1. Identify the structure and functions of the respiratory system. (Fig. 23-1)
2. Why is it significant that the human trachea is surrounded by cartilaginous rings?
3. What is the function of cilia in the respiratory system? goblet cells?
4. Why is tracheal epithelium pseudostratified and the respiratory epithelium simple squamous?
5. Explain defense against pathogens within the respiratory system: tonsils, mucus, alveolar macrophages, etc ...
7. Explain how inspiration and expiration occur (ventilation).
8. What is surfactant?
9. Be able to explain a graph like 23-17 and the different lung volumes shown (e.g. Tidal volume, Anatomical Dead Space, Inspiratory Reserve Volume (IRV), Inspiratory capacity (IC), Expiratory Reserve Volume (ERV), Residual volume, Functional reserve capacity, Vital capacity) and how they might change with disease like emphysema, with training (elite athlete).
11. Breathing mechanics: What are the primary muscles for inspiration and expiration? Explain contraction and relaxation of these muscles in relation to inspiration and expiration.
12. What is pleural pressure? What would happen to breathing if the chest cavity were opened by a puncture wound? How could you "stabilize" a friend who suffered a puncture wound until you reached help?
13. Explain the exchange of gases at the alveolar/capillary level and the tissue/capillary level.
14. Explain the role of hemoglobin in oxygen and carbon dioxide transport.
   a. How is HB to increase its affinity for oxygen and why would this be beneficial at high altitude?
   b. How is fetal HB different than maternal (Adult) and why is this beneficial?
   c. Explain Fig. 23-1. How do pH and temperature effect loading/unloading of oxygen at tissues?
16. Explain the following: Laryngitis, Tracheostomy, Pleurisy, Asthma (bronchodilators like epinephrine), Emphysema (compliance), Hypoxia/Anoxia (High latitude, carbon monoxide poisoning).