Robert Hooke and the Discovery of Cells

The man who named the cell left no surviving portrait. Meet Robert Hooke, his book Micrographia, his lamp-lit microscope and his count of cork cells.

Name: Date: Score: ____ / 17

A. Fill in the blanks

1. Hooke described cells in his book ____ (1665).

2. He lit specimens with an oil lamp and a water-filled glass ____.

3. Hooke saw only the cell ____ in cork.

4. He estimated about 1.26 ____ cells in one cubic inch of cork.

B. True or False

5. Hooke used a compound microscope he designed. True / False

6. Hooke saw nuclei in cork cells. True / False

7. Micrographia was a book of drawings of tiny things seen through a microscope. True / False

8. Hooke studied living pond-water organisms first. True / False

C. Assertion and reason

9. Assertion (A): Hooke could count cells in cork.
Reason (R): Cork cells looked like separate boxes in rows.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

10. Assertion (A): Hooke saw the nucleus in cork cells.
Reason (R): Cork cells are dead.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

D. Choose the correct option

11. Hooke's specimen was:

(a) onion peel
(b) cork
(c) pond water
(d) blood

Answer: _____

12. Why did Hooke need a water-filled globe?

(a) to cool the lamp
(b) to focus light on the specimen
(c) to wet the cork
(d) to magnify the eye

Answer: _____

13. The cork cells looked like:

(a) circles
(b) a honeycomb of boxes
(c) threads
(d) stars

Answer: _____

14. Hooke's book was published in:

(a) 1590
(b) 1665
(c) 1674
(d) 1831

Answer: _____

E. Short answer questions

15. Why is Hooke's work a turning point in biology?

16. Why could Hooke see walls but not cell contents?

F. Match the columns

17. Match each item in Column A with the correct item in Column B.

Column A	Column B	Your answer
1. Micrographia	(a) Dead, only walls	1 → ____
2. Water-filled globe	(b) Focused lamplight	2 → ____
3. Cork cells	(c) Hooke's book, 1665	3 → ____
4. 1,259,712,000	(d) Cells per cubic inch (estimate)	4 → ____

Detailed solutions

1. Micrographia

2. globe

3. walls

4. billion

5. True. He built and improved it himself.

6. False. Cork cells are dead; only walls remain.

7. True. It was a bestseller of its time.

8. False. That was Leeuwenhoek.

9. (a) The box-like pattern made estimating possible.

10. (d) A is false; R is true.

11. (b) cork. A thin slice of cork.

12. (b) to focus light on the specimen. It concentrated lamplight.

13. (b) a honeycomb of boxes. Small rooms side by side.

14. (b) 1665. Micrographia, 1665.

15. For the first time living material was seen to be built of small units. He named them cells, starting the study that led to cell theory.

16. Cork is dead tissue; the living contents had disappeared, and his microscope could not show fine detail anyway.

17. 1 → (c), 2 → (b), 3 → (a), 4 → (d). Hooke's tools and careful counting made the discovery.