

NAME _____

LAB TIME/DATE _____

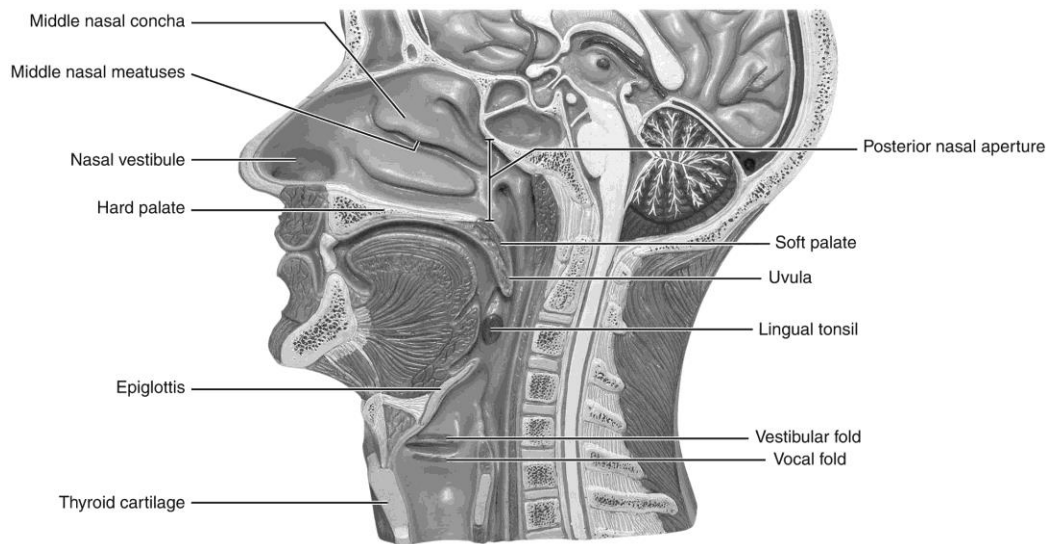
REVIEW SHEET **36**

EXERCISE

Anatomy of the Respiratory System

Upper and Lower Respiratory System Structures

1. Complete the labeling of the model of the respiratory structures (sagittal section) shown below.



2. Two pairs of mucosal folds are found in the larynx. Which pair are the true vocal cords (superior or inferior)?

Inferior

3. Name the specific cartilages in the larynx that correspond to the following descriptions.

forms the Adam's apple: Thyroid

shaped like a ring: Cricoid

a "lid" for the larynx: Epiglottis

vocal cord attachment: Arytenoids

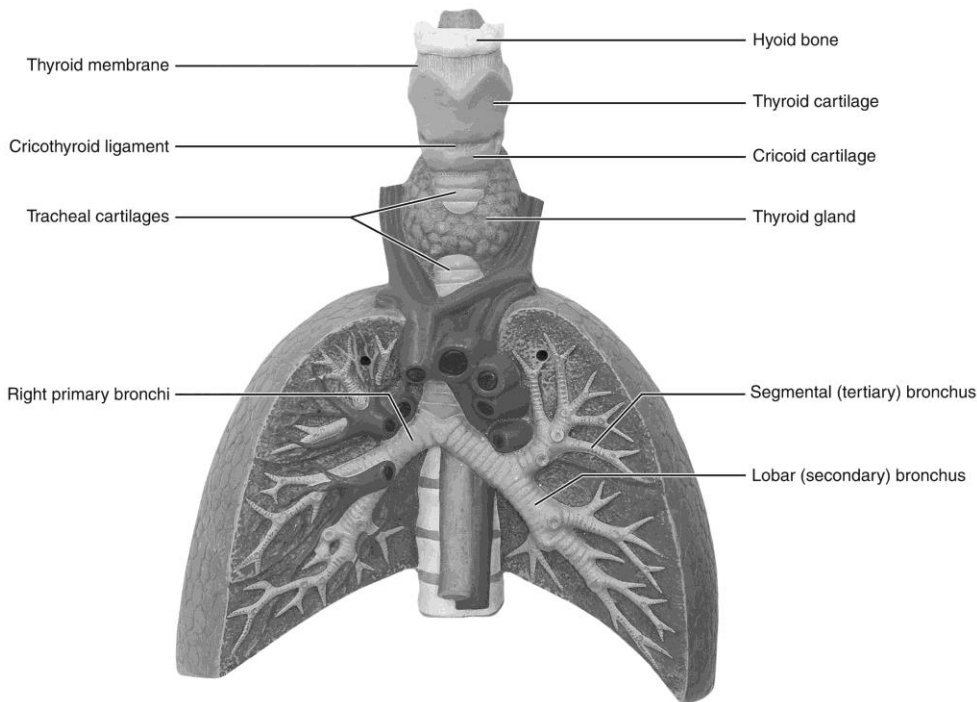
4. Why is it important that the human trachea is reinforced with cartilaginous rings?

