Grade X Supplementary - 6
The Making of a Scientist

Main Points of the Story

- At the age of twenty-two, Richard H Ebright excited the world of science with a new theory on cells.
- Richard's scientific career started with butterflies.
- Ebright collected butterflies when he was in kindergarten.
- His mother encouraged his interest in learning.
- She took him on trips and bought telescopes, microscopes, cameras and other equipments.
- His father died very young and his mother became his only companion motivator.
- By the time Richard Ebright was in the second grade, he had collected twenty-five species of butterflies found around his hometown.
- His mother gifted him a children's book called *The Travels of Monarch X.*
- The book described how monarch butterflies migrated to Central America and opened the world of science for Richard Ebright.
- He sent tagged butterflies to Dr Urquhart, the writer of the book.
- Ebright raised a flock of butterflies in his basement and world tag the butterflies' wigs to send them to Dr Urquhart.
- In the seventh grade, he entered the County Science Fair and lost.
- He wrote to Dr Urquhart for new ideas and received many suggestions for experiments.
- The next year, his science fair project was to test the theory that viceroy butterflies copy monarch butterflies.
- The project was placed first in the zoology division and third overall in the County Science Fair.
- In his second year in high school, Richard Ebright discovered an unknown insect hormone.
- He and his friend showed that tiny gold spots on butterflies produced a hormone that was necessary for the butterfly's full development.
- This project won Ebright first place in the county fair and an entry into the international Science and Engineering Fair.
- He grew cells from a monarch butterflies wing in a culture.
- Ebright was able to identify the hormone's chemical structure.
- He showed how the cell can 'read' the blueprint of its DNA, the blueprint for life.
- Richard Ebright graduated from Harvard with highest honours, second in his class of 1, 516
- Ebright had time for other interests too.
- He was a champion debater, a good canoeist, and an expert photographer.
- Richard Ebright had great admiration for his social studies teacher. Richard A Weiherer who opened his mind to new ideas.

I. Multiple choice questions

I. "I didn't get any real results,' he said. "But I went ahead and showed that I had Experiment. This time I won." The next year his Science Fair Project was testing the Theory that Viceroy Butterflies copy Monarchs. The Theory was that Viceroys look like Monarchs because Monarchs don't taste good to Birds. Viceroys, on the other hand, do taste good to Birds. So, the more they look like Monarchs, the less likely they are to become a Bird's Dinner. 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 Monarchs it could get.

1. Choose the option listing Ebright's Qualities as depicted by the above extract.

1. Persevering
2. Visionary
3. Determined
3. Liberal
5. Conceited

A. Option 1 & 2 B. Option 3 & 5 **C. Option 1 & 3** D. Option 4 & 5

2. According to Dictionary, 'fair' as a noun, shows the following meanings.

Choose the option that lists the meaning similar to the usage to that in the extract.

A. A gathering of stalls and Amusements for Public Entertainment.

B. A Competitive Exhibition showcasing Products or Ideas.

C. A Periodic Gathering for the Sale of Goods.

D. An Annual Exhibition of Livestock, Agricultural products, etc., held by a Town, County or State.

3. Choose the option that is true for the two statements given about the information in the extract:

Statement 1- Starling feeds on Viceroys.

Statement 2- Starling feeds on Viceroys.

A. Bothe statements are clearly mentioned in the extract.

B. Statement 1 cannot be clearly inferred from the Text and statement 2 is true.

C. Statement 1 is false and statement 2 cannot be clearly inferred from the Extract.

D. Both statements need to be inferred from the given Extract.

4. Choose the statements that are TRUE for the given extract contextually:

1. Ebright didn't get any Results for the Experiment he conducted on Butterflies.
2. Monarchs tasted awfully to the Birds.
3. Ebright wanted to explore the possibility of Monarchs getting eaten by Birds.
4. He wanted to prove that Viceroys are look alikes of Monarchs.

