Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Blood Typing Game

<http://www.nobelprize.org/educational/medicine/bloodtypinggame/game/index.html>

1. Start with “Quick Game – random patients”. You will be brought to a screen that says “Car Crash Victims”. **Before** you start the game you must answer the following questions.

Go to “Main Menu” and select “What is a Blood Type?”

***In Tutorial 1 – answer the following questions:***

 1. What types of cells is human blood made up of?

 2. What is the function of red blood cells?

 3. What is the function of white blood cells?

 4. What is the function of platelets?

 5. What does plasma (the liquid stuff the cells float in) contain?

 6. How are blood types determined?

 7. What are the molecules found on the surface of \_\_\_\_\_\_ blood cells called?

 8. Are antigens and antibodies the same thing?

 9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found on the surface of red blood cells.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found floating around in the blood plasma

10. Rh+ indicates the *presence absence* of Rh antigens on the surface of the red blood cells (circle one)

11. If a person has blood type A then there are **A B** antibodies in the blood plasma (circle one).

12. If a person has blood type B then there are **A B** antibodies in the blood plasma (circle one)

13. If a person is Blood Type AB with Rh+ blood then there are \_\_\_\_\_\_ antibodies in the blood plasma.

14. If a person is Blood type O Rh- they have \_\_\_\_\_\_\_\_\_\_ antigens on the surface of their red blood cells.

***Go “BACK” to Main Menu and select the second tutorial “How do you determine a patient’s blood type?”***

 1. What do you look for when you mix the patient’s blood with the three different reagents (chemicals)?

 2. What does a positive reaction look like?

3. No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in test tube A indicates that the patient’s red blood cells \_\_\_\_\_\_\_\_\_\_ have A antigens.

4. No \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the Rh tube indicates that the patients red blood cells do not have \_\_\_\_\_\_\_\_\_\_\_\_.

***Go “BACK” to Tutorials and select “How do you perform safe blood transfusions?”***

 1. What is a blood transfusion?

 2. What happens if you get the wrong blood in a transfusion? Name two things that might happen.

 3. What are some compatible blood types for transfusion? Name three.

4. For the Rh blood system who can a person with Rh- blood receive blood from ? What about a person with Rh+ blood?

5. What happens if there is an emergency and there is no time for blood typing? What blood type is the one that everyone can receive?

6. How old must you be to donate blood?

***Use the “BACK” button to return to the Main Menu. Under Select Game Type pick “Quick Game – random Patients”***

Read the challenge and then select “Proceed”.

4. From the group of three patients, select one.

5. Who did you select?

6. Use the syringe to obtain a blood sample from the patient. Follow the directions to perform the blood typing.

What was their blood type?

Were they Rh+ or Rh-

7. Select another patient and perform the same tests.

Who did you select? (Male, female, short hair, long hair)

What was their blood type?

8. Select the last patient and perform the same tests.

Who did you select? (Male, female, short hair, long hair)

What was their blood type?

Next - <http://www.nobelprize.org/educational/medicine/bloodtypinggame/game/> and select **Mission-Based Game**

1. Enter your email and create an account

In the next screen go to “Start Playing”

You will play the “Struck by Lightening” game – you will see the following text:

***Hi and welcome to the emergency department at this hospital!***

***There is a patient with severe burns waiting – he has been struck by lightning. Can you blood type him in order to give him a blood transfusion later on?***

Go to “Proceed” and select a patient, determine the patient’s blood type –

2. What is the patient’s blood type?

3. What is their Rh value?

4. If you answer correctly you will go on to the next mission. Make sure you “x” out in the corner of the blood splatter.

5. The next mission is called “Full Circus”

***Now that you have warmed up, you can handle some more patients! An ambulance has arrived with triplets from a circus where there has been an accident. You can blood type all three of them in case they need a blood transfusion – they are not identical twins so they don't necessarily have the same blood type!***

6. Select a patient from the circus accident and type their blood.

What is their blood type? What about their Rh?

6. Select the next patient from the circus accident and type their blood.

What is their blood type? What about their Rh?

Feel free to continue with this activity to go on more missions.

What was your highest score? What missions did you go on?