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Class-X

English

Footprints without Feet

Chapter-6



Robert W. Peterson

The Making of a Scientist

Part - 3

Neha Rajvanshi

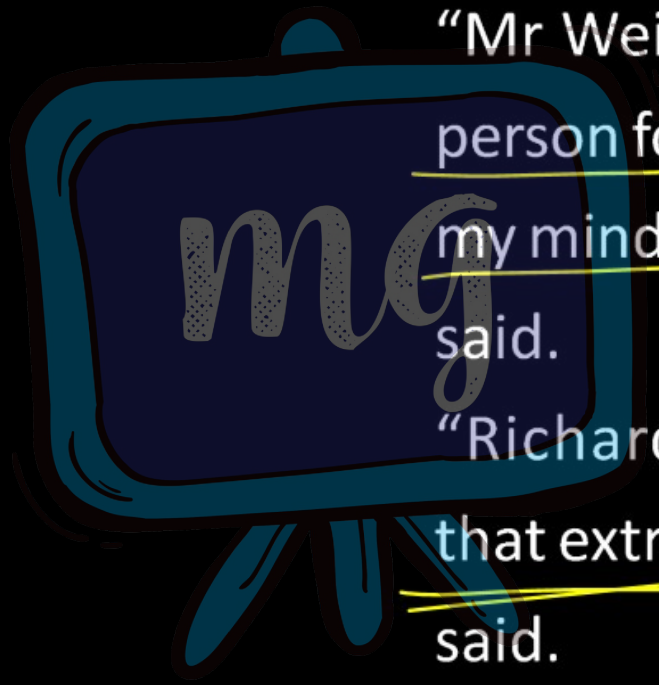
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In high school Richard Ebright was a straight-A student. Because learning was easy, he turned a lot of his energy towards the Debating and Model United Nations clubs. He also found someone to admire — Richard A. Weiherer, his social studies teacher and adviser to both clubs.

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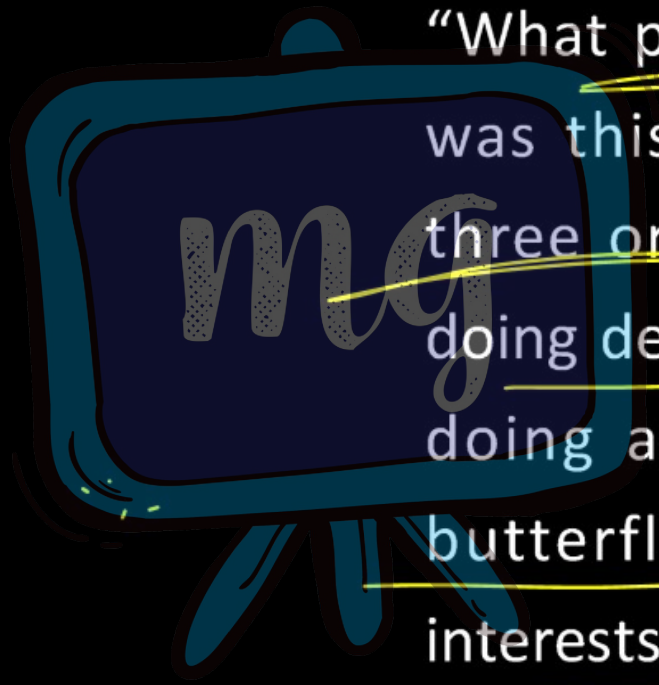


"Mr Weiherer was the perfect person for me then. He opened my mind to new ideas," Ebright said.

"Richard would always give that extra effort," Mr Weiherer said.

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"What pleased me was, here was this person who put in three or four hours at night doing debate research besides doing all his research with butterflies and his other interests.

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"Richard was competitive," Mr Weiherer continued, "but not in a bad sense." He explained, "Richard wasn't interested in winning for winning's sake or winning to get a prize. Rather, he was winning because he wanted to do the best job he could. For the right reasons, he wants to be the best."