A. 1, 2 **B. 2, 3** C. 1, 3 D. 2, 4

5. Four Friends bring their Pets to a pet show. Choose the option that mentions the friend with a starling as a pet.

Friend 1 has a Turtle name Missy.

Friend 2 has a Dragonfly named Majesty.

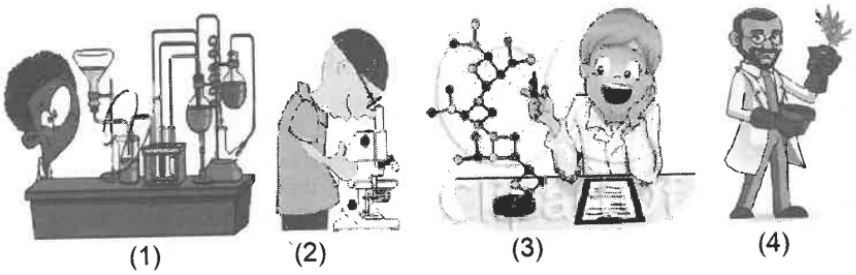
Friend 3 has a rabbit named Molly.

Friend 4 has a Bird named Mitch.

A. Friend 1 B. Friend 2 C. Friend 3 **D. Friend 4**

II. When he saw those photos, Bright didn't shout, 'Eureka!' or even, 'I've got it!' But he believed that, along with his findings about Insect hormones, the photo gave him the answer to one of biology's puzzles: how the cell can 'read' the blueprint of its DNA. 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 Blueprint for life. Ebright and his College Room-mate, James R. Wong, worked all that night Drawing Pictures and Constructing Plastic Models of Molecules to s how it could happen. Together they later wrote the paper that explained the Theory.

1. Choose the option that shows the picture of the type of task Ebright and Wong were engaged in, as per the extract.



(1) (2) (3) (4)

A. Option 1 B. Option 2 **C. Option 3** D. Options 4

2. Ebright was perhaps expected to shout 'Eureka!' because he had:

A. Realised that he needed a Partner to work with to finalise his findings.

B. Discovered something new and 'Eureka!' was a cry to announce it.

C. Worked hard and was relieved at nearing the end of his Project.

D. Given shape to the teachings of his Teachers by choosing this Field of Science.

3. "Thus, DNA is the Blueprint for Life", is another way of saying that the DNA contains a Genetic _____.

A. Experiment B. Ultimatum

C. Takeaway **C. Plan**

4. Four Newspapers published a headline about Ebright and Wong. Choose the option that published a factually correct headline, as per the extract.

Newspaper 1	Newspaper 2	Newspaper 3	Newspaper 4
WONG DENIES CONTRIBUTING TO EBRIGHT'S THEORY	EBRIGHT COLLABORATES WITH ROOM-MATE WONG	WONG AND EBRIGHT EXAGGERATE THEIR THEORY DEFY LOGIC	EBRIGHT AND WONG'S THEORY PROVED WRONG

A. Newspaper 1 **B. Newspaper 2**

C. Newspaper 3 D. Newspaper 4

5. Compound words are those words which are formed by joining two separate words to create a new word with an entirely different meaning.

Choose the option that lists the compound words from the above extract.

1. Determines
2. Blueprint
3. Nucleus
4. Heredity
5. Room-Mate

A. Option 1 & 3
B. Option 2 & 4
C. Option 1 & 4
D. Option 2 & 5

Short Answer Type Questions

1. How did Richard Ebright excite the scientific world at the age of twenty two?

Ans. Richard Ebright was just twenty-two when he 'excited' the scientific world with a new theory. It was on how cells worked. Ebright and his college room- mate explained the theory in an article in the 'Proceedings of the National Academy of Science'. It was the first time that this famous scientific journal had ever published the work of college students.

2."… There was one thing I could do – collect things," What did Richard Ebright do in his childhood?