Prevents collapse during pressure changes that occur during breathing.

Why is it important that the rings are incomplete posteriorly?

Allows a food bolus traveling down the posterior esophagus to bulge anteriorly

5. What is the function of the pleural fluid? A serous fluid that reduces friction during breathing movements and helps hold the lungs tightly to the thorax wall, which keeps the lungs inflated
6. Name two functions of the nasal conchae: Enhances air turbulence and helps trap particles in the mucus.
7. The following questions refer to the main bronchi.
 Which is longer? Left Larger in diameter? Right More horizontal? Left
 Which more commonly traps a foreign object that has entered the respiratory passageways? Right
8. Appropriately label all structures provided with leader lines on the model shown below.



9. Trace a molecule of oxygen from the nostrils to the pulmonary capillaries of the lungs: Nostrils → nasal cavity → pharynx → larynx → trachea → main (primary) bronchus → lobar/segmental bronchi (etc.) → bronchiole → respiratory bronchiole → alveolar duct → alveolar sac → across alveolar/capillary walls → pulmonary blood
10. Match the terms in column B to the descriptions in column A.

Column A

- k 1. connects the larynx to the main bronchi
- b 2. includes terminal and respiratory as subtypes
- e 3. food passageway posterior to the trachea

Column B

- a. alveolus
- b. bronchiole
- c. conchae

- | | | |
|--------------|--|--------------------------|
| <u> d </u> | 4. covers the glottis during swallowing of food | d. epiglottis |
| <u> g </u> | 5. contains the vocal cords | e. esophagus |
| <u> f </u> | 6. indentation on the lung where the lung root structures enter and exit | f. hilum |
| <u> j </u> | 7. pleural layer lining the walls of the thorax | g. larynx |
| <u> a </u> | 8. site from which oxygen enters the pulmonary blood | h. palate |
| <u> i </u> | 9. connects the middle ear to the nasopharynx | i. pharyngotympanic tube |
| <u> l </u> | 10. pleural layer in contact with the surface of the lung | j. parietal pleura |
| <u> c </u> | 11. increases air turbulence in the nasal cavity | k. trachea |
| <u> h </u> | 12. separates the oral cavity from the nasal cavity | l. visceral pleura |

11. What portions of the respiratory system are referred to as anatomical dead space? All but the respiratory zone structures (respiratory bronchioles, alveolar ducts and sacs, and alveoli).

—

Why? The air in this region is not in contact with the respiratory membrane and no gas exchange can occur here.

12. Define the following terms.

external respiration: Exchange of gases across the respiratory membrane in the lungs.

internal respiration: Exchange of respiratory gases between the blood of the systemic capillaries and the tissue cells of the body.

Examining Prepared Slides of Trachea and Lung Tissue

16. What structural characteristics of the alveoli make them an ideal site for the diffusion of gases? Thin walls, extremely large surface area