

SUBJECT:

UNIT: Year 8: Breathing



While you were away.

Lesson one and two: Gas exchange

1. Where does gas exchange take place?
2. What gases are exchanged?

Lesson three: Breathing

1. What is another name for the trachea?
2. What is the role of the diaphragm?

Lesson Four: Drugs

1. What is a recreational drug?
2. How do drugs affect the body?

Lesson Five: Smoking

1. What is nicotine?
2. What disease can a carcinogen lead to?

Lesson 6: Alcohol

1. What is alcohol classed as?
2. Why is it dangerous to drink alcohol during pregnancy?

SUBJECT: Science

UNIT: Y8 Breathing



Key Vocabulary

and stomach

Trachea

Tube that air travels down, connects the mouth and lungs

Alveoli

Air sacs in the lungs where gas exchange occurs

Respiration

Chemical reaction that occurs in all cells and releases energy

Absorbed

When a substance is taken in

Digestion and Breathing

Humans exchange gases and take in nutrients through diffusion.

Diffusion

When a substance moves from an area of high concentration to low concentration until the particles are evenly spread.

Respiratory System

Air is inhaled into the lungs through the nose/mouth and down a tube known as the trachea. The trachea splits into two tubes; the bronchi. Each of these splits into smaller tubes; the bronchioles. At the end of the bronchioles are air sacs known as the alveoli. This is where gas exchange occurs.

Inhalation requires the intercostal muscles in the chest to contract and the diaphragm to relax so that air can be drawn into the lungs. Exhalation is the opposite.

Ambitious Vocabulary

Gas exchange, diffusion, alveoli

Gas Exchange

Oxygen enters the body through the lungs and is diffused into the blood in the alveoli in the lungs. At the same time carbon dioxide is diffused into the lungs from the blood and then exhaled. The alveoli are adapted for gas exchange by having a large surface area and being very thin as well as being covered in small blood vessels. Oxygen is used in respiration to release energy and carbon dioxide is produced.

Drugs

Drugs are chemicals that cause a change in the body. Recreational drugs are taken for fun and can be illegal. Medicines are drugs prescribed by medical professionals.

Smoking

Cigarettes contain nicotine which is addictive. They also contain other chemicals known as carcinogens which can cause cancer.

Alcohol

Alcohol is a depressant. It is also addictive. People addicted to alcohol are known as alcoholics. Drinking alcohol during pregnancy can lead to foetal alcohol syndrome in the baby which is a lifelong disorder.

Part	Function
Trachea	This is also called the windpipe. This tube runs from the mouth, down the throat towards the lungs. It is lined with rings of <i>cartilage</i> which keep it open at all times.
Bronchus	The trachea splits into a left and right bronchus each leading to a lung
Bronchi	Each bronchus splits again and again into thousands of smaller tubes called bronchioles which take the air deeper into the lungs
Alveoli	At the end of the bronchioles are tiny air sacs called alveoli. Here oxygen moves into the blood and carbon dioxide moves out
Intercostal muscles	These muscles run between the ribs and form the chest wall. They contract and relax with the diaphragm when a person breathes