

**THE MAKING OF
A SCIENTIST**

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PROSE





The Making of a Scientist

— Robert W. Peterson



'The Making of a Scientist' is a biographical episode of a well-known scientist Richard H. Ebright. Richard has a habit of collecting butterflies, rock fossils and coins since childhood. The episode covers the hard work and stages of Richard in becoming a successful scientist. His curiosity and enthusiasm to achieve something great in the field of science is appraisable.

Topic Notes

-  Characters in Brief
-  Chapter in Detail
-  Learnings
-  Dictionary



Characters in Brief

Richard H Ebright

Richard H Ebright was a brilliant student and a curious child. In his hometown Reading, he had nothing much to do so he used to catch butterflies, collect rock fossils and coins. He was also interested in astronomy and used to do star-gazing at night. Ebright used to do all his science experiments and activities with single-minded devotion. He performed very well in the science fair. Even after being so successful at his experiments, Ebright was a modest person. He used his failures to learn a lesson from them. His devotion and determination to achieve something new in the field of science was worth praising. Ebright was not only a great scientist but also a good human being.

Ebright's mother

Ebright's mother was his greatest support in becoming a scientist and a good human being. He was the only child and after his father's death, Ebright was his mother's whole life. His mother used to call him 'Richie'. She used to encourage Ebright and drive him morally to finish his tasks determinedly. She would buy him telescopes, microscopes, cameras, mounting materials and other equipments. She was Ebright's best companion who would always help him in learning new things. Ebright's mother's support and guidance was an important aspect to make Ebright a successful scientist.

Chapter in Detail

Ebright's Achievement at a Young Age

Ebright surprised the entire scientific world when he published his paper "Proceedings of the National Academy of Science" in an important scientific journal with the help of his college-mate. He was twenty-two-year old at that time. His work on the theory 'on how cells work' was a rare achievement. It was a big achievement for such a young student to get his paper published in the journal.

Ebright's Mother's Extreme Support to Him

Ebright grew up in the city of Reading, Pennsylvania. He was the only child of his parents. In childhood, he didn't have much to do in his home town so he developed a hobby of collecting things. He used to collect butterflies, rock fossils and coins. He also liked to star-gaze. Ebright was a brilliant student who used to get good grades. Ebright's mother was his best companion. She wouldn't let Ebright sit idle and would keep him engaged in learning new things. She bought him telescopes, microscopes, cameras, mounting materials and other equipment. When Ebright was in third grade, his father died. His mother became his biggest support. Ebright and his mother's relationship strengthened further when she started guiding him on various things.

Richards Tags the Butterflies for Research

Ebright's mother wanted her son to keep his interest in the study of butterflies. To ensure this, she bought him a book titled 'Travels of Monarch X'. The book taught Ebright about the migration of the monarch butterflies to Central America. The important feature of the book was that it asked the readers to tag butterflies to help Dr. Frederick A. Urquhart of Toronto

University for research. Ebright became curious in the study of butterflies and decided to tag them. As the butterfly collecting season would only last for six months, it was futile for Ebright to tag them one by one. So, he caught a female monarch butterfly and raised her eggs in his basement to tag as many butterflies as he could. Gradually, Ebright lost his interest in tagging the butterflies as it was a less rewarding job. However, out of all the butterflies that he tagged, only two could be recaptured.

Example 1. How did a book become a turning point in Richard Ebright's life? [NCERT]

Ans. When in the second grade, Richard had collected all the species of butterflies found around his hometown due to which there was a possibility of him losing interest in science. However, that is when his mother brought him the book 'The Travels of Monarch X' which opened up a whole new world of science for him and was a turning point in his life.

Ebright's County Fair Experience

In seventh grade, Ebright came to know about the county science fair. His entry in the fair was slides of frog tissues. However, he learnt that a mere display of the slides or any object wasn't sufficient to win the fair. In order to win the fair, he had to carry out a real experiment. Then he decided to participate in the fair again with his work on 'insects' and he asked Dr. Urquhart for suggestions on it. He got so many suggestions in return that they were enough to keep him busy all through the high-school. He also won many prizes for the county and international fairs.

