

Breathing System Worksheet Answer Key PDF

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Part 1: Building a Foundation

What is the primary function of the nasal cavity in the breathing system?

undefined. To produce sound

undefined. To filter, warm, and humidify incoming air ✓

undefined. To exchange gases

undefined. To pump blood

The primary function of the nasal cavity is to filter, warm, and humidify incoming air.

Which of the following are parts of the respiratory system? (Select all that apply)

undefined. Larynx ✓

undefined. Trachea ✓

undefined. Liver

undefined. Alveoli ✓

The parts of the respiratory system include the larynx, trachea, and alveoli.

Describe the role of the diaphragm in the process of inhalation.

The diaphragm contracts and moves downward, increasing lung volume and allowing air to flow in.

List the two main functions of the lungs in the respiratory system.

1. Function 1

Gas exchange

2. Function 2

Regulating blood pH

The two main functions of the lungs are gas exchange (oxygen and carbon dioxide) and regulating blood pH.

How does the trachea contribute to respiratory health?

undefined. By producing mucus

undefined. By filtering particles with cilia ✓

undefined. By storing oxygen

undefined. By regulating blood pressure

The trachea contributes to respiratory health by filtering particles with cilia.

Part 2: Application and Analysis

Which of the following statements about gas exchange in the alveoli are true? (Select all that apply)

undefined. Oxygen diffuses from the alveoli into the blood. ✓

undefined. Carbon dioxide diffuses from the blood into the alveoli. ✓

undefined. Alveoli are responsible for filtering blood.

undefined. Gas exchange occurs through active transport.

True statements include that oxygen diffuses from the alveoli into the blood and carbon dioxide diffuses from the blood into the alveoli.

Explain how the respiratory center in the brainstem regulates breathing.

The respiratory center in the brainstem sends signals to the diaphragm and intercostal muscles to regulate the rate and depth of breathing based on carbon dioxide levels.

If a person is experiencing difficulty breathing due to narrowed airways, which condition might they be suffering from?

undefined. Pneumonia

undefined. Asthma ✓

undefined. Emphysema

undefined. Bronchitis

The person might be suffering from asthma, which is characterized by narrowed airways.

In a scenario where air pollution increases, which parts of the respiratory system are most likely to be affected first? (Select all that apply)

undefined. **Nasal cavity** ✓

undefined. **Alveoli** ✓

undefined. **Bronchi** ✓

undefined. Diaphragm

The nasal cavity, bronchi, and alveoli are likely to be affected first by air pollution.

Describe how an increase in physical activity affects the breathing rate and why this change occurs.

An increase in physical activity raises the breathing rate to supply more oxygen to the muscles and remove carbon dioxide more efficiently.

Which of the following best explains the relationship between the diaphragm and lung volume during inhalation?

undefined. The diaphragm relaxes, decreasing lung volume.

undefined. **The diaphragm contracts, increasing lung volume.** ✓

undefined. The diaphragm contracts, decreasing lung volume.

undefined. The diaphragm relaxes, increasing lung volume.

The diaphragm contracts, increasing lung volume during inhalation.

Analyze the effects of smoking on the respiratory system. Which of the following are likely consequences? (Select all that apply)

undefined. **Damage to alveoli** ✓

undefined. Increased lung capacity

undefined. **Reduced cilia function** ✓

undefined. Enhanced oxygen exchange

Likely consequences of smoking include damage to alveoli and reduced cilia function.

Discuss how chronic obstructive pulmonary disease (COPD) affects the gas exchange process in the lungs.

COPD leads to narrowed airways and damaged alveoli, impairING gas exchange and reducing oxygen supply to the body.

Part 3: Evaluation and Creation

Which intervention would be most effective in improving lung function in individuals with asthma?

undefined. Increasing exposure to allergens

undefined. Using bronchodilators ✓

undefined. ReducING physical activity

undefined. AvoidING hydration

Using bronchodilators would be the most effective intervention for improving lung function in individuals with asthma.

Evaluate the following strategies for maintaining respiratory health. Which are beneficial? (Select all that apply)

undefined. Regular exercise ✓

undefined. Smoking cessation ✓

undefined. High sugar diet

undefined. Breathing exercises ✓

Beneficial strategies include regular exercise, smoking cessation, and breathing exercises.

Propose a public health campaign aimed at reducing respiratory illnesses in urban areas. Include key strategies and objectives.

A public health campaign could focus on educating the community about air quality, promoting smoking cessation, and encouraging regular health check-ups.