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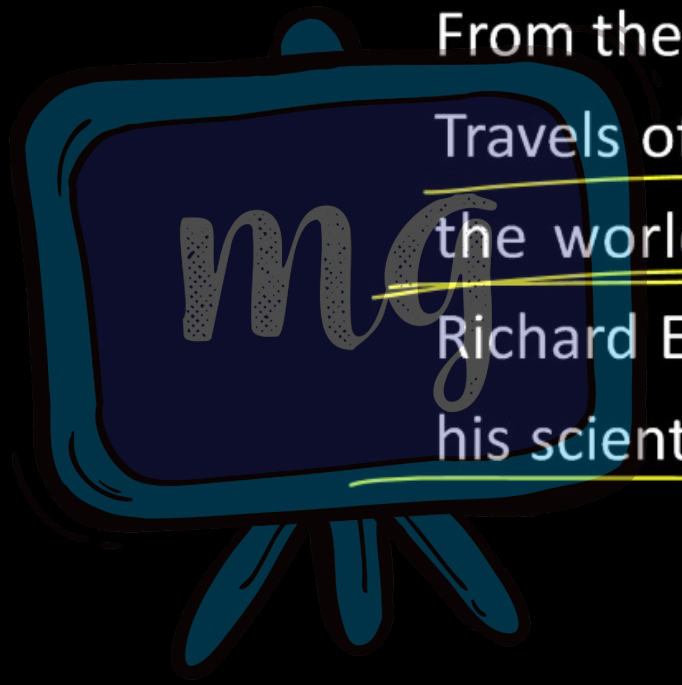
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Ingredients : घटक

And that is one of the ingredients in the making of a scientist. Start with a first-rate mind, add curiosity, and mix in the will to win for the right reasons. Ebright has these qualities.

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From the time the book, The Travels of Monarch X, opened the world of science to him, Richard Ebright has never lost his scientific curiosity.

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COMPREHENSION

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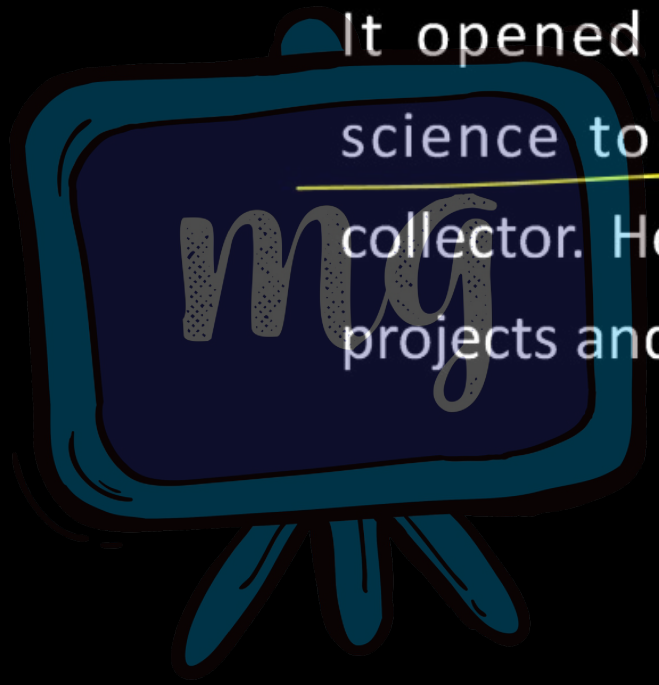
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Question 1. How did a book become a turning point in Richard Ebright's life?

Answer : A book entitled "The Travels of Monarch X' changed Richard Ebright's life. It was because it told him how monarch butterflies migrate to Central America.

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It opened the wide world of science to this curious young collector. He started doing some projects and experiments.

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Question 2. How did his mother help him?

Answer : His mother was a source of great inspiration for him. She always encouraged him and provided constant company to him.

From the beginning she took him on scientific trips and bought

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science related books and kits like telescopes, microscopes, cameras, etc.

Finally she gave him the book 'The Travels of the Monarch X' which changed his life forever. This way she helped him.

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Question 3. What lesson does Ebright learn when he does not win anything at a science fair?

Answer : In the science fair Ebright exhibited slides of frog tissues. He does not get any prize. Ebright learns a lesson that the real experiments would win him a prize not just a display.

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Question 4. What experiments and projects does he then undertake?