Example 2. What lesson does Ebright learn when he does not win anything at a science fair?[NCERT]

Ans. When Ebright does not win anything at the Science Fair, he realises the winners had tried to do real experiments, not simply make a neat

display. Then he knows that for the next year's fair he would have to do a real experiment.

Ebright's Project in Eighth Grade

For Grade eight, Ebright thought of researching on a viral disease that was leading all monarch caterpillars to die every few months. He thought that the virus was carried by beetles. So, he raised caterpillars along with the beetles together to research. Though he didn't get any success from it but he still received prize for the experiment itself.

Ebright's Research on the Viceroy Butterflies

The next project of Ebright was to verify the fact that the viceroy butterflies copy monarchs. It was believed that the Monarch didn't taste good so they weren't eaten by the birds. So, the viceroy butterflies used to give the impression of being monarchs to the birds. However, in his research, Ebright discovered something different. He got to know that starlings would not eat ordinary bird food but they ate monarchs greedily. His project won him the first prize in the Zoology division while the third in the overall county fair.

Ebright's Discovery of an Unknown Insect Hormone

For his second year high-school project, Ebright wanted to study the purpose of the twelve tiny gold spots on the Monarch pupa. It was believed that these spots were just ornamental for the butterfly, however, Ebright and his college mate found out through their study that these spots produced hormones that helped the pupa to develop completely. Ebright bagged the first prize with this project in the county fair which gave him an entry into the International Science and Engineering fair. There his project was given the third prize in the Zoology division. During the summer, he also got the chance to work at the entomology department of the Walter Reed Army Institute of Research. The next year, Ebright grew cells from the hormones of the golden spots of Monarch pupa and showed that these cells divide and develop into grown up butterfly wings. Later, after completing his freshmen years at the Harvard University, he went back to the Agricultural Laboratory to research more on the cells of spots and discovered the chemical structure of the hormone.

Ebright Further Studies the X-Rays and DNA of Cells

After a year and a half, Ebright got an idea while studying the chemical structure of the hormone in the X-ray photo. He got the answer of the biggest biological puzzle after examining the x-ray photo. It was to determine how cell could 'read' the blueprint

of its DNA that controls heredity. Then he published his complete study in detail in a paper with the help of his college roommate named James R Wong. The details included pictures of X-rays and plastic models. Later, Ebright graduated from Harvard University with highest honours. He was placed second in the class of 1510 students. He then joined the Harvard Medical School and continued his research and experiments on his theory of cells. He believed that if the experiments proved the theory, it will be a boon for the scientific world as it will prevent many fatal diseases.

Ebright's Other Interests

Ebright had other interests too along with the ones in the field of science. As a young student, he was a great debater. He was interested in outdoor activities. He was a good canoeist and a photographer as well. He took many pictures of natural objects and science exhibits. He liked his social studies teacher Richard A. Weiherer who gave Ebright many ideas and honoured him and his capabilities a lot. He was also a modest and a good student. Ebright was a true scientist.

Example 3. Extract Based:

Read the extract given below and answer the questions that follow:

Then in the seventh grade he got a hint of what real science is when he entered a county science fair — and lost. "It was really a sad feeling to sit there and not get anything while everybody else had won something," Ebright said. His entry was slides of frog tissues, which he showed under a microscope. He realised the winners had tried to do real experiments, not simply make a neat display.

Already the competitive spirit that drives Richard Ebright was appearing. "I knew that for the next year's fair I would have to do a real experiment," he said. "The subject I knew most about was the insect work I'd been doing in the past several years."

(A) Ebright's entry for the county science fair was:

- (a) monarch tissues (b) bird tissues
 (c) frog tissues (d) DNA

(B) To be the winner of the county fair, one has to:

- (a) show a real experiment
 (b) display figures neatly
 (c) give correct details
 (d) conduct experiment in short time

(C) The phrase "I knew that for the next year's fair I would have to do a real experiment," shows that Ebright had:

- (a) negative approach
 (b) depression
 (c) perseverance
 (d) despair

- (D) Ebright was interested in:
 (a) entomology (study of insects)
 (b) astronomy (study of cosmic objects)
 (c) cosmetology (study of beauty treatments)
 (d) ethology (study of animal behaviour)
- (E) The term 'hint' is NOT similar to:
 (a) clue (b) sign
 (c) signal (d) conceal

Ans. (A) (c) frog tissues

Explanation: It is clear from the extract that Ebright's entry for the fair was 'slides of frog tissues'. Hence, (c) is the right answer.

