

Homeostasis - Unit Review Sample Answers

P. 460 #1-4, 7-9

Chapter 9 Review, pp. 460–465

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|------|-------|-------|
| 1. b | 7. b | 13. F |
| 2. a | 8. d | 14. T |
| 3. a | 9. b | 15. F |
| 4. b | 10. T | 16. F |
| 5. c | 11. F | 17. F |
| 6. a | 12. F | |

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|-------------|------------|
| 18. (a) iii | 19. (a) iv |
| (b) v | (b) v |
| (c) i | (c) ii |
| (d) ii | (d) iii |
| (e) iv | (e) i |

21. Maintaining homeostasis allows for optimal conditions for biological processes & reactions to occur. Allow for energy efficiency.

25. Endotherms rely on both behavioural & physiological control mechanisms which require more energy. Since metabolism is responsible for a lot of their heat generation which requires a constant input of food and requires energy to break down. It also requires more energy to keep internal conditions set throughout changing external conditions. Ectotherms rely on behavioural mechanisms & the environment to maintain their internal temperatures and often allow more fluctuation in their temperature – both require less energy

33. high pressure

39.

48. Water would move into the cell (osmosis) because there is a higher overall osmolarity inside. The cell is hypertonic to the environment. Since the membrane is not permeable to ions or any other solute there would be no net movement of ions or solutes. Water is the only substance that can move in the attempt to reach equilibrium.

53. The body is always losing water (sweat, breathing, urine...) and needs to replenish it. The water helps maintain blood & water balance with allows for efficient waste filtration in the kidney and circulation ion blood.

ECTOTHERMS VERSUS ENDOTHERMS

Ectotherms are animals that depend on external sources of body heat	Endotherms are animals that are capable of the internal generation of heat
Also known as cold-blooded animals	Also known as warm-blooded animals
Include invertebrates, fish, amphibians, and reptiles	Include birds and mammals
Regulate their body temperature with the use of external temperature sources	Regulate their body temperature by maintaining their functions of the body
Body temperature varies over time	Have a constant body temperature that depends on the type of endotherm
Body temperature of endotherms varies with the surrounding temperature	Body temperature does not vary with the surrounding temperature
Less active in cold temperatures	Active over a wide range of environmental conditions
Geological distribution is less	Geological distribution is more
Require less food	Require more food
Have low metabolic rates	Have high metabolic rates