

CHAPTER-6 | The Making of a Scientist

QUIZ
PART-03

1. What did Ebright's project with the starling bird prove?
- Birds avoided monarch butterflies
 - Birds liked only monarchs and not other food
 - Viceroy butterflies do not mimic monarchs
 - Monarchs were poisonous to all birds (B)

Explanation: The starling ate all the monarchs it could find, showing its preference and supporting research on mimicry.

2. What recognition did Ebright's starling project receive?
- First place overall at the International Fair
 - First in zoology division and third overall at county fair
 - A scholarship to Harvard
 - Publication in a science journal (B)

Explanation: The project won first in zoology and third overall at the county science fair.

3. What key question did Ebright investigate in his second year of high school?
- Why monarchs migrate
 - Why viceroys mimic monarchs
 - Purpose of the twelve gold spots on a monarch pupa
 - Structure of butterfly wings (C)

Explanation: Ebright explored the role of the gold spots on a monarch pupa, previously thought to be only ornamental.

4. What did Ebright and his fellow student discover about the gold spots?
- They helped the butterfly in breathing
 - They produced a hormone essential for development
 - They protected the pupa from predators
 - They added colour to the wings (B)

Explanation: Their device showed the gold spots produced a hormone necessary for full development.

5. Which prestigious opportunity did this discovery give Ebright?
- A government scholarship
 - Chance to work at Walter Reed Army Institute's entomology lab
 - A job as a school science teacher
 - A Nobel Prize nomination (B)

Explanation: His project won him a place at the Walter Reed Army Institute of Research for summer work.

6. What breakthrough did Ebright achieve in his senior year?
- Discovery of butterfly migration patterns
 - Growing monarch wing cells in culture with hormone
 - Designing new microscopes
 - Proving viceroy butterflies mimic monarchs (B)

Explanation: He grew wing cells in culture and proved they developed only with the hormone from the gold spots.

7. What did Ebright identify during his research at the Department of Agriculture?
- The role of butterfly antennae
 - The chemical structure of the hormone
 - The genetic code of monarch butterflies
 - A new type of butterfly species (B)

Explanation: Using advanced instruments, he identified the chemical structure of the hormone.

8. What theory did Ebright propose after studying X-ray photos?
- Cells divide randomly
 - DNA is only for appearance
 - Cells can 'read' the blueprint of DNA
 - Hormones control DNA directly (C)

Explanation: His study led him to propose that cells can read the blueprint of their DNA to determine form and function.

9. What is DNA described as in the chapter?
- A source of energy
 - A blueprint for life
 - A chemical waste
 - A protein (B)

Explanation: DNA is called the blueprint of life because it controls heredity and cell function.

10. What is the key learning outcome from this part of the story?
- Only intelligence ensures success
 - Perseverance and dedication lead to scientific breakthroughs
 - Luck plays the main role in research
 - School grades matter more than experiments (B)

Explanation: The story highlights that perseverance and dedication are essential qualities for achieving scientific success.