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**The Immortal Woman**

Scholastic Science World March 3, 2014, Vol. 70 No. 9

***Directions: Match the term or phrase in the left column with its definition or description in the right column.***

\_\_\_\_\_ 1. culture a. grow in a laboratory

\_\_\_\_\_ 2. genome b. copy exactly

\_\_\_\_\_ 3. HeLa cell c. a cell made from cells of two different species

\_\_\_\_\_ 4. cervix d. lower part of the uterus

\_\_\_\_\_ 5. bases e. list of letters in a DNA sequence

\_\_\_\_\_ 6. hybrid cell f. molecule that protects DNA from aging

\_\_\_\_\_ 7. tumor g. abnormal lump of tissue

\_\_\_\_\_ 8. clone h. a radioactive element

\_\_\_\_\_ 9. radium i. smaller molecules that make up DNA

\_\_\_\_\_10. telomerase j. cell from the line that originated in Henrietta Lacks’s

tumor

***Answer the following:***

11. How have HeLa cells contributed to biology and medicine? Give three examples.

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**CANCER FIGHTER**

**Scholastic ScienceWorld**

In “The Immortal Woman”, you learned that Henrietta Lacks died of cervical cancer more than 60 years ago. Treatments for cancer have improved greatly since then. Read the following passage to learn how doctors kill cancer cells using chemicals. Then answer the questions that follow.

CHEMICAL TREATMENT

In the 1940’s, scientists began experimenting to see if chemicals could slow the growth of cancer cells—abnormal cells that grow out of control. The first studies looked at compounds in mustard gas, a chemical weapon used in World War I. These medicines became the first types of chemotherapy—chemicals that kill cancer cells.

Scientists now have many different chemotherapy drugs to treat cancer. Each chemical works in a different way to slow cell reproduction. For instance, medicines called *alkylating* *agents*, which are derived from mustard gas, enter the cell and attach to the cell’s DNA. That damages the DNA and prevents the cell from reproducing. Other drugs interfere with cells’ *enzymes*, which speed up the reactions that control reproduction. Today, there are more than 90 different chemotherapy drugs that are commonly in use.

The downside to chemotherapy drugs is that they also affect the reproduction of healthy cells—and that causes side effects like nausea and hair loss. Doctors who prescribe chemotherapy treatment must find a balance between destroying cancer cells and preventing damage to normal ones.

1. What are cancer cells? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2. How do chemical weapons relate to cancer treatment? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3. How do alkylating agents affect cell reproduction?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4. Why do chemotherapy drugs cause side effects?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5. Why must doctors use care in prescribing chemotherapy?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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