

Name: _____

Date: _____

Period: _____

The Respiratory System

Week # _____

Directions: Use p. 963 - 965 to label and describe the flow of air in the respiratory system in Figure 1.

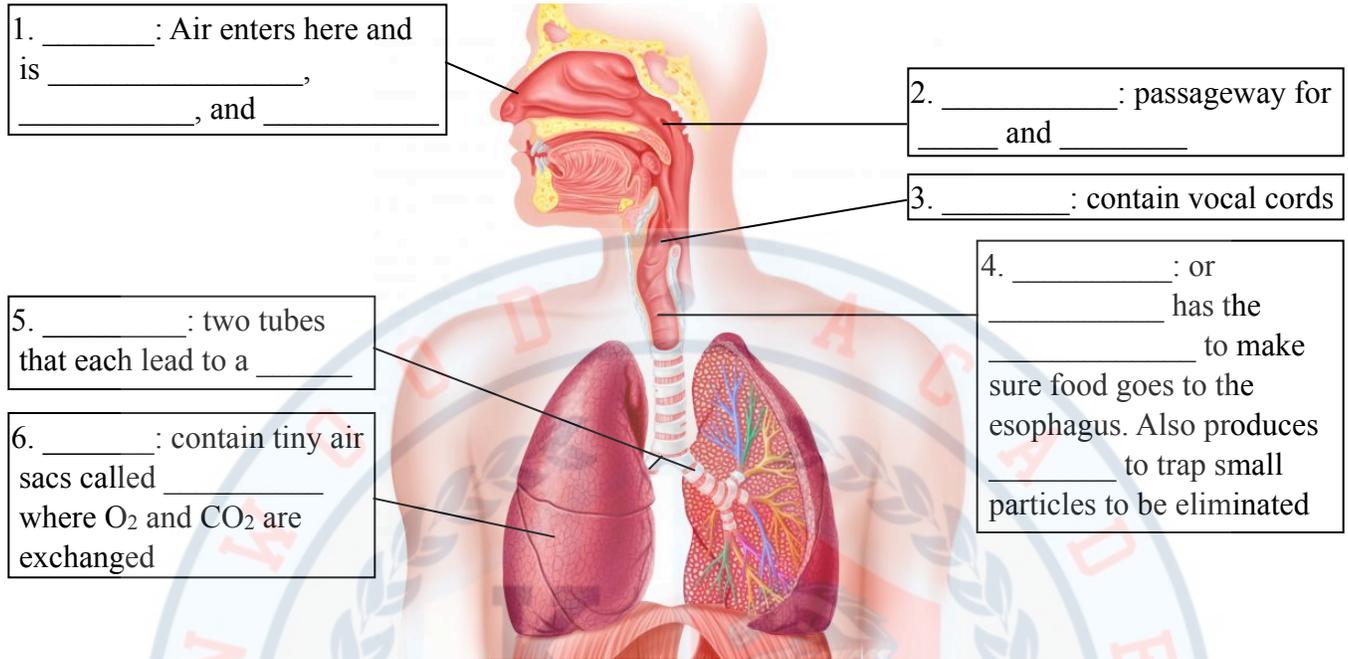


Figure 1

Directions: Use Figure 2 to answer questions 7 - 10.

