

## AL-REEYADA INTERNATIONAL SCHOOL

MAHASEN ARAMCO, AL-AHSA, KINGDOM OF SAUDI ARABIA

### SCIENCE 7

#### SCIENCE WORKSHEET NO. 1

TOPIC: BLOOD

#### -PAPER 2-

##### I. MULTIPLE CHOICE

Directions: Choose the most suitable answer and write the corresponding letter (A, B, C, or D) inside the brackets provided for.

1. What is the main principle behind centrifugation?

- A. Centrifuges use gravity to separate particles based on their density.
- B. Centrifuges use centrifugal force to separate particles based on their size and density.
- C. Centrifuges use magnetism to separate particles based on their magnetic properties.
- D. Centrifuges use heat to separate particles based on their boiling point. ( )

2. What are some of the safety precautions that should be taken when using a centrifuge?

- A. Always balance the centrifuge tubes before spinning.
- B. Never open the centrifuge while it is spinning.
- C. Always use the correct speed and time settings for the sample you are spinning.
- D. All of the above ( )

3. What is blood plasma?

- A. The liquid component of blood that makes up about 55% of blood volume.
- B. The solid component of blood that consists of red blood cells, white blood cells, and platelets.
- C. A type of blood cell that carries oxygen from the lungs to the body's tissues.
- D. A protein that helps to clot blood. ( )

4. It is a fluid tissue that consists of plasma, red blood cells, white blood cells, and platelets.  
A. Blood    B. Urine    C. Digestive juices    D. All of them    ( )

5. What will happen when white blood cells finished eating pathogens?  
A. They will regenerate.    B. They will be energized.  
C. They will die.    D. All of the above    ( )

6. Why are blood transfusions given?  
A. To replace lost blood or plasma in cases of severe bleeding or trauma  
B. To treat anemia caused by blood loss, disease, or medication  
C. To boost the immune system and fight infections  
D. All of them    ( )

7. Who can donate blood?  
A. Healthy individuals who meet certain age, weight, and health criteria  
B. People who have traveled to certain areas with high risk of infectious diseases may be temporarily excluded  
C. Pregnant women and women who have recently given birth are not eligible to donate  
D. People with certain medical conditions, such as heart disease or cancer    ( )

8. How is blood transfusion being made safe?  
A. Blood donors are carefully screened for infectious diseases.  
B. Blood is tested for infectious diseases and incompatibility with the recipient's blood type.  
C. Blood is stored and transported under controlled conditions.  
D. All of the above    ( )

9. Which of the following is the liquid component of blood?  
A. Plasma    B. Red blood cells    C. White blood cells    D. Platelets    ( )

**10. How do white cells destroy pathogens?**

- A. They gather in large numbers wherever the pathogens have entered the body and eat them.
- B. They gather in small numbers wherever the pathogens have entered the body and eat them.
- C. They gather in few numbers wherever the pathogens have entered the body and eat them.
- D. All of them

(      )

**11. What is sickle cell anemia?**

- A. A type of cancer that affects the red blood cells
- B. A genetic disorder that affects the shape of red blood cells
- C. An infectious disease that affects the lungs
- D. A condition that affects the ability to produce red blood cells

**12. What are the symptoms of sickle cell anemia?**

- A. Fatigue, pain, and shortness of breath
- B. Fever, chills, and body aches
- C. Coughing, wheezing, and chest pain
- D. Nausea, vomiting, and diarrhea

(      )

**13. What are the complications of sickle cell anemia?**

- A. Stroke, heart attack, and lung damage
- B. Kidney failure, liver damage, and bone problems
- C. Diabetes, obesity, and high blood pressure
- D. All of the above

(      )

**PAPER 4-**

**II. IDENTIFICATION.** Identify what is being asked or described. Write your answer in the blank before the number.

- \_\_\_\_\_ 1. The donated blood is treated to preserve it and is stored in a \_\_\_\_\_.
- \_\_\_\_\_ 2. The main component of red blood cells that gives them their red color
- \_\_\_\_\_ 3. What is the lifespan of a mature red blood cell?
- \_\_\_\_\_ 4. The process of transferring blood from one person (donor) to another (recipient).
- \_\_\_\_\_ 5. It is a force that causes an object moving in a circular path to move out and away from the center of its path.
- \_\_\_\_\_ 6. It is a substance formed when a large number of dead white cells collect around the wound.
- \_\_\_\_\_ 7. It is hoped that the substance from the leaves of this plant will help people with sickle –cell anemia.

**III.** Complete the table below by giving 3 differences and 1 similarity of RBCs and WBCs based from their shape, number, size and where they are being made.

DIFFERENCES	RED BLOOD CELLS	WHITE BLOOD CELLS
Size		
Shape		
Number		

**IV. Complete the table about the components and functions of blood.**

COMPONENTS OF BLOOD	FUNCTIONS
	To transport nutrients and waste products
	To carry oxygen from the lungs to the body's tissues
	To fight infection
	To help blood clot

**V. Choose the definition of the following.**

1. Oxyhemoglobin
2. Phagocytosis
3. Pathogens
4. Centrifugation
5. Universal blood recipient

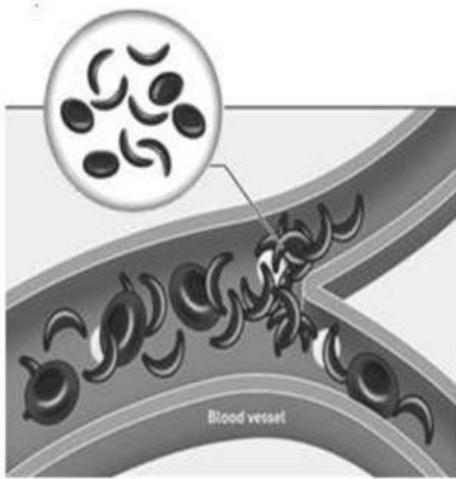
**VI. Choose the correct answer for the following questions.**

1. What will happen when a person received the wrong blood type?
2. Who can receive blood transfusions?
3. What is the similarity of WBCs and RBCs?

**-PAPER 4-**  
**(Alternative-to-Practical)**

**VII. Study the given diagrams below.**

Describe the (a) shape of the abnormal red blood cells and identify the (b) name of this blood disorder. Answer also the other related questions (c, d and e).



**a. Shape of the abnormal red blood cells**

Answer: \_\_\_\_\_

**b. Name of the blood disorder**

Answer: \_\_\_\_\_

**c. Is it contagious? \_\_\_\_\_**

**d. Is it inherited? \_\_\_\_\_**

**e. Where do most people live have this disorder? \_\_\_\_\_**

Answer: \_\_\_\_\_

**VIII. Analyse the table given on the right and identify the universal donor as well as the universal recipient of blood.**

**a. Universal Blood type donor**

Answer: \_\_\_\_\_

**b. Universal Blood type recipient**

Answer: \_\_\_\_\_

Recipient	Blood donor			
	O	A	B	AB
O	✓	X	X	X
A	✓	✓	X	X
B	✓	X	✓	X
AB	✓	✓	✓	✓