Lungs and Ribs – Snakes vs. Humans
A Written Comparison

1. In what ways are a snake's lung structure different from a human's?

2. What are some reasons for this adaptation?

3. How do snakes and humans breathe differently?

4. How are a snake's lungs protected?

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Answer Key

1. In what ways are a snake's lung structure different from a human's?

   - Snakes have one oversized right lung and one reduced, or non-existent left lung while humans have two lungs of equal size
   - Lungs of snake are not effective in absorbing oxygen while human lungs have many structures to capture oxygen from air

2. What are some reasons for this adaptation?

   - Snakes are cold-blooded and don't need much oxygen so they only really need one lung
   - Snakes have small, thin bodies, so organs must adapt to limited space in order for snake to survive

3. How do snakes and humans breathe differently?

   - Humans have a muscle called the diaphragm that involuntarily pushes and pulls to create inhalations and exhalations
   - Snakes do not have diaphragm, so they must expand their rib cage to suck air in and push their rib cage in to force air out

4. How are a snake's lungs protected?

   - Snakes are vertebrates so they have bones, or vertebrae, that help protect the snake's vital organs, such as the lungs
   - Snakes have 130-500 bones so that there is protection all the way across their long body