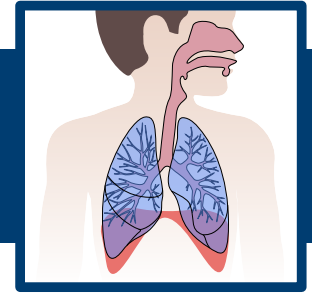


## Student Activity

# LESSON 1: MAPPING PULMO PARK

## Activity 1A: *Think About It: Respiratory Structure and Function*



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**DIRECTIONS:** Read the Student Background “Think About It” material. Consider what you now know about the respiratory system as you read and respond to each **Think About It**.

### 1. Think About It: Structure and Function

- a. How does the design (structure) of the Pulmonary System allow it to do its job (function)?
- b. What is meant by a “passive” system?
- c. What are the advantages and/or disadvantages to a passive system?

### 2. Think About It: Structure and Purpose

- a. How does structure protect the delicate organs of the Pulmonary and Circulatory Systems?
- b. What other structures protect body organs and how is their shape related to the organs they protect?

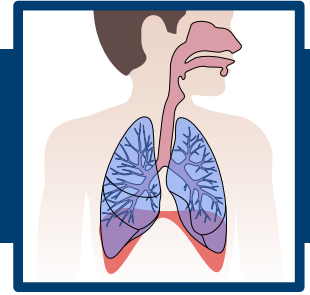
### 3. Think About It: Levels of Organization

- a. Describe the levels of organization in the human body.
- b. Why is an organ level more complex than a tissue level?
- c. What are the advantages and/or disadvantages to the organization level of the human body?

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### 4. Think About It: Making Connections

- a. How do the Circulatory and Pulmonary Systems work together?
- b. Why are they considered separate systems?
- c. What would happen if either of these systems did not work with the other?

### 5. Think About It: Keep It Clean

- a. How does the Pulmonary System function as a cleaning system?
- b. What structures and systems collaborate to keep the system clean?
- c. Why is it necessary to keep the pulmonary system clean? What is it that the pulmonary system needs to be protected from and why?

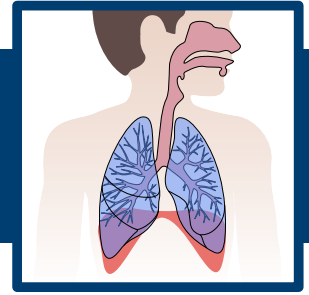
### 6. Think About It: Location and Purpose

- a. What is the purpose of the epiglottis?
- b. How does the location of the epiglottis relate to its purpose?
- c. What would happen if it were located higher up or below its current position?
- d. What happens when the epiglottis doesn't work the way it should?
- e. Have you ever experienced this and if so, described what happened.

## Student Activity

# LESSON 1: MAPPING PULMO PARK

## Activity 1A: *Think About It: Respiratory Structure and Function*



### 7. Think About It: Trachea Design

- a. How does the design of the trachea contribute to its function?
- b. What are the advantages/disadvantages of the trachea's design?

### 8. Think About It: Lung Structure

- a. Efficient structures are often repeated in nature. Compare the function of branches in a tree to branches within the lung.
- b. What are the advantages to a branching respiratory system?
- c. What are the components of the respiratory tree and what is their function?
- d. What impact would there be if the number of branches were cut in half?

### 9. Think About It: Air Exchange

- a. What does "air exchange" mean?
- b. How does the structure of the alveoli maximize air exchange?
- c. What is the relationship between alveoli and the circulatory system?

### 10. Think About It: Diaphragm Movement

- a. How does the diaphragm moving up (relaxing) and down (contracting) cause us to breathe?
- b. The diaphragm is a muscle. Muscle movement requires energy, yet the act of breathing is considered a passive function. How is this possible?