1. Label the typical animal cell with the following organelles: (2)
   - cell membrane
   - nucleus
   - mitochondria
   - cytoplasm

2. Why would you expect more mitochondria in a muscle cell than in a pancreas cell? (1)

   __________________________________________________________
   __________________________________________________________

3. List four vital nutrients needed by the cells of our body. (2)
   1. ________________  
   2. ________________  
   3. ________________  
   4. ________________

4. List four waste products that need to be excreted from the cells of our body. (2)
   1. ________________  
   2. ________________  
   3. ________________  
   4. ________________

5. What is the main function of the respiratory system? (1)

   __________________________________________________________
   __________________________________________________________

6. Which of the following best describes the flow of gases between the lungs and the blood?
   Explain: __________________________________________________ (1)

   a) ![Diagram of gas exchange](image) 
   b) ![Diagram of gas exchange](image)
Give a brief description of the function of each of the following body systems:  

a) Digestive system ________________________________________________________________
_______________________________________________________________________________

b) Circulatory system _____________________________________________________________
_______________________________________________________________________________

c) Urinary system ________________________________________________________________
_______________________________________________________________________________

d) Immune system ________________________________________________________________
_______________________________________________________________________________

Choose a body system and describe the functions of the system’s organs. A sketch may be useful.  (5)

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

The diagram shows a simplified view of the circulatory system.  (7 ½ each)

a) Given that an artery carries blood from the heart, and a vein carries blood to the heart, indicate whether each of A, B, C, or D are arteries or veins.

A ___________       B ___________       C ___________       D ___________

b) The term pulmonary refers to the lungs.

Which is the pulmonary artery?     _______
Which is the pulmonary vein?       _______

c) Indicate whether each of A, B, C, or D are rich in oxygen or poor in oxygen.

A ___________       B ___________       C ___________       D ___________

d) Indicate whether each of A, B, C, or D are rich in carbon dioxide or poor in carbon dioxide.

A ___________       B ___________       C ___________       D ___________