Name_____

Barbara McClintock, Nobel Prize Winner

Our current understanding of genetics is rooted in the study of plants. While a student at Cornell University, Barbara McClintock took biology classes and the only genetics course available. She expressed a great interest in her learning. The professor then invited her to attend his second course, offered only to graduate students. She studied the behavior of chromosomes and decided to pursue an advanced degree. She would study chromosomes and their genetic content for the remainder of her career.

During her career, McClintock taught botany at Cornell and went on to become a research associate. She later taught at other universities and worked with an agricultural science program as a consultant. After earning her Ph.D., McClintock received fellowships from various schools. This enabled her to continue her studies and research. She received honorary degrees and awards of achievement from several institutions. Perhaps her most prestigious award was when she was awarded the Nobel Prize in Medicine in 1983.

Barbara McClintock worked with chromosomes and genes in maize. She focused on the relationship between plant reproduction and how some plants mutated. She discovered that chromosomes could jump during plant breeding. This means that genes can change positions on the chromosome. After more research, McClintock proved that certain genes could turn physical characteristics—such as the color of leaves—on or off. Scientists later discovered a relationship between McClintock's research on genetic mutations and bacteria that develop resistance to antibiotics. Such research helps us better understand how viruses and bacteria act.

Although her early work gained recognition in the scientific community, her later research on genetics was not initially well received. Only later, when her discoveries were confirmed by molecular biologists, did she receive additional honors. Described by a friend as a solitary person, Barbara McClintock focused her life on her research, which was her passion.

Text Questions

1. You can tell from the context of the passage that the word *chromosome* means . . .
   a. the colored part of a plant.
   b. the part of the cell nucleus that carries the genes responsible for hereditary characteristics.
   c. something that makes bacteria resistant to antibiotics.
   d. something that causes a virus.

2. Which was Barbara McClintock's most notable award?
   a. The Merit Award
   b. MacArthur Foundation Grant
   c. National Medal of Science
   d. Nobel Prize

3. Which statement from the text best describes McClintock's research?
   a. She discovered that genes can change positions on the chromosome.
   b. She received honorary degrees and awards of achievement from several institutions.
   c. She studied the behavior of chromosomes and decided to pursue an advanced degree.
   d. Barbara McClintock was a solitary person.

4. What is the main idea of the third paragraph?
   a. It describes McClintock's educational background.
   b. It provides details about her scientific career.
   c. It explains her research and its implications for science and medicine.
   d. It describes the honors and awards she received.

5. Based on what you read, what contributions did Barbara McClintock make to science and medicine?

_____

_____

LIVEWORKSHEETS