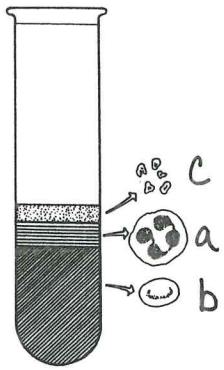
ANSWER KEY

THE BLOOD

Name _____

Label the following parts on the diagram below.

a. white blood cell
b. red blood cell
c. platelet



Answer the questions below.

1. What is the role of platelets?—Within a few seconds after an injury, platelets (cell fragments) begin the process of blood clotting.
2. What are sickle cells?—Red blood cells that are crescent-shaped instead of round and concave.
3. Why are they important?—They may clog small blood vessels, depriving tissues of oxygen and causing great pain—even death.

Match the description in Column I with the correct term in Column II.

Column I		Column II
a) iron containing molecule in red blood cells	C	plasma
b) white blood cells which produce antibodies	e	platelets
c) liquid part of the blood	b	lymphocytes
d) returns tissue fluid to the blood	f	antigens
e) cell fragments involved in clotting	i	fibrin
f) foreign molecules in the body	a	hemoglobin
g) cancer of the bone marrow	j	antibodies
h) condition in which the blood cannot carry sufficient oxygen	h	anemia
i) strands of protein involved in clotting	g	leukemia
j) react with antigens and inactivates them	d	lymphatic system

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BLOOD TYPES AND TRANSFUSIONS

Name _____

Fill in the blanks on the table below. Then answer the questions.

Blood Type	Antigens on Red Cells	Antibodies in Plasma	May Donate To	May Receive From
A	A	anti-B	A, AB	A, O
B	B	anti-A	B, AB	B, O
AB	A, B	none	AB	A, B, AB, O
O	none	anti-A anti-B	A, B, AB, O	O

1. Why are individuals with blood type O considered universal donors? People with any blood group may receive type O blood.
2. Why are individuals with blood type AB considered universal recipients? They may receive types A, B, AB and O blood.
3. Today, some people who know they must undergo surgery in the near future give their own blood at the blood bank earlier. Then, they use it during surgery. Why? Today the blood supply is quite safe, but some people are still concerned about blood that could carry the HIV virus.

The distribution of blood types around the world varies. For example, you would find it different in Japan, and among Basque people in northern Spain.

POPULATION	A	B	AB	O
U.S. Whites	39.7%	10.6%	3.4%	46.3%
U.S. Blacks	26.5%	20.1%	4.3%	49.1%
Native Americans	30.6%	0.2%	0.00%	69.1%

On the basis of the table, answer the following questions.

1. In the U.S., what is the most frequent blood type? O
2. If you are an African American, what are the chances that your blood is type A? 26.5%
3. What is the only population that has no representative with one blood type? Native Americans
4. What blood type is this? AB
5. Compare the frequency of type B blood between white and black Americans. It is almost twice as frequent among black Americans.

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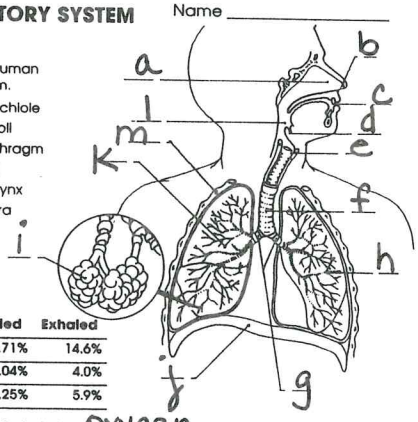
THE HUMAN RESPIRATORY SYSTEM

Name _____

Respiratory System

Label the following parts of the human respiratory system on the diagram.

a. nasal passage
b. nostrils
c. mouth
d. epiglottis
e. larynx
f. trachea
g. bronchi
h. bronchiole
i. alveoli
j. diaphragm
k. lung
l. pharynx
m. pleura



Gas Exchange

The table shows what happens to the air we inhale.

Gas	Inhaled	Exhaled
oxygen (O_2)	20.71%	14.6%
carbon dioxide (CO_2)	0.04%	4.0%
water (H O)	1.25%	5.9%

1. What gas is removed from inhaled air? Oxygen
2. What gases are added to inhaled air and then exhaled? Carbon dioxide and water
3. Which gas shows the greatest difference in percent between inhaled and exhaled air? Oxygen

Fill in the blanks below with the correct answers.

Inspired air rich in Oxygen enters the body through the nostrils or mouth. It passes through the pharynx and larynx, or voice box, and into the trachea. Air then enters each bronchus, which branches into bronchioles and finally into the air sacs or alveoli of the lungs. The lungs are housed in the thoracic cavity that is bound on the bottom by a thin layer of muscle, the diaphragm. Each lung is covered by a very thin pleural membrane. In the alveoli, carbon dioxide is exchanged for oxygen.

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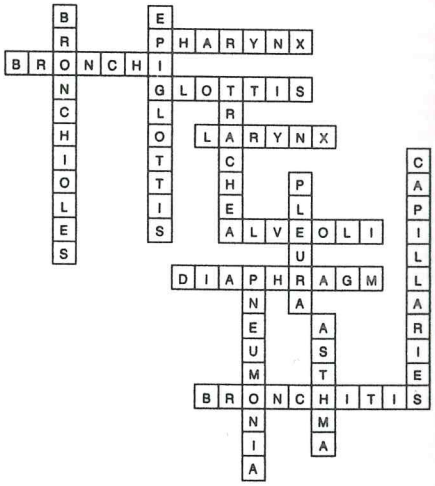
HUMAN RESPIRATORY SYSTEM CROSSWORD

Name _____



Across

3. Area at the back of the throat where the mouth and nasal cavity meet
4. The trachea divides into these right and left branches
5. Opening to the windpipe
7. Contains the vocal cords
10. Tiny air sacs where the exchange of gases between air and blood takes place
11. Flat sheet of muscle separating the chest cavity from the abdominal cavity
14. Inflammation of the lining of the bronchial tubes

Down

1. Smaller branches of the bronchi
2. Flap of tissue which prevents food from entering windpipe during swallowing
6. Tube leading from larynx to bronchi
8. blood vessels surrounding the air sacs
9. Moist membrane covering the lung and chest cavity wall on each side
12. Infection of the lungs caused by viruses, bacteria or fungi
13. Bronchial spasm resulting in decreased air movement and air trapped in alveoli

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