Ans. "There wasn't much I could do there . . . But there was one thing I could do – collect things," said Richard Ebright. So he did. While still in kindergarten, he started collecting butterflies. But the time he was in the second grade, he had collected all 25 species of butterflies found around his hometown. He also collected rocks, fossils and coins. He sometimes did star-gazing all night.

3. How did Ebright's mother help him in becoming a scientist?

Ans. Ebright's mother encouraged his interest in learning. She took him for trips. She bought him telescopes, microscopes, cameras, mounting materials and several other equipments. Thus she encouraged him in becoming a scientist.

4. How was Richard Ebright's mother a source of inspiration and encouragement in his quest for learning?

Ans. Richard Ebright was fortunate enough to have a highly helping and encouraging mother. She compensated the early loss of his father. She encouraged his interest in learning. She took him on trips, bought him telescopes, microscopes, cameras, mounting materials and other equipments. She found work for him and helped him in learning things and in many other ways.

5. What book opened the world of science to the eager young collector, Richard Ebright?

Ans. Richard Ebright was found of collecting things. By the time he was in the second grade, he had collected all twenty-five species of butterflies found around his hometown. But the book that opened the world of science to the eager young collector was The Travels of Monarch X. It was a children's book gifted to him by his mother. The book described how monarch butterflies migrated to Central America.

6. Why and where did Richard Ebright send the tagged butterflies?

Ans. At the end of the book, The Travels of Monarch X, readers were invited to help study monarch butterflies' migration. They were asked to tag butterflies for research by Dr Urquhart for his research work.

7. How did Ebright's basement become a home to thousands of monarch butterflies?

Ans. Richard Ebright used to send tagged monarch butterflies to Dr Urquhart for his research work. Chasing butterflies on by one was difficult and he couldn't catch many. So he decided to raise some of the butterflies in his basement. He would catch a monarch butterfly, take her eggs and raise them. Then, he would tag the butterflies' wings and let them go. So, his basement became a home to thousands of monarch butterflies.

8. When and how did Richard Ebright get a hint of what real science is?

Ans. Richard Ebright was in the seventh grade when he got a hint what real science was. Actually, he entered a county science fair – and lost. He didn't get anything while everybody else had won. It was a very sad feeling for young Ebright. His entry was slides of frog tissues. He showed them under a microscope. He realised that winners had tried to do real experiments. On the other hand, he failed because he simply made a neat display.

9. Who was Dr Frederick Urquhart? Why did Richard Ebright look to him for fresh ideas?

Ans. Dr Frederick A Urquhart was a scientist and teacher in the University of Toronto Canada. He was doing research on butterfly migrations. Ebright sent him many tagged butterflies for his research work. Richard Ebright looked to him for fresh ideas and suggestions. Dr Urquhart sent many suggestions for experiments which helped Richard Ebright in winning many prizes in Country and International Science Fairs.

10. Why do viceroy butterflies copy monarch butterflies? What reasons did Richard Ebright give in this regard?

Ans. One of Richard Ebright's projects was to test the theory that viceroy butterflies copied monarch butterflies. Viceroys looked like monarchs because monarchs didn't taste good to birds. Viceroy butterflies, on the other hand, tasted good to birds. So, they try to copy and look like them to protect themselves from birds.

11. Were twelve tiny gold spots on a monarch pupa just ornamental? What did Richard Ebright prove in this regard? What honours did this project bring to Richard Ebright?

Ans. Many thought that the twelve gold spots on a monarch pupa were just ornamental. But Dr Urquhart didn't believe it. Richard built a device that showed that the spots were producing a very important hormone. That hormone was necessary for the butterfly's full development. This project won Ebright first place in the county fair and an entry into the International Science and Engineering Fair.

12. What lesson did Richard Ebright learn when he didn't win anything at the County Science Fair?

Ans. Richard Ebright was in the seventh grade when he sent his first project in the County Science Fair. Everybody else had won something. But he returned empty handed. It was really a sad experience for him. But his loss taught him an important lesson in life. He realised that to be a winner he would have to do real experiments. His project of merely showing slides of frog tissues under a microscope didn't click. He should have done real experiments and that is what real science is all about.

