

Topic/Objectives: 15-2 Breathing Mechanism (& Gas Exchange); (1) Explain how the body utilizes pressure differences to carry out ventilation, (2) Describe how the body exchanges gas with the atmosphere, (3) Describe how oxygen and carbon dioxide are transported throughout the body.	Name:
	Date:
	Period:

Essential Question: How is the body capable of moving gases from the atmosphere to the cells and then returning waste gases back to the atmosphere?

Questions:	Notes: <p>_____ (breathing), the movement of air in and out of the lungs, is composed of inspiration and expiration.</p> <p>During _____ atmospheric pressure forces air into the lung.</p> <ul style="list-style-type: none"> ◦ The _____ and external intercostal muscles expand the thoracic cavity, decreasing the air pressure in the lungs by increase the size of the cavity, causing higher pressure air to flow in from the outside. ◦ _____ keeps the alveoli from sticking to each other so they do not collapse when internal air pressure is low. <p>The forces of _____ are due to the elastic recoil of lung and muscle tissues and from the surface tension within the alveoli.</p> <ul style="list-style-type: none"> ◦ Forced expiration is aided by thoracic and abdominal wall muscles that compress the abdomen against the diaphragm.
<p>The _____ are the only sites of gas exchange between the atmosphere and the blood.</p> <ul style="list-style-type: none"> ◦ The _____ consists of the epithelial cells of the alveolus, the endothelial cells of the capillary, and the two fused basement membranes of these layers. ◦ Gases _____ across the respiratory membrane from areas of higher pressure to areas of lower pressure. 	
<p>Gases are transported in association with molecules in the blood or dissolved in the plasma.</p> <p>Over 98% of the _____ is carried in the blood bound to hemoglobin of red blood cells, producing oxyhemoglobin.</p> <ul style="list-style-type: none"> ◦ Oxyhemoglobin is _____ in areas where the concentration of oxygen is low, and gives up its oxygen molecules in those areas. ◦ More oxygen is released as the blood concentration of _____ increases, as the blood becomes more acidic, and as blood temperature increases. ◦ A deficiency of oxygen reaching the tissues is called _____. 	

