

Name _____

BLOOD TYPING

WEBSITE: Go to

<https://educationalgames.nobelprize.org/educational/medicine/landsteiner/readmore.html>

Click on above link to read background information before playing the game:

1. a) What year did blood transfusions become safe? _____
b) Who made the discovery about blood typing? _____
2. a) What type of reaction is blood clumping? _____
b) Why does this happen? _____

What is blood made up of?

3. Name AND describe the four parts that make up blood.

_____ - _____

_____ - _____

_____ - _____

_____ - _____

What are the different blood groups?

4. The blood types are due to the presence or absence of what two protein molecules?
_____ and _____
5. Mixing incompatible blood types leads to what? _____

ABO Blood Grouping

6. What are the four different groups in this grouping?
_____, _____, _____, _____

7. Draw a picture of each blood type to show the differences between these four groups.

A	B	AB	O

Rh Factor blood grouping system

8. People with this antigen on their blood cell surface are called _____.

9. People who lack the antigen on their blood surface are called _____.

***Look at the picture of the people and the arrows drawn in to answer the questions below:

10. Someone who is Rh+ can receive what Rh factor(s)? _____

11. Someone who is Rh- can receive what Rh factor(s)? _____

Therefore the eight possible blood types are:

Blood typing – How do you find out who belongs to which group?

Summarize the 3 steps in this process

What is happening when the blood clumps or agglutinates?

When someone gets a blood transfusion, they have to be the same blood type – if they are not the same blood type explain what happens.

Blood Transfusion – who can receive blood from what?

Look at the drawing and the caption in the left hand column.

- Blood type O is considered the _____.
- Blood type AB is considered the _____.

Now play the Blood Typing Game!

Website: Go to

<https://educationalgames.nobelprize.org/educational/medicine/bloodtypinggame/index.html>

Blood Typing Game

Upon entering the site, choose to play the “Quick Game – Random Patients” (first category). You will be given three patients that are in need of a blood transfusion. Your goal is to determine what blood type they are and then to choose which blood will be suitable for a blood transfusion. You do NOT want to kill them!!!

*******Note: If you put the mouse over the bag of blood, it will show you the contents of the bag and which antibodies or antigens are present. Read the steps below before you ask questions.***

- ★ The first thing you want to do is take a blood sample from the patient’s forearm and test it with each of the antibodies and antigens provided.

- ★ Once you have done that, you can put the mouse over the test tubes to see which blood type the patient is. (How do you figure this out? Look at the pictures you drew above and look to see what antigens and antibodies are present or absent. Did the blood clump?)

- ★ Once you figure out the blood type, drag the correct bag of blood to the hook above the patient.

- ★ Keep in mind that there will be more than one solution for many blood types ★

Select the first patient.

- ★ His blood type is _____
- ★ He can receive what type(s) of blood? _____

Select the second patient.

- ★ His blood type is _____
- ★ He can receive what type(s) of blood? _____

Select the third patient.

- ★ Her blood type is _____
- ★ She can receive what type(s) of blood? _____

Write a conclusion below summarizing how blood typing works.