13. How did Richard Ebright grow cells from a monarch butterflies wing? What did that project win for Ebright?

Ans. Richard Ebright continued his journey further. He grew cells from a monarch's wing in a culture. He showed that cells could divide and develop into normal butterfly wing scales. They must be fed from the hormone received from the gold spots. This project won first place of zoology at the International Fair.

14. How and where did Richard Ebright identify the hormone's chemical structure?

Ans. After his freshman year at Harvard University, Ebright went back to the laboratory of the Department of Agriculture. He did more work on the hormone of the gold spots. Using sophisticated instruments there, he was able to identify the hormone's chemical structure.

15. How did Richard Ebright give answer to one of the biology's puzzles-how the cell can read the blueprint of its DNA?

Ans. When Richard Ebright saw X-ray photos of the chemical structure of a hormone, he didn't cry, "Eureka!" He didn't even say, "I've got it!" He was sure that the photos gave him the answer to one of biology's puzzles. He had found out how the cell could read the blueprint of its DNA. DNA is the substance in the nucleus of a cell that controls heredity. It is the blueprint for life.

16. Richard Ebright was a famous scientist but he had time for other interests too. What were the other interests and hobbies of Ebright?

Ans. Richard Ebright journey as a scientist started since he first began collecting butterflies. However, he found time for other interests and hobbies too. He became a champion debater and public speaker. He was a good canoeist. He was also an expert photographer. He excelled in photographer nature and scientific exhibits.

17. Why did Richard Ebright admire his teacher Richard A Weiherer?

Ans. Richard Ebright had great respect and admiration for his Social Studies teacher. He was Richard's adviser to the Debating and Model United Nations Clubs. Richard A Weiherer was the perfect person for Ebright who opened his minds to new ideas.

18. What was Richard A Weiherer's opinion of his student Richard, Ebright?

Or How did Richard A Weiherer, the social studies teacher of Ebright, judge him?

Ans. Mr. Richard A Weiherer was Ebright's Social Studies teacher and adviser. Richard A. Weiherer described Ebright a man of varied interests. Ebright put in 3 to 4 hours at night doing debate research with butterflies and his other interests. Ebright was competitive and wanted to be the best.

19. Did Richard Ebright have all the ingredients that are necessary in the making of a scientist? Give a reasoned answer.

Or Assess Richard Ebright as a scientist.

Ans. Fortunately, Richard Ebright had all the essential ingredients that are necessary in the making of a great scientist. He had a first rate mind and always got first grades in schools. At Harvard, he was second in his class of 1510. He had curiosity of knowing 'how' of things. Last but not the least, he was competitive and wanted to be the best. He had the will to win for the right reasons.

20. How did Ebright's mother help him in becoming a scientist?

Ans. It is true that without the support and motivation of his mother, Richard Ebright would not have been a successful scientist. It was his mother who recognised his driving curiosity and bright mind. She always encouraged his interest in learning. She organised trips for him so that he could learn more.

21. How did Richard Ebright's mother help him?

Ans. Richard Ebright's mother helped him by encouraging his interest in learning. She took him on trips, bought him telescopes, microscopes, cameras, mounting materials and other equipment.

In fact, she was his only companion till he started going to school. At night she did things with him. If he had nothing to do, she found work for him related to learning.

22. Which book did Ebright's mother get for him? How did it change his life?

Ans. Ebright's mother got a children's book 'The Travels of Monarch X', for him. This book brought about a turning point in Ebright's life. It inspired him to know how Monarch butterflies migrated to Central America. The book opened the work of science to Ebright. Thus, it changed his life.

23. What lesson did Ebright learn when in the seventh grade he entered a county science fair?

Ans. When Ebright was in the seventh grade, he entered a county science fair. But he could not win any prize. He only got a hint of what a real experiment was. However, his competitive spirit encouraged him to do a real experiment.