(B) (a) show a real experiment

Explanation: It is clear from the extract that to win the county fair, one has to 'show a real experiment not just a neat display'. Hence, (a) is the right answer.

(C) (c) perseverance

Explanation: The phrase shows that even after losing at the county fair, Ebright didn't stop trying. This means that he had (c) perseverance in him. Hence, (c) is the right answer.

(D) (a) entomology (study of insects)

Explanation: It is clear from the extract that Ebright 'knew most about the insect work that he had done in the past several years'. It tells us that he was interested in 'insect study' which is known as (a) entomology. Hence, (a) is the right answer.

(E) (d) conceal

Explanation: The term 'hint' means clue. Options (a), (b) and (c) are all similar to 'hint' while (d) conceal means to hide. Hence, (d) is the right answer.



Learnings

- One needs utmost devotion, determination and focus to be successful in life.
- Failures treated in a right way can become a boon for the person who tries.
- One must have curiosity, enthusiasm and will power to achieve rare distinctions.
- Family support and motivation is the biggest power in achieving greater heights.



Dictionary

Word	Meaning	Synonyms	Antonyms
Determination	firm resolution	perseverance	irresolute, timid
Variiegated	marked by variety	colorful, multi-color	plain, monochrome
Tedious	dull and slow	boring, unvaried	exciting, interesting
Ornamental	decorative	fancy, attractive	plain, ordinary
Exhibits	to show	reveal, manifest	hide, conceal

OBJECTIVE Type Questions

[1 mark]

Extract Based Questions

1. Read the extract given below and answer the questions that follow:

"I didn't get any real results," he said. "But I went ahead and showed that I had tried the 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.

[CBSE Question Bank 2021]

- (A) Choose the option listing Ebright's qualities as depicted by the above extract:
 (1) persevering
 (2) visionary
 (3) determined

- (4) liberal
 (5) conceited
 (a) (1) & (2) (b) (3) & (5)
 (c) (1) & (3) (d) (4) & (5)
- (B) According to the 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.
- (C) Choose the option that is true for the two statements given about the information in the extract:
 Statement (1): Starling feeds on viceroy.
 Statement (2): Starling does not eat seeds and insects.
- (a) Both 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 the statements need to be inferred from the given extract.
- (D) 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 lookalikes of monarchs.
- (a) (1) & (2) (b) (2) & (3)
 (c) (1) & (3) (d) (2) & (4)
- (E) 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 named 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

Ans. (A) (c) (1) & (3)

Explanation: It is clear from the extract that Ebright 'didn't get any result but showed that he had tried the experiment'. This shows that he didn't stop trying even after failure as he was (3) determined and had (1) perseverance. Hence, (c) is the right answer.

(B) (b) A competitive exhibition showcasing products or ideas.

Explanation: It is clear from the extract that it was an exhibition of scientific products and experiments. Hence, (b) is the right answer.

(C) (c) Statement (1) is false and statement (2) cannot be clearly inferred from the extract.

Explanation: It is mentioned in the extract that starling eats monarchs but not viceroys so statement (1) is false. It is not mentioned anywhere if starling doesn't eat seeds or insects. So, statement (2) can't be inferred. Hence, (c) is the right answer.

(D) (d) (2) & (4)

Explanation: It is clear from the extract that Ebright wanted to work on a "theory that viceroys look like monarchs because monarchs don't taste good to birds". So, (2) and (4) are right. Hence, (d) is the right answer.

2. Read the extract given below and answer the questions that follow:

The butterfly collecting season around Reading lasts six weeks in late summer. (See graph below.) If you're going to chase them one by one, you won't catch very many. So the next step for Ebright was to raise a flock of butterflies. He would catch a female monarch, take her eggs, and raise them in his basement through their life cycle, from egg to caterpillar to pupa to adult butterfly. Then he would tag the butterflies' wings and let them go. For several years his basement was home to thousands of monarchs in different stages of development.

(A) The town Reading was Ebright's:

- (a) college town (b) home town
 (c) laboratory area (d) University area

(B) Why did Ebright want to catch butterflies?

