

**Chapter-6 | The Making of  
a Scientist****Worksheet-2****Multiple Choice Questions**

1. **At what age was Richard's research published in the science journal?**  
(a) At the age of twenty-two (b) At the age of forty  
(c) When he was thirty-five (d) When he was barely twenty
2. **Where did Richard grow up?**  
(a) Orchard Street in London (b) North of Reading, Pennsylvania  
(c) Austria (d) California
3. **What is termed as a blueprint for life in the chapter, The making of a scientist?**  
(a) Arteries (b) DNA of a cell  
(c) Brain (d) A hormone
4. **Who was Richard A. Weiherer?**  
(a) Ebright's social studies teacher (b) A lab assistant  
(c) Ebright's zoology teacher (d) High school in charge
5. **What did Richard love to collect during his childhood?**  
(a) Stamps (b) Perfumes  
(c) Butterflies (d) Flowers
6. **Who is Richard H. Ebright?**  
(a) An American geologist (b) A British Virologist  
(c) An American molecular biologist (d) A chief scientist at NASA
7. **What was the main reason for Richard Ebright's initial defeat at the county science fair in seventh grade?**  
(a) He lacked proper scientific equipment.  
(b) He displayed slides of frog tissues instead of actual experiments.  
(c) He chose a topic that was too complex.  
(d) He did not have enough time to prepare.
8. **Which book played a significant role in opening the world of science for Richard Ebright?**  
(a) The Life of Monarchs (b) The Travels of Monarch X  
(c) Butterflies and Beyond (d) The Secret Life of Cells

9. **Besides science, what other interests did Richard Ebright have?**
- (a) Playing football and baseball
  - (b) Collecting stamps and writing poetry
  - (c) Debating, public speaking, canoeing, and photography
  - (d) Painting and playing musical instruments
10. **What crucial role did Richard Ebright's mother play in his development as a scientist, beyond just providing equipment?**
- (a) She wrote his science fair projects for him.
  - (b) She discouraged his scientific interests to focus on his social life.
  - (c) She provided unconditional support, motivated him to explore nature, and set up challenging tasks.
  - (d) She introduced him to other scientists who taught him everything.

### Fill in the blanks :

11. Richard Ebright's mother fostered his interest in the natural world and supported his educational pursuits by buying him all kinds of microscopes, telescopes, and other \_\_\_\_\_.
12. In his senior year of high school, Ebright discovered an unknown \_\_\_\_\_ hormone, which later led to his theory on cell life.

### True / False

13. Richard Ebright spent most of his childhood in North of Reading, Pennsylvania.
14. Dr. Frederick A. Urquhart was a botanist who studied plant migration.

### Very Short Type Questions

15. What lesson did Ebright learn when he entered the country science fair in the seventh grade?
16. How did Richard Ebright's mother help him?

### Short Type Questions

17. Why did Ebright start a project of tagging butterflies?
18. How was The Travels of Monarch X a turning point in Ebright's life?

### Essay Type Questions

19. Give a brief character sketch of Ebright's mother.
20. Ebright's study of monarch pupas had a far reaching impact. Elaborate.

21. **Assertion (A)** : Dr Urquhart contributed significantly to Ebright's growth as a scientist.  
**Reason (R)** : He guided Ebright by suggesting new experiments and encouraging him to study butterfly migration, which helped him win many prizes and make scientific discoveries.
- (a) Both A and R are true, and R is the correct explanation of A.
  - (b) Both A and R are true, but R is not the correct explanation of A.
  - (c) A is true, but R is false.
  - (d) A is false, but R is true.

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Answer &amp; Solution

1. (a)  
His article was published at the young age of twenty-two, which itself was a big achievement. This was the first time that this reputed journal had published work of college students..
2. (b)  
He spent most of his childhood in Pennsylvania.
3. (b)  
DNA is the substance in the nucleus of a cell that controls heredity. It determines the form and function of the cell. Thus it is the blueprint for life.
4. (a)  
Mr Weiherer was Richard's social studies teacher at the high school. Ebright was in awe of his teacher and found him to be a perfect person to guide him.
5. (c)  
Richard had a lonely childhood, so he developed a hobby of collecting butterflies. He also collected rocks, fossils and coins.
6. (c)  
He is a brilliant scientist from America who is noted for his work on cell and reading of DNA.
7. (b) He displayed slides of frog tissues instead of actual experiments.
8. (b) The Travels of Monarch X.
9. (c) Debating, public speaking, canoeing, and photography.
10. (c) She provided unconditional support, motivated him to explore nature, and set up challenging tasks.
11. Equipment
12. Insect
13. True
14. False
15. Ebright realizes that mere display of his collection only does not mean science. To win at a science fair he will have to do real experiments and prove his worth.
16. Ebright's mother was a great help to him. She always encouraged his interest in learning. She took him out on trips. In fact, she also bought him a telescope, a microscope, cameras, mounting materials and other equipment that helped him in many ways. She brought a book titled 'The Travels of Monarch X', which developed Ebright's interest in butterflies and if he did not have anything to do, she found things for him to learn.

17. The last page of the book *Travels of Monarch X*, which Ebright's mother gave him, contained an invitation. In order to analyse the migration path of monarch butterflies for his research, Dr. Fredrick A. Urquhart requested readers to tag butterflies. Therefore, Ebright put little sticky tags on the monarchs' wings.
18. The gift of the book "*Travels of Monarch X*" from Ebright's mother marked a turning point in his life. The book dealt with the migration of Monarch butterflies to Central America. It aroused his interest in monarch butterflies. The young and eager boy's view of science was expanded by this new information.
19. Richard Ebright's mother was a gentle, independent, and strong lady who took care of herself as well as her child. She furnished Ebright with his full potential. She became his best friend, motivation, and inspiration. She would bring home friends for him; she considered Richie as her whole life. She got him a children's book called *The Travels of monarch X* that became a turning point in Ebright's life. It introduced him to a boundless world of science and technology. She took him on trips, bought him a telescope, microscope, cameras, mounting material, and other equipment that helped him in many ways. She encouraged and inspired Ebright's interest in learning. And that is how she acts as a significant person in Ebright's success story.
20. For a long time, the scientific community had regarded the bright spots on a monarch pupa as purely ornamental. But Dr Urquhart did not believe that, nor did Richard. He started his experiments on the monarch pupa. This led to the discovery of a specific hormone. Richard proved that the hormone was necessary for the growth of the butterfly. This discovery got him many honours and accolades. It also led to another important study. Subsequently, he began working on how cells read their DNA which is the carrier of heredity information and is called the blueprint of life. This theory helped in the prevention of cancers and other diseases. Hence, Ebright's study of monarch pupas had a far-reaching impact.
21. (a)  
Both Assertion and Reason are true, and Reason is the correct explanation of Assertion