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Class 10 English (Footprints without Feet) Notes

The Making of a Scientist



Key Notes and Important Questions with Answers

Lesson - 6

The making of a Scientist by - Robert W. Peterson

Summary Points to Nutshell

* An only child, Ebright grew up North of Reading, Pennsylvania.
* At the age of twenty two, a former 'scout of the year' excited the scientific world with a new theory on how cells work.
* In K.G. Ebright collected butterflies with the same determination that has marked all his activities
* He also collected rocks, fossils, and coins. He became an eager astronomer too.
* His mother encouraged his interest in learning.
* She took him on trips, bought him telescopes, microscopes, cameras, mounting materials, and other equipment and helped him in many other ways.
* He earned top grades in school.
* In the second grade, Ebright had collected all twenty five species of butterflies found around his hometown.
* His butterfly collecting would have ended if his mother not got him a children's book called 'The Travels of Monarch X'.
* That book, which told how monarch butterflies migrate to Central America, opened the world of science to the eager young collector.
* At the end of the book, readers were invited to help study butterfly migrations. They were asked to tag butterflies for research by Dr. Frederick.
* Soon Ebright was attaching light adhesive tags to the wings of monarchs.

* But he began to lose interest in tagging butterflies. It was tedious and there was not much feedback."
* In the seventh grade he got a hint of what real science is when he entered a county science fair and lost.
* In Eighth grade project, Ebright tried to find the causes of a viral disease that kills nearly all monarch caterpillars every few years.
* Ebright thought the disease might be carried by a beetle. He tried raising caterpillars in the presence of beetles.
* Ebright's project was to see whether, in fact, birds would eat monarchs. He found that a starling would not eat ordinary bird food. It would eat all the monarch it could get.
* This project was placed first in the zoology division and third overall in the country science fair.
* In his second year in high school, Richard Ebright began the research that led to his discovery of an unknown insect hormone. Indirectly, it also led to his new theory on the life of cells.
* What is the purpose of the twelve tiny gold sports on a monarch pupa? "Everyone assumed the sports were just ornamental."
* Ebright and another excellent science student first had to build a device that showed that the sports were producing a hormone necessary for the butterfly's full development.
* This project won Ebright first place in the country fair and entry into the international Science and Engineering Fair. There he won third place for zoology.
* As a high school junior, Richard Ebright continued his advanced experiments on the monarch pupa. That year his project won first place at the International Science Fair and gave him another chance to work in the army laboratory during the summer.
* In his senior year, he went a step further. He grew cells from a monarch's wing in a culture and showed that the cells would

divide and develop into normal butterfly wing scales only if they were fed the hormone from the gold spots. That project won first place for zoology at the International Fair.

* DNA is the substance in the nucleus of a cell that controls heredity. It determines the form and function of the cell. Thus DNA is the blue print for life.
* Mr. Weiherer said, "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.
* Mr. Weiherer - "Richard was competitive. 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."

Comprehension Passage - 1

From the first he had a driving curiosity along with a bright mind. He also had a mother who encouraged his interest in learning. She took him on trips, bought him telescopes, microscopes, cameras, mounting materials, and other equipment and helped him in many other ways.

a. Who stands for "he" here?
b. Which was the subject he was bright in?
c. How did the mother encourage him?
d. Give the noun form of 'encourage'.
e. Why did the mother buy all these things for the speaker?
f. If telescope is used to watch the stars then microscope is used.....

Passage - 2

This project won Ebright first place in the county fair and entry into the The International Science and Engineering Fair. There he won third place for zoology. He also got a chance to work during the summer at the entomology laboratory of the Walter Reed Army Institute of Research.

a. Which project won first place in the county fair?
b. How did the win help Ebright?
c. Entomology is a branch of science to study. .....
d. What place did Ebright secure in the International Science fair?
e. How did his winning a place in an International Fair help Ebright?
f. One who studies the life and behaviour of animals is called .....

Passage - 3

An only child, Ebright grew up north of Reading, Pennsylvania, "There wasn't much I could do there," he said. "I certainly couldn't play football or baseball with a team of one. But there was one thing I could do---- collect things."

a. Why could Ebright not play team games like -football?
b. How did Ebright incline to collecting things?
c. What did Ebright collect first?
d. Furnish the noun form of -'certainly' and 'collect'
e. There wasn't much I could do there, "What state of mind of a child does the statement reveals?
f. What does 'Reading' stand for?

Short Questions

Q.1 Ebright soon lost his interest in tagging the butterfly why?

Q.2 What is the role of his mother in his success?

Q.3 How did Elbert reached to the theory of cell life?

Q.4 What did the book 'The Travels of Monarch X all about who gave him book and how did it help him?

Q.5 What is DNA? How does a cell read the blue print of DNA?

Q.6 Why did Mr. Weiherer believe that Ebright was competitive.

Long Questions

1. "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". Which values of Ebright's character are exhibited here?
2. "After that I would bring home friends for him. But at night we just did things together. Richie was my whole life after his father died when Richie was in third grade." Which motherly values did Ebright's mother display here?