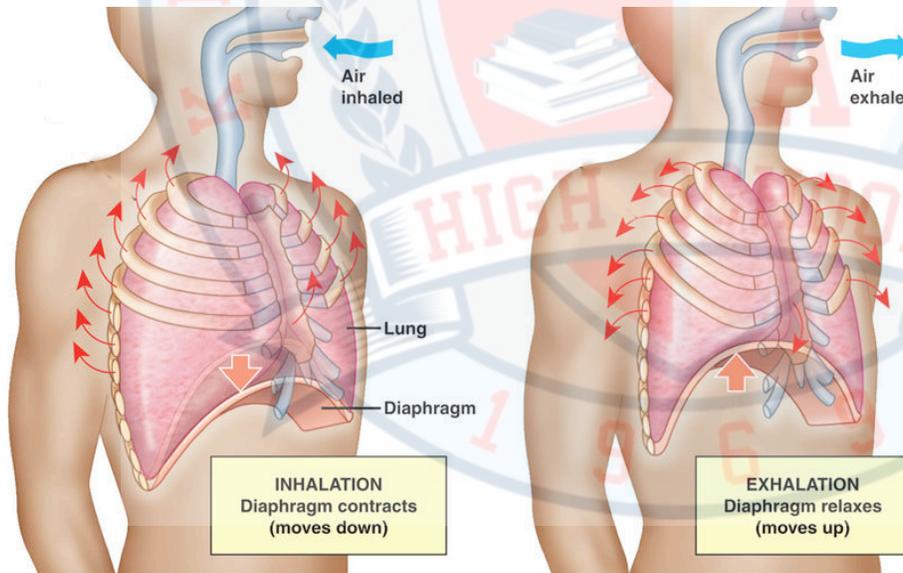


Figure 2

7. If the diaphragm is able to contract and relax, it must be:
- a bone
 - an organ
 - a muscle
 - a cell

8. When you breathe in, your diaphragm contracts and moves _____. This means that lung volume _____.

9. When you breathe out, your diaphragm relaxes and moves _____. This means that lung volume _____.

10. Neurons can sense the level of CO₂ in the bloodstream. High levels of CO₂ automatically cause the diaphragm to contract. Why do you think this happens?

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Asthma is a chronic inflammatory condition that results in less air flow through the airways. Asthma is caused by a combination of complex and incompletely understood environmental and genetic interactions. When individuals with asthma suffer from an attack, the muscles along the bronchioles become irritated and begin to constrict, or tighten.

Figure 1 illustrates a healthy airway compared to airways affected by asthma.

- (EMI 401) The presence of mucus in the airway-
 - is an indicator of a high air flow
 - is an indicator of a constricted airway and normal breathing
 - is an indicator of an inflammatory response
 - is an indicator of an irritated airway and normal breathing
- (EMI 401) Which of the following is comparable to an asthma attack?
 - drinking a thick chocolate milkshake from a wide straw
 - drinking a soda from a skinny straw
 - drinking a soda from a wide straw
 - drinking a thick chocolate milkshake from a skinny straw

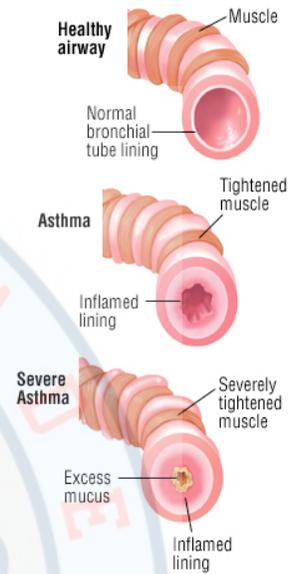


Figure 1

It has been suggested that obesity adversely, or negatively influences an individual's response to inhalers, or asthma treatments. To examine this claim, a study was conducted on 180 test subjects. Half of the test subjects had a BMI classifying them as obese, and half of the test subjects did not. The test subject's peak expiratory flow rate (PEFR) was measured immediately following the use of an inhaler treatment. This rate indicates how fast a person can exhale, or breathe out.

- (SIN 301) What is the independent and dependent variable in this experiment?
 - PEFR and obesity, respectively
 - BMI and obesity, respectively
 - BMI and PEFR, respectively
 - PEFR and BMI, respectively
- (IOD 301) What is the BMI for individuals classified as non-obese?
 - under 30
 - under 60
 - over 30
 - over 60

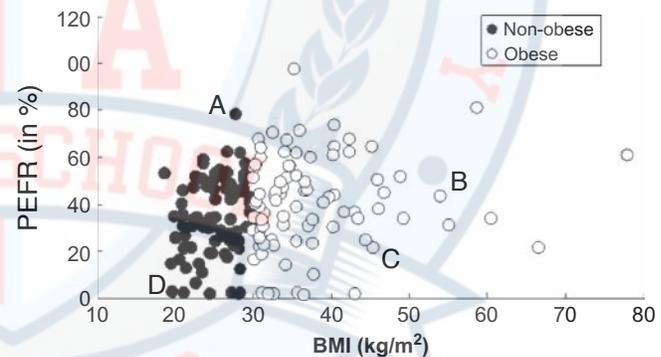


Figure 2

- (IOD 401) Which of the following places the individuals in order from most severe to least severe asthma attack?
 - A, B, C, D
 - D, A, C, B
 - B, C, A, D
 - D, C, B, A
- (EMI 401) Which of the following conclusions is supported by the data in Figure 2?
 - Individual that are classified as non-obese take longer to recover from an attack.
 - Obesity does not adversely influence the resolution of an asthma attack.
 - Individuals that are classified as obese take longer to recover from an attack.
 - Obesity adversely influences the resolution of an asthma attack.