24. According to Mr. Weiherer, what make Richard Ebright a winner?

Ans. According to Mr. Weiherer, Richard was not interested in winning for the sake of winning to get a pize. But he wanted to win because he wanted to be the best.
So, that is one of the ingredients in the making of a scientist. His first rate mind, curiostity and iron will made him a winner.

25. What lesson did Ebright learn when he could not win a prize at the science fair?

Ans. When Ebright could not win a prize at the science fair, he learnt that he would have to do real experiments in order to win a prize. When he was in the seventh grade, he took part in a county science fair. He showed slides of frog issues in the fair.

26. Why did Richard Ebright raise a flock of butterflies?

Ans. Richard Ebright raised a flock of butterflies because it was difficult for him to catch a large number of butterflies for research as the butterfly collecting season lasts for six weeks in late summer.

27. What were the factors which contributed to making Ebright a scientist?

Ans. There are some genuine factors that contribute to making Ebright a scientist. First, he had a 'driving curiosity along with a bright mind' and zeal to do new ideas. Secondly, his mother's encouragement and inspiration stood him in good stead to create interest in science. Finally, 'The Travels of Monarch X' opened the world of science to Ebright.

28. What lesson did Ebright learn when he did not win anything at a science fair?

Ans. When Ebright did not win anything at a science fair, he learnt that he would have to do real experiments to win a prize.

When he was in the seventh grade, he took part in a county science fair, but he lost. There he showed only slides of frog tissues.

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

Ans. In his senior year in the high school, Ebright began to search an unknown hormone in the gold sports of the butterflies. He proved that cells of a monarch would develop into a normal butterfly wing only if they were fed the hormone from the gold spots.

Another contribution of Ebright in the world of science is that he discovered how the cell could read the blue print of its DNA.

30. According to the author, what are the qualities that go into the making of scientist?

Ans. The qualities that go into the making of a scientist are: a sense of competitiveness, high curiosity, zeal to create new ideas, never to accept defeat, and mix in the will to win for the right reasons. All these qualities Ebright had in his character. That is here he became a scientist.

31. Why did Richard Ebright give up tagging butterflies?

Ans. Richard Ebright gave up tagging butterflies because he gradually lost interest in it. He found it absolutely a tedious work. Moreover, there was not much feedback. He tagged many butterflies but only two of them were captured. In fact, in the book, "The Travels of Monarch, readers were asked by Dr. Frederick to tag butterflies for research.

32. What other interests besides science did Richard Ebright pursue?

Ans. Richard Ebright had other interests besides science. To his credit, he became a champion debater and public speaker. He was also a good canoeist and an all-around outdoor person. He was also an expert photographer, particularly of nature and scientific exhibits.

Long Answer Type Questions

1. Give a character sketch of Richard Ebright highlighting his achievements and his added interests.

Ans. Richard H Ebright was a many faceted genius. He was a competent scientist, a lovable son, a respecting pupil and above all. A man with varied interests and hobbies. But first and foremost, he was a scientist. His fame rests on his wonderful works and achievement on butterflies. By the time he was in the second grade, Ebright collected all twenty-five species of butterflies found around in his hometown. Ebright was a great learner. He learnt an important lesson at his first county science fair. The book, Travels of Monarch X, opened the world of science to the eager young collector. One of his famous projects was based on theory that viceroy butterflies copied monarch butterflies to escape being eaten by birds. Later, Ebright showed that the spots on a monarch pupa produced a hormone necessary for the butterfly's development. He also proved that DNA controls heredity and is the blueprint for life.

Richard Ebright got all his encouragement, help and inspiration from his mother. He was her only companion and they spent almost every evening at the dining table. She encouraged his interest in learning. She bought him telescopes, microscopes, cameras and other instruments for him. Dr Urquhart helped him with new suggestions and ideas.