Answer : He took up his eighth-grade project. It was to find the cause of a viral disease that killed all monarch caterpillars.

Next year, his science fair project was to test the theory of

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the butterflies. It was that viceroy butterflies copied monarchs. His next theory was to see whether birds ate monarchs.

Next he began the research. It led to his discovery of an unknown insect hormone.

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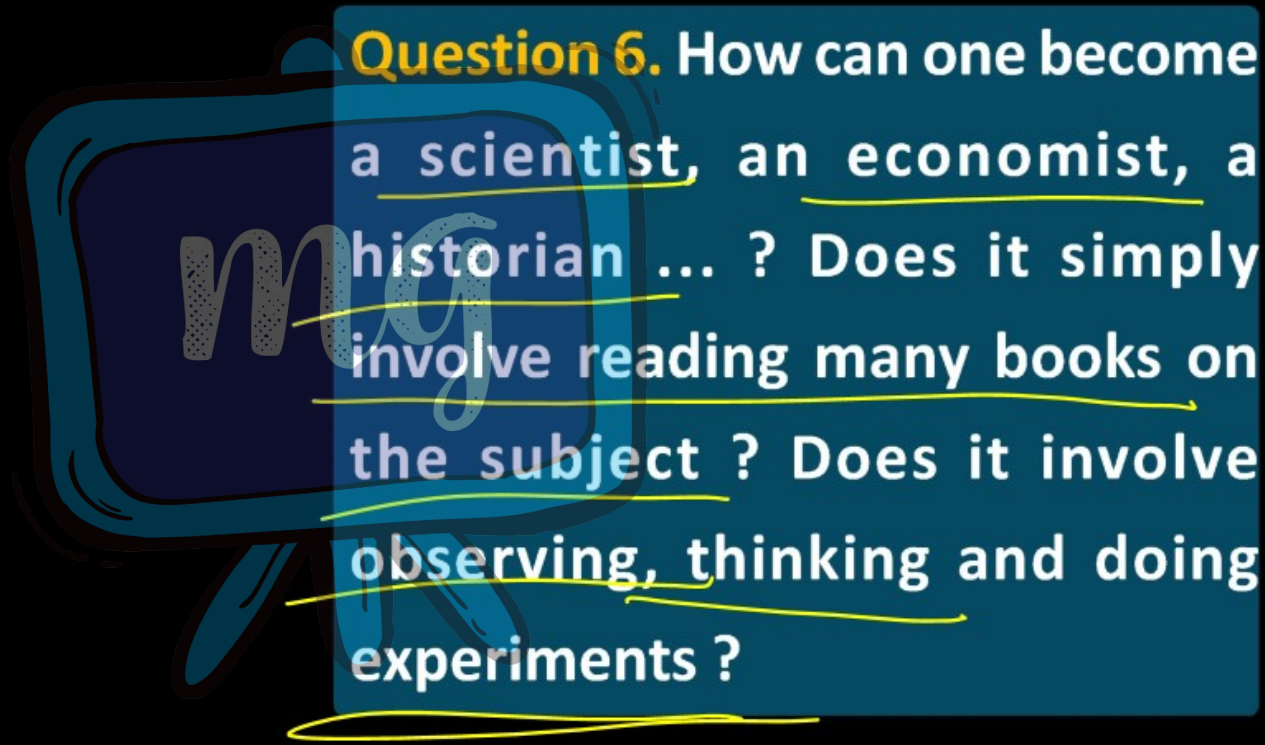
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Question 5. What are the qualities that go into the making of a scientist?

Answer : These qualities are : first-rate mind, curiosity, will to win for the right reasons.

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Question 6. How can one become a scientist, an economist, a historian ... ? Does it simply involve reading many books on the subject ? Does it involve observing, thinking and doing experiments ?