- (a) It was his hobby.
 (b) He wanted to pet them.
 (c) He wanted to tag them for research.
 (d) It was his school project.

(C) Why did Ebright raise the butterflies instead of catching them?

- (a) He was not capable of catching them.
 (b) There wasn't any butterfly.
 (c) The season for butterflies was over.
 (d) Butterfly season lasts only six weeks in Reading.
- (D) Ebright caught to raise its eggs in the basement.
 (a) Monarch (b) Viceroy
 (c) skipper (d) swallow tail
- (E) Pick the stage that is NOT present in Ebright's raising of butterfly:
 (a) eggs (b) caterpillar
 (c) pupa (d) wasp

Ans. (A) (b) home town

Explanation: Reading was the home town of Ebright. Hence, (b) is the right answer.

(B) (c) he wanted to tag them for research

Explanation: It is clear from the extract that Ebright wanted to tag the butterflies. His mother bought him a book whose author asked the students to tag butterflies for him to research. Hence, (c) is the right answer.

(C) (d) butterfly season lasts only six weeks in Reading

Explanation: It is clear from the extract that butterfly season lasts for only six weeks in Reading so 'he couldn't catch many by chasing them one by one'. Hence, (d) is the right answer.

(D) (a) Monarch

Explanation: It is clear from the extract that Ebright caught Monarch to raise its eggs in the basement. Hence, (a) is the right answer.

(E) (d) wasp

Explanation: It is clear from the extract that Ebright raised "from egg to caterpillar to pupa to adult butterfly." He raised a butterfly not a wasp. Hence, (d) is the right answer.

3. Read the extract given below and answer the questions that follow:

When he saw those photos, Ebright didn't shout, 'Eureka!' or even, 'I've got it!' But he believed that, along with his findings about insect hormones, the photos 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 show how it could happen. Together they later wrote the paper that explained the theory.

(A) Choose the option that shows the picture of the type of task Ebright and Wong were engaged in, as per the extract:



(a) (b) (c) (d)

(B) 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.

(C) "Thus, DNA is the blueprint for life", is another way of saying that the DNA contains a genetic

- (a) experiment (b) ultimatum
 (c) takeaway (d) plan

(D) Four newspapers published a headline about Ebright and Wong. Choose the option that published a factually correct headline, as per the extract:

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

- (a) Newspaper 1
 (b) Newspaper 2
 (c) Newspaper 3
 (d) Newspaper 4
- (E) 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) (1) & (3) (b) (2) & (4)
(c) (1) & (4) (d) (2) & (5)

Ans. (A) (c)

Explanation: It is clear from the extract that Ebright and his college mate constructed a plastic model for the DNA of cell hormones. Hence, (c) is the right answer.

(B) (b) *discovered something new and 'Eureka' was a cry to announce it.*

Explanation: 'Eureka' is a term that refers to a cry to announce a new discovery. Hence, (b) is the right answer.

(C) (d) *plan*

Explanation: DNA contains a genetic plan that remains the same forever. Hence, (d) is the right answer.

(D) (b) *Newspaper 2*

Explanation: It is clear from the extract that Ebright worked on his theory with the help of his room-mate Wong. Hence, (b) is the right answer.

(E) (d) (2) & (5)

Explanation: The words (2) blueprint and (5) roommate are made up of two separate words, i.e., 'blue+print' and 'room+mate'. Hence, (d) is the right answer.

SUBJECTIVE Type Questions

Short Answer Type-I Questions (SA-I) [2 marks]

Answer the following questions in 20-30 words:

4. What did Ebright learn in the county science fair? [Delhi Gov. 2021]

Ans. In the county science fair, Ebright learned that in order to win the prize, he needed to show a real experiment rather than a neat display of research. He failed in the fair as he just showed the slides of the frog tissues and no real experiment.

5. Do you think Richard's mother was too indulgent when she bought him things like cameras, telescopes, microscopes? Give two reasons to support your answer.

Ans. No, I think that Richard's mother wasn't too indulgent. She supported and encouraged Richard in everything that he did. She helped him with all his experiments by buying him the things that he needed. She wasn't a too indulgent mother but an encouraging one.