Richard Ebright was more than a scientist. He found time for other interests and public speaker. He was a good canoeist and an expert photographer. He had a first rate mind, competitive spirit and scientific curiosity.

2. Describe the contribution of his mother in Richard Ebright's life. What role did she play in making Ebright a scientist?

Ans. They say that behind the success of a man stands a woman. And in Richard Ebright's success as a scientist and also as a man, solidly stood his mother. Richard Ebright's father had died when he was just in the third grade. "Richie was my life after his father dies…," said his mother. He was her only companion and they spent almost every evening at the dining table. Ebright's mother encouraged his interest in learning. She knew that her son had a driving curiosity along with a bright mind. She took him on trips, bought him telescopes, microscopes, cameras, mounting materials and other equipments. She helped Ebright in many ways. She was

an important link between Dr Urquhart and her son. She wrote to Dr Urquhart and after her advice, Ebright sent tagged butterflies to him in Canada. She knew that her son had a passion for collecting things. His interest in his butterfly collecting would have ended if she had not got him a children's book called The Travels of Monarch X. That book told how monarch butterflies migrated to Central America. It opened the world of science to the eager collector.

3. How did Richard Ebright's not winning anything at him first County Science Fair motivate him to become a great scientist? What lessons did he learn from his failure there?

Ans. Richard Ebright had started the work of butterflies and insects from a very early age. His main work was based on butterflies. By the time he was in the second grade, he had collected all twenty-five species of butterflies found around his hometown. But he learnt the lesson of his life when he was in the seventh grade. He got a hint of what real science was. He entered the County Science Fair with a project. His project was slides of frog tissues, which he showed under a microscope. In the fair, he failed miserably else had won something. It was really a very sad feeling for him.

From his first county science fair, Ebright came to know what real science was. He also learnt a lesson of knowing what made a winner. He realised his mistakes. He had only made a neat display of frog tissues under a microscope. He realised that winners had tried real experiments. From then onwards, he looked to Dr Urquhart gave him number of suggestions for experiments. Continuous research and experimentations won him great honour and prizes locally as well as internationally.

4. What other interests, besides science did Richard Ebright pursue? Why did Ebright respect and praise his Social Studies teacher do much?

Ans. No doubt, first and foremost, he was a scientist. He was interested in science, he first began to collect butterflies. But this scientist found time for other interests too. He was a man of many parts-a multifaceted genius. Not only did he collect butterflies but also took deep interest in other activities. He collected rocks, fossils, and coins. He became an eager astronomer. He would indulge in star-gazing sometimes all night. Ebright also become a champion debater and public speaker. In this field, his Social Studies teacher turned Ebright's tremendous energy towards the Debating and Model United Nations Clubs. He was a good

canoeist and all- round outdoors-person. He excelled in nature and scientific exhibits. In brief, besides being a remarkable scientist, Richard Ebright enjoyed all pleasures, adventures, hobbies and entertainments that a happy and civilised living provided to him.

5. How did Ebright use determination and perseverance to achieve his aim of becoming a scientist.

Ans. "Where there is a will, there is a way." Ebright had a determination to become a scientist but did not have enough resources. His will and curiosity was satisfied by his mother till his school education. He worked hard on various projects and models and won many prizes. As a high school junior, he continued his advanced experiments on the monarch pupa. His perseverance was rewarded and he won prize. This gave him another chance to work in a well-equipped advanced Army Laboratory during the summer. In his senior year, he again got an opportunity to work at the army laboratory. Thus, he was able to conduct many experiments. His determination to work and perseverance overcame the lack of resources and helped him become a successful scientist. When we are determined to do something, resources are automatically generated. We get help from every corner.

