

Lab 6: The Respiratory System

Pre-Lab Activities for Exercise 6

1. Structure Table

Fill in the table using your textbook.

Structure	Function	Location	Upper or Lower
Nasal cavity			
Pharynx			
Larynx			
Epiglottis			
Vocal folds			
Trachea			
Bronchi			
Alveoli			
Lungs			

Table 6.1 Major Respiratory System Structures. The table lists the major respiratory structures in the human body, with boxes to fill in the function, location and to specify if the structure is a part of the Upper or Lower Respiratory System.

2. Diagram Labeling---Major Respiratory Structures

Use your required textbook to label the diagram below. Terms: diaphragm, pharynx, larynx, trachea, nasal cavity, oral cavity, nostril, right lung, left lung, right main bronchus, and left main bronchus.

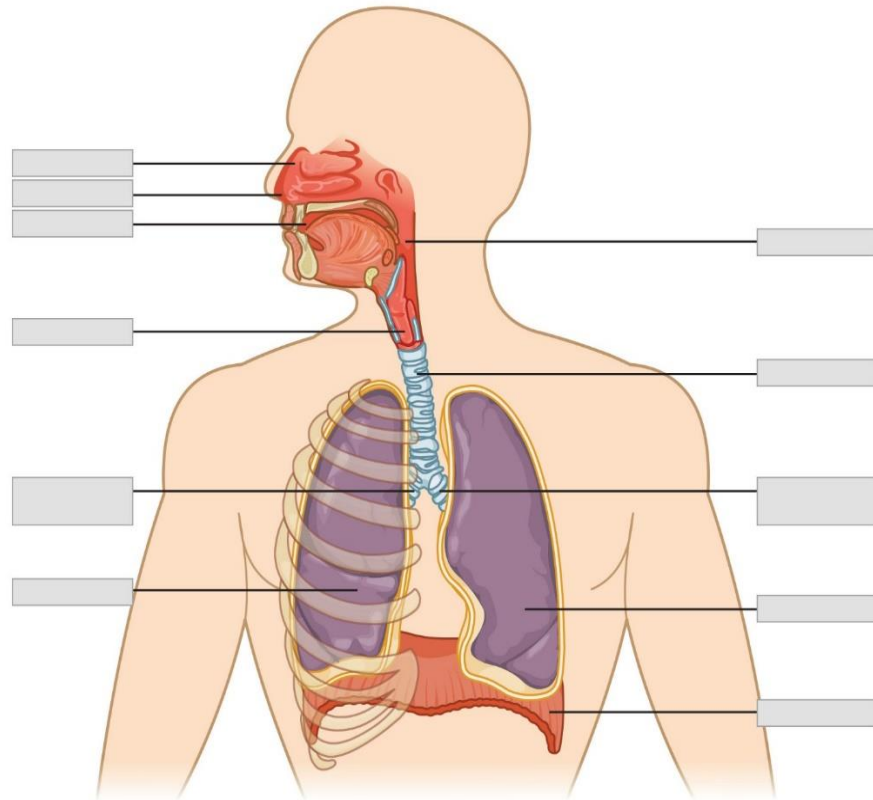


Figure 6.1 Major Respiratory Structures. The figure depicts the major respiratory structures in the human body, with boxes to label the specific structures.

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3. Pathway of Air

In your own words:

1. Describe the path oxygen takes from inhalation to the tissues.
2. Describe the path carbon dioxide takes from tissues to exhalation.

4. Review Questions (Physiology Focus)

- Define hypercapnia and hypoxemia.
- Predict the effect of each on minute ventilation rate.
- Explain the role of pH, pCO₂, and pO₂ in regulating ventilation.

Background Overview

Anatomy

The respiratory system consists of conducting and respiratory zones.

- **Upper respiratory tract:** nose, nasal cavity, paranasal sinuses, pharynx.
- **Lower respiratory tract:** larynx, trachea, bronchi, lungs.

Key functions include gas exchange, filtration, humidification, temperature regulation, and vocalization.

Structures to know:

- Nose & nasal cavity: external nares, conchae, meatuses, nasal septum, hard/soft palate.
- Pharynx: nasopharynx, oropharynx, laryngopharynx.
- Larynx: thyroid cartilage, cricoid cartilage, epiglottis, vocal folds, vestibular folds.
- Trachea: C-shaped cartilage rings, trachealis muscle, carina.
- Bronchial tree: primary, secondary, tertiary bronchi → bronchioles → terminal bronchioles → respiratory bronchioles → alveoli.
- Lungs: lobes (R: 3; L: 2), apex, base, fissures, hilum, pleura.