6. Why did Ebright lose interest in tagging butterflies? [CBSE 2020]

Ans. Ebright lost his interest in tagging butterflies as it was a less rewarding job. Also, out of all the butterflies that he tagged, only two could be recaptured. So, ultimately, he lost his interest in it.

7. What did Ebright like to do since childhood? [Delhi Gov. 2021]

Ans. Since childhood, Ebright used to collect objects. His passion was to collect butterflies, rock fossils and coins.

8. Suggest two ways by which you feel scientific temperament can be developed in a child.

Ans. There are certain ways in which scientific temperament can be developed in a child. It can be developed by making a child read books about interesting scientific discoveries and encouraging her/him to learn about science through experiments.

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

10. Do you think we always need sophisticated instruments for all science experiments? Why/ Why not? [CBSE Question Bank 2021]

Ans. No, one does not always require sophisticated instruments for all experiments in science. Some experiments require a deep study and understanding of the details of the subject.

11. Apart from science research what else was Richard interested in?

Ans. Apart from being a scientist, Richard was also a champion debater, orator, good canoeist and an all-around outdoor-person. He was also an expert photographer, particularly of nature and scientific exhibits.

12. Richard's mother was his companion and spent a lot of time with him. A parent should try to be a companion to a child. Justify. [CBSE Question Bank 2021]

Ans. A parent should always be a companion to a child. Ebright's mother was not only his moral support but also his learning partner. She encouraged Ebright to study new aspects of science and for that, she bought him many books.

13. How had Ebright's mother tried to keep his interest in butterflies?

Short Answer Type-II Questions (SA-II) [3 marks]

Answer the following questions in 40-50 words:

14. The will to win, for the right reasons, was a quality that Richard had. Do you think this quality alone can help us accomplish great feats? Why/ Why not?

Ans. The will to win for the right reason can alone help us accomplish great feats. Determination, perseverance and the urge to learn something new even after failing at it, make us achieve the aim finally.

15. ② Hobbies play a very important role in one's life. Elaborate this with reference to "The Making of a Scientist". [CBSE 2016]

16. Which book did Ebright's mother get for him? How did it change his life? [CBSE 2019]

Ans. Ebright's mother got him a children's book titled 'The Travels of Monarch X'. The book described how Monarch butterflies migrate to Central America. This book opened the world of science to the young and an enthusiastic butterfly collector, Ebright.

17. ② Richard Ebright's mother was his greatest support. Expound.

18. Dr. Urquhart made Ebright win International science fair. Comment.

Ans. Ebright failed in his previous attempts at the county science fair. So, he decided to ask Dr. Urquhart for the ideas and suggestions to work on 'insects' for his second trial at the fair. Dr. Urquhart gave Ebright several ideas and Ebright eventually won the prize at the International Science Fair by working on those ideas.

19. ② Richard's mother had been invited to a talk show after Richard's graduation from Harvard with the highest honours. Write the most memorable thing she spoke and what you think it reveals about her.

[CBSE Question Bank 2021]

Long Answer Type Questions (LA) [5 marks]

Answer the following questions in 100-120 words:

20. ② Read the following quote.

"Mother is the first teacher of a child."

Justify the quote given above in the light of contribution of Richard Ebright's mother in 'making' him 'a scientist'. [Delhi Gov. 2021]

21. Ebright had nothing really to do in his hometown Reading when he was young. His mother kept him busy with new books and equipment.

Imagine yourself as the writer of the story "The Making of a Scientist" and write an imaginary conversation between Ebright and his mother when Ebright gets bored.

Ans. Ebright: Mom...I have nothing to do. This town is devoid of interesting things!

Ebright's mother: Why Richie? Don't you have to collect colourful butterflies and rock fossils tomorrow? Also, I will buy you some new books on butterflies by Dr. Urquhart. I have heard they are extremely good.

Ebright: Oh great! I can also click pictures of the natural objects. I need a telescope for gazing stars at night. Can you buy me one mom?

Ebright's mother: Sure Richie. You also need to finish up your school project at the earliest. I will help you with that. Your friends might come over the weekend to stay with you.

Ebright: Thanks mom!

22. Imagine Richard wrote a letter to his mother when he was studying at Harvard University for motivating him and being a constant source of support throughout his growing up years. Write that letter of gratitude as Richard.