6. Describe Richard Ebright's childhood.

Ans. Richard Ebright grew up in the north of Reading, Pennsylvania. Beginning in the Kindergarten, he had the fascination to collect butterflies. From the dawn of his life, he had a driving curiosity with a bright mind. Ebright was everything for his mother since his father's death. However, he used to get top grade n the school. When he was in second standard, he collected twenty-five species of butterflies found around his hometown. The book, 'The Travels of Monarch X' brought a turning point in his life, when he was in the eighth standard, he tried to find the cause of the viral disease of the monarchs. His trial of this experiment won him a prize. Thus, Ebright bids fair to be an outstanding scientist in future.

7. What other interests besides science did Richard Ebright pursue? What opinion did Mr. Weiherer, his social studies teacher, have about Ebright?

Ans. Besides science, Richard Ebright had also interest in other fields. He also became a champion debater and public speaker. He was a good canoeist and an all-round outdoors-person. He was an expert photographer, particularly of nature and scientific exhibits. In high school,

Richard Ebright was a straight-A student. He rendered a lot of energy towards the Debating and Model United Nation Club.

Mr. Weiherer, his social studies teacher, cherished a high opinion about Richard Ebright. His research with butterflies and other interests. Mr Weiherer emphasized that Richard was winning because he wanted to do the best job he could do. For the right reason, he wanted to be the best of the best.

8. How did Richard Ebright's mother help him?

Ans. Richard Ebright's mother helped to make him a renowned scientist speaks volumes. She always encouraged him in learning new things. She took him on trips, bought him telescopes, microscopes, cameras, mountaineering materials and other equipment and also helped him in many other ways. Once his mother said at the dining table, 'If Richard didn't have things to do, I found work for him-not physical work, but learning things.' However, her most remarkable gift to Richard was a children's book 'The Travels of Monarch X' that opened the world of science to young Richard. Richard was proud of his mother who was his only companion, friend and guide since his childhood. Once his mother said, 'Richard is my whole life, the apple of my eye since his father's death when he was in the third grade'.

9. What lesson did Ebright learn when he did not win anything at the science fair?

Ans. In the seventh grade, Ebright hot a hint of what real science is when he took part in County Science Fair, and could not win anything in it. He felt, it was really a sad feeling to sit there and not get anything while everybody else had won something. From this failure, he realized that the winners had tried to do real experiments to win the prize in the next year's fair.

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

Ans. "The Travel of Monarch X" became a turning point in Richard Ebright's life. His mother gave him this book. It inspired him to know the fact that how butterflies migrated to Central America. In fact, this book opened the world of science to Ebright.

At the end of the book, readers were invited to help study butterfly migration. They were asked to tag butterflies for research by Dr. Frederick A Urquhart of the University of Toronto, Canada.

Ebright attached light adhesive tags to the wings of monarchs as per the instruction given in the book. It is his mother who helped him inform Dr. Urquhart.

11. When did Ebright learn what real science is? How did it help him to become a successful scientist?

Ans. When Ebright could not win anything at a science fair, he understood that he would have to do real experiments to win the prize. So, his competitive spirit encouraged him' to do a real experiment. Moreover, the book, 'The Travels of Monarch X', opened the world of science to him. After that he never lost in the competition as he had learnt what real science is the book 'the Travel of Monarch 'helped him to become a successful scientist. It inspired him to research the fact how Monarch butterflies migrated to Central America.

SELF -ASSESSMENT

Short Answer Type Questions

1. What do you know about Amanda after reading the poem?
2. Who do you think is speaking to her? Isn't she her own mother?
3. Why doesn't Amanda answer the questions asked by her mother?
4. Why does Amanda want to be a mermaid?
5. Amanda wants to be an orphan. Why?
6. Why does Amanda want to be Rapunzel?
7. Is Amanda's mother a really nagging mother? Give examples.
8. Is Amanda really sulking and moody?

Long Answer Type Questions

1. Describe Amanda's mother's constant efforts of instructing and guiding her to do or not to do things. Do children like such a nagging mother? Does Amanda like her?
2. Amanda's efforts to escape into her own world of imagination and dreams are mere escapism. Her mother's constant nagging drives her into such a world. Elaborate.