

LABORATORY EXERCISE 4

CELL STRUCTURE AND FUNCTION

Figure Labels

FIG. 4.1

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|---------------------------------|---------------------|
| 1. Flagellum | 6. Nuclear envelope |
| 2. Centrioles | 7. Mitochondrion |
| 3. Golgi apparatus | 8. Ribosomes |
| 4. Smooth endoplasmic reticulum | 9. Cell membrane |
| 5. Nucleus | 10. Cilia |

Laboratory Report Answers

PART A

- | | | | |
|------|-------|-------|-------|
| 1. c | 6. r | 11. e | 16. p |
| 2. h | 7. n | 12. g | 17. m |
| 3. l | 8. k | 13. d | 18. o |
| 4. b | 9. f | 14. j | |
| 5. q | 10. a | 15. i | |

PART B

- | | |
|---|---|
| 1. (sketch) | 3. Yes. The stained cheek cells are essentially the same size and shape; however, the process of cell removal may cause many of the cells to become folded and distorted. |
| 2. The wet-mount cells look like shells or “ghosts.” The stained cells made the nucleus and other cellular components more clearly visible. | |

PART C

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|---|-----------------------|
| 1. (sketches) | 3. Answers will vary. |
| 2. They should always notice cytoplasm, nucleus, nuclear envelope, and cell membrane. | |

PART D (figure 4.4)

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|----------------------------------|--------------------------|
| 1. Ribosomes | 7. Endoplasmic reticulum |
| 2. Nuclear envelope | 8. Nuclear envelope |
| 3. Golgi apparatus | 9. Nucleolus |
| 4. Mitochondrion (cross section) | 10. Chromatin |
| 5. Chromatin | 11. Centrioles |
| 6. Mitochondria | 12. Cell membrane |

PART E

- Answers will vary.
- Only nonliving cells can be observed, and only sections of a cell can be observed.