You may begin like this:

Harvard University
 Cambridge
 Massachusetts
 20 September 19XX
 Mrs. Ebright
 Reading
 Pennsylvania

Dear Mom

It's been long since I've written to you.
 [CBSE Question Bank 2020]

Ans. Harvard University

Cambridge
 Massachusetts
 20 September 1981
 Mrs. Ebright
 Reading
 Pennsylvania
 Dear Mom

It's been long since I've written to you. I miss you a lot here. You have always been my pillar of strength and morale. I couldn't imagine

being a scientist without your unconditional support. I remember when dad passed away I was in third grade, my world was shattered as he was my biggest support and my best friend. But the way you managed me with your love and support, I can never be enough thankful for that. You became my best friend, my teacher and my guardian angel. I will always be grateful to you. You have developed the enthusiasm of learning about butterflies in me since childhood. Today I am who I am only because of your hard work and guidance. I love you so much.

Love,
Richie.

23. ② Ebright was a bright student. He always got good grades at school.

Imagine yourself as the writer of the story "The Making of a Scientist" as write an imaginary conversation between Ebright's teacher and his mother when Ebright gets good grade in the class.

24. "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."

Richard Ebright's journey to become a scientist shows that Mr. Weiherer was right about him. Explain with the help of examples from the text. [Delhi Gov. 2021]

- Ans. Mr. Weiherer was right about Richard Ebright when he said that Ebright "wants to win for the right reasons, he wants to be the best." In the story, "The Making of a Scientist", Ebright lost in the first county science fair that he participated in. However, after losing the prize, Ebright became determined to win it at all costs the next time. He wanted to win because he wanted to be the best of all. He wanted to prove his theory right. He was competitive in the right way. When he lost at the county fair,

he didn't get disheartened or angry. Rather, he learned that to win the prize, a real experiment is required and not just a neat display. He took advantage of his learning and the next time, he came first. He participated in several fairs and won several prizes to prove himself and his theories right.

25. ② Ebright's mother was his greatest support. She always boosted Ebright's morale and encouraged him to never lose interest in his subject.

Imagine yourself as the writer of the story "The Making of a Scientist" and write an imaginary conversation between Ebright and his mother when Ebright loses his first entry at the county science fair.

26. Albert Einstein said, 'The important thing is to never stop questioning.' Richard was a genius who proved this quote true. Justify. [CBSE Question Bank 2020]

- Ans. Richard Ebright was a brilliant student. He had an urge to discover something new always. Albert Einstein's quote 'The important thing is to never stop questioning' suits Ebright perfectly. Since childhood, Ebright was a curious child. He used to read a lot of books and research on several theories. When he lost in his first entry at the county science fair, he didn't stop trying. He learned that to win, he had to do a real experiment and not just a display. Then he asked Dr. Urquhart about the ideas to work on 'insects to win the fair. Finally, he won the first prize in his second attempt. Later, he worked on Monarch pupa's gold spots and how cells read their DNA. He never satisfied himself after accomplishing his task. Nor did he stop trying after failing at his attempt. He was determinant student who kept trying.

27. ② Compare Ebright and his mother's characteristics on the basis of the power of not giving up in any case and write down the similarities you find in the mother-son duo.



TOPPER'S CORNER

SUBJECTIVE Type Questions

Short Answer Type-I Questions (SA-I)

[2 marks]

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

Ans.

~~When~~ Richard Ebright, in the seventh grade, entered a country science fair and did not win anything. From this he learnt that in order to win and be a true scientist, one needs to do real experiments and not just show a neat display of a slide.

[CBSE Topper 2017]

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

Ans.

~~Ebright~~ Richard Ebright was the only child of his mother. After his father's death when he was in third grade, he was her whole life. She took him on trips, and bought him telescopes, microscopes, compasses, mounting materials and all that he needed for his experiments. If he didn't have anything to do, his mother found him something, not physical work but something to learn. In the night, they did things together on the dining table. When he almost lost his interest in butterfly collection, his mother bought him a children's book, 'The Travels of Monarch X', which placed him on his path to success. Without his mother's support and encouragement, he perhaps would not have succeeded in life. His mother worked hard to do whatever possible to help Richard.

[CBSE Topper 2015]