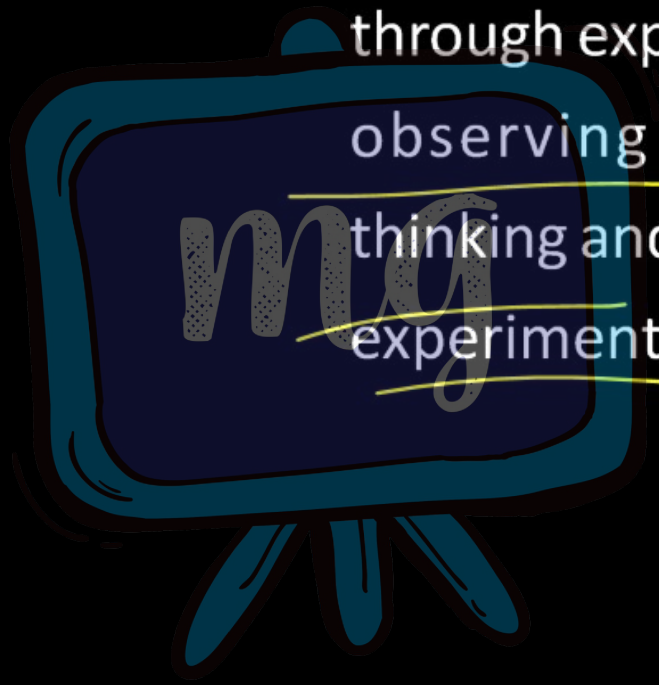
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Answer : One can become a scientist, an economist or a historian. He can become so not by reading many books on the subject. First of all, one must have a first-rate mind. One must have the capacity and the will to win for the right reasons. With all these one must seek the result

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through experiments. This involves observing with a sharp mind, thinking and testing things through experiments.

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Question 7. Why did Ebright soon lose interest in tagging butterflies?

Answer : Soon Ebright lost interest in tagging butterflies. Tagging butterflies was tedious. Also there was no feedback. He tried hard to catch the tagged butterflies for knowing more about them. But he could not. In all the time only two butterflies that he had tagged were caught.

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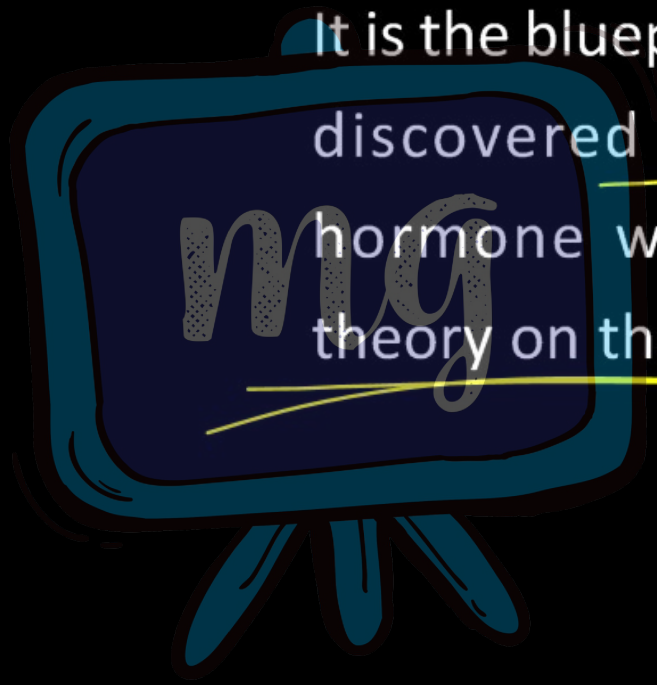
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Question 8. Mention any two of Ebright's contributions to the world of science.

Answer : Ebright's contributions to the world of science were great. He was able to identify the hormone's chemical structure. The photos of the chemical structure of the hormone proved an answer to the biology puzzle: How the cell can read the blueprint of its DNA.

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It is the blueprint of life. Second, he discovered an unkonwn insect hormone which led to his new theory on the life of cells.

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Question 9. What did Ebright do to make the tagging of butterflies successful?

Answer : Ebright raised butterflies in his basement, He would catch a female monarch. They then he would take her eggs. He would raise them through their life cycle from egg to adult butterfly. Then he would tag the butterflies' wings and let them go.

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Question 10. What was the outcome of Ebright's project on the gold spots?

Answer : This project won Ebright first place in the country fair. It also won him an entry into the International Science and Engineering Fair. There he won third place for zoology. He also got a chance to work at the entomology lab. It was of the Walter Reed Army Institute of Research.