 1914, a pest called a boll weevil destroyed crops. The solution to this problem came from George Washington Carver, an African-American scientist and inventor. He discovered that the soil in Alabama grew peanuts and sweet potatoes well. Carver suggested that farmers grow peanuts and sweet potatoes to help the soil.

This plan worked. Farms began producing peanuts and sweet potatoes. However, not many people bought these foods. Farmers struggled to earn a living. Carver responded to this situation with more research. He wanted farmers to keep planting these crops. He experimented and made products from peanuts and sweet potatoes. Carver made 300 other things from peanuts, such as flour, milk, ink, and dye. He made about 100 products from sweet potatoes, including glue and ink. By 1940, peanuts became the second leading crop to make money in the South. Carver changed how cotton was grown and made many other crops important to the South.

GO ON →

Student Name _____

3 Read the sentence from the text.

As a result, farmers had damaged fields that could no longer cultivate crops.

What is the meaning of the word cultivate?

- A sell
- B grow
- C talk about
- D understand

4 Read the sentence from the text.

Carver responded to this situation with more research.

What is the meaning of the word responded?

- A gave up
- B repeated
- C answered in some way
- D succeeded in some way

Read the text. Then answer the questions.

The Compromise of 1850

In the year 1850, disagreement between the North and the South about slavery was growing. An earlier settlement called the Missouri Compromise had helped to preserve the balance of power between the North and South for some thirty years. As in any compromise, neither side was completely satisfied, but each got part of what it wanted. Then, in 1849, California asked to join the Union as a free state. There were 15 “slave states” and 15 “free states.” Adding another free state would upset the balance.

Henry Clay was known as the “Great Compromiser.” He worked to keep the states united. In 1849, Clay was elected to the U.S. Senate from Kentucky. As a senator, he wanted to find a way to solve the controversy, or serious arguments, between the North and South. A number of issues needed to be resolved.

- The first was statehood for California. Congress was not likely to approve admission for another free state.
- The United States had been at war with Mexico. As an outcome of the war, the federal government got new territory. The government needed to determine whether the territory should allow slavery.
- Texas claimed that its territory extended to Santa Fe. The government disagreed; that is, it disputed Texas’s right to expand into what is now New Mexico.
- Enslaved people were traded in Washington, D.C. Many believed that should not be allowed in the capital of the nation.

Clay presented his ideas in the Senate, hoping to keep the country united. However, not everyone agreed with Clay’s ideas, and a debate lasted for months.

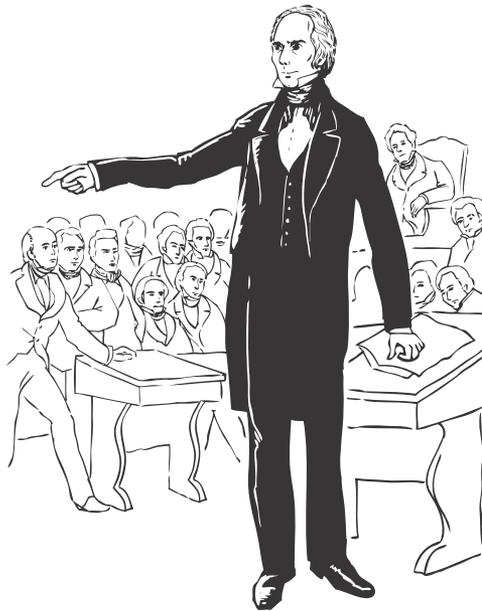
Clay asked that California become a state, but Congress could not decide whether it would be free or allow slavery. Clay proposed that the people living in a territory set up on land gained in the war with Mexico could decide the question of slavery for themselves. Also, the borders of Texas would not include any part of New Mexico. In return, Texas would be paid for the land in dispute. Slavery in the District of Columbia could not be ended without the people’s consent. However, enslaved people could no longer be traded in the nation’s capital. Laws would provide for the return of enslaved people who ran away. Finally, Congress would have no power over the trading of enslaved people between slave states.

GO ON →

Months of debate in the Senate followed Clay's proposals. John C. Calhoun, a senator from South Carolina, was the leader of the opposition. He wrote a response but was too ill to deliver it, so another senator read it for him. Clay's legislation was voted down. Then Daniel Webster, a senator from Massachusetts, and Stephen A. Douglas, a senator from Illinois, helped win approval for a compromise. Douglas later became famous for his debates with Abraham Lincoln.

The Compromise of 1850 included five acts of Congress. The laws covered the main issues that had come up because of California's request to become a free state. They were based on Clay's resolutions. California could join the Union as a free state. The settlers in the territories of New Mexico and Utah would be able to vote on whether they would allow slavery or not. Texas received ten million dollars. In return, Texas had to give up claims to disputed territories. The Fugitive Slave Law went into effect. Enslaved people were to be returned if they were caught, but they could no longer be traded in the District of Columbia.

The Compromise of 1850 appeased, or satisfied, both sides for a time, but conflicts soon grew again. A major point of contention—that is, a point that caused a great deal of argument—was the Fugitive Slave Act. Northerners believed it was too unfair to enslaved people, and many still helped them escape to Canada through the Underground Railroad. Because of the Fugitive Slave Law, another compromise was not possible. Eventually the Civil War broke out in 1861. The North and South fought in battle after battle until the war ended in 1865.



Student Name _____

5 Read the sentence from the text.

Clay proposed that the people living in a territory set up on land gained in the war with Mexico could decide the question of slavery for themselves.

What is the meaning of the word proposed?

- A suggested
- B completed
- C revealed
- D corrected

6 Read the sentence from the text.

In return, Texas would be paid for the land in dispute.

What is the meaning of the word dispute?

- A idea
- B disagreement
- C explanation
- D solution

7 What was Congress's solution for the problem of California's statehood?

- A to give California the choice to join the Union or not
- B to allow California to join the Union as a free state
- C to let the people decide whether California could become a state
- D to provide California with more territory

GO ON →

8 Which statement **best** explains the solution for the Texas issue?

- A Texas was able to participate in the Missouri Compromise.
- B Texas and New Mexico formed a union together.
- C Texas received ten million dollars for giving up land.
- D Texas was able to expand its land into New Mexico.

9 Read the sentences from the text.

The Compromise of 1850 appeased, or satisfied, both sides for a time, but conflicts soon grew again. A major point of contention—that is, a point that caused a great deal of argument—was the Fugitive Slave Act.

Which phrase from the sentences **best** hints at the meaning of the word contention?

- A “The Compromise of 1850”
- B “appeased, or satisfied”
- C “A major point”
- D “a great deal of argument”

Student Name _____

- 10 Match each disagreement between the North and South with the solution presented by Henry Clay. Circle the correct letter next to each solution.

| Disagreement Between North and South | Henry Clay's Suggested Solution |
|---|--|
| Whether California could join the Union as a free state | A. People living in the territory should decide. B. The government should decide. |
| What to do about Texas's borders | A. Territory in New Mexico would be included. B. Territory in New Mexico would not be included. |
| Whether slavery is allowed in Washington, D.C. | A. Slavery would not be allowed in Washington, D.C. B. Slavery would not end in Washington, D.C., unless the people agreed. |