Using the image provided below, identify the major respiratory structures numbered 1-50.

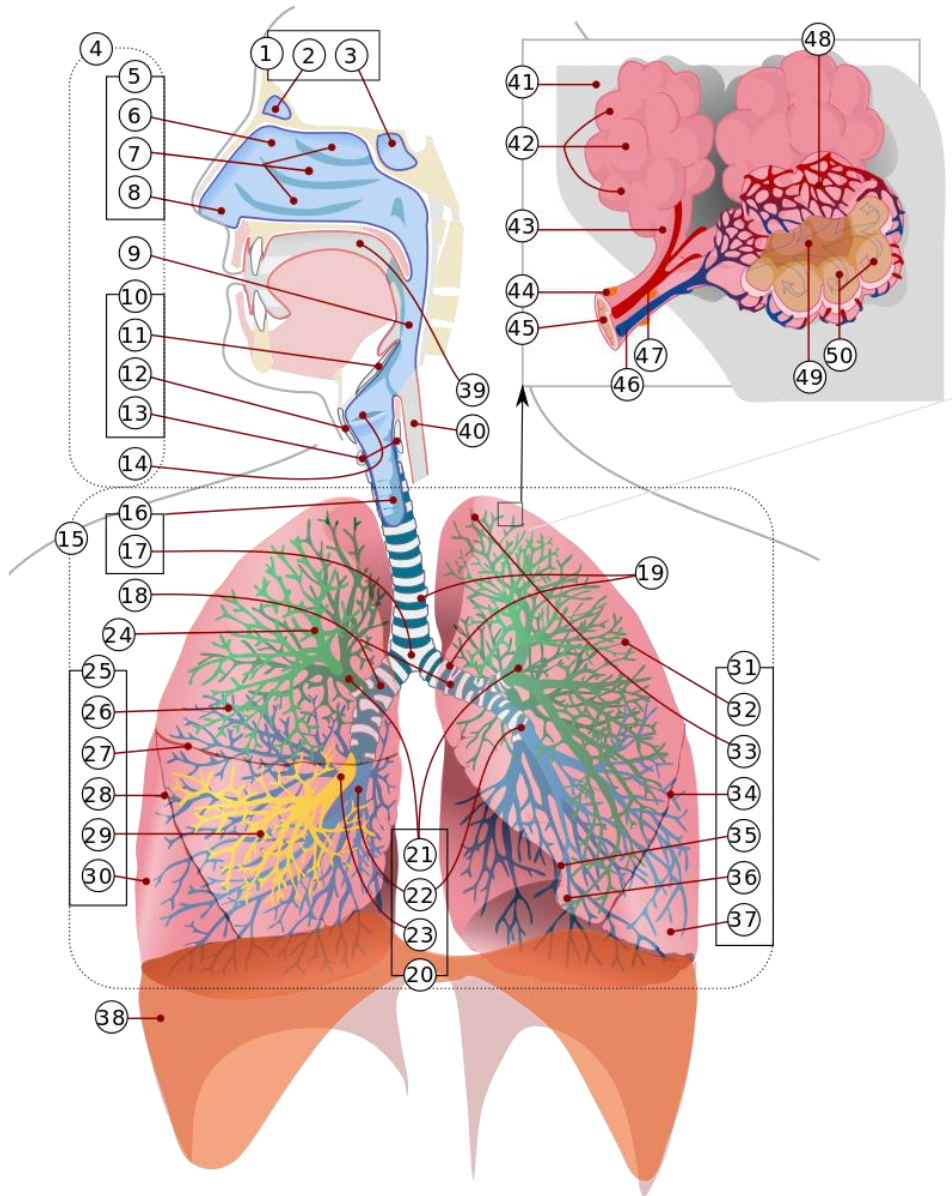


Figure 7.5: Unlabeled respiratory structures.

1.	18.	35.
2.	19.	36.
3.	20.	37.
4.	21.	38.
5.	22.	39.
6.	23.	40.
7.	24.	41.
8.	25.	42.
9.	26.	43.
10.	27.	44.
11.	28.	45.

12.	29.	46.
13.	30.	47.
14.	31.	48.
15.	32.	49.
16.	33.	50.
17.	34.	

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