Assignment: Chapter 4 questions

There are chapter questions embedded throughout each chapter. To receive credit, you must answer each of the chapter questions below. The answers to these questions serve as the starting point for your class notes and are a way for you to self-check your understanding of the material. That is, reading the chapter and answering the chapter questions is the first step in preparing for the quizzes and the class material.

Answer each of the **38 questions below**, then save and submit your work.

1. Define speech breathing, inhalation/inspiration, and exhalation/expiration.

2. What is respiration?

3. Define Boyle's Law.

4. What is the difference between the mechanics of blowing up a balloon and how we breathe?

5. Identify the structures through which air passes as we breathe.

6. How does gas exchange occur?

7. Describe muscle movement in general.

8. Explain the terms agonist and antagonist with regard to muscle contraction.

9. How does a lever system facilitate efficiency of muscle contraction?

10. Identify the major muscles of inhalation and exhalation and their effect on the ribcage upon contraction.

11. Define motor equivalence.

12. Define tidal breathing.

13. What are the pleural linings and what is their critical contribution to breathing mechanics?

14. What is the significance of resting lung volume?

15. Identify and define: the four lung volumes and four lung capacities.

16. Define forced inhalation and exhalation.

17. Define relaxation pressure. Explain the three passive forces that comprise relaxation pressure.

18. Define inspiratory checking action and explain when it would be used.

19. Referring to the relaxation curve in Figure 4-15, explain why initiating speech at Points A, B, C, and D would be efficient or inefficient.

20. How is the cycle of inhalation/exhalation altered for running speech, as compared to tidal breathing?

21. Define phase breath group.

22. What are the four important concepts to be learned from the Hixon et al. (1976) study?

23. How might carrying significant excess weight influence speech breathing?

24. How do linguistic factors influence speech breathing?

25. How does cognitive load influence speech breathing?

26. Define speech breathing personality.

27. Provide two examples of different styles of speech breathing and describe how the differ.

28. What is the effect of increased respiratory demands upon phrase breath group length, expiratory time, lung volume, and rate of speech?

29. Define airway resistance.

30. How does the structural design of the airway system affect resistance? Include specifically the nasal and oral portions of the airway and the bronchial trees.

31. How does the nervous system regulate airway resistance?

32. Define turbulent and laminar airflow.

33. What is the relationship of airway resistance and type of airflow?

34. Define elastic resistance.

35. Define viscosity and friction.

36. What is electromyography (EMG)?

37. What are the advantages and disadvantages of using EMG?

38. What does inductance plethysmography measure, and how does it work?