Blood Typing Internet Lesson

Directions: Answer the questions below by visiting the following website.
http://nobelprize.org/educational_games/medicine/landsteiner/readmore.html

1. Define AGGLUTINATION.

2. What happens to blood that can have fatal consequences?

3. Which award did Karl Landsteiner win for his blood discoveries?

What is blood made up of?

4. How much blood is inside the average human body?

5. Describe the components of blood:
   a. RBCs:
   b. WBCs:
   c. Platelets:
   d. Plasma:

What are the different blood groups?


7. True or False: Not all blood groups are compatible with each other.

8. What happens if you mix incompatible blood types?

ABO blood grouping system

9. Fill in the blood type table below by reading the blood group descriptions.

<table>
<thead>
<tr>
<th>Blood Group</th>
<th>Antigens on RBCs</th>
<th>Antibodies in your plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group AB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group O</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rh factor blood grouping system

10. Circle one: Rh is a type of antigen/antibody.

11. a. What are people called if they possess the Rh factor? b. If they don’t have the Rh factor?
   a. ___________________________ b. ___________________________

12. How is it possible for an Rh- person to eventually become Rh+?

   a. ___________________________________ b. ___________________________________
   a. ____________________________ b. ____________________________

**Blood Group Notation**

15. How many different blood type and Rh type combinations exist? ____________________________

**Blood Typing – how do you find out to which blood group someone belongs?**

16. Summarize (in your own words) the three steps to find out which blood type a person belongs to.
   a. ___________________________________________________________
   b. ___________________________________________________________
   c. ___________________________________________________________

**What is happening when the blood clumps or agglutinates?**

17. Why is clumping/agglutination dangerous?

18. a. What binds with the A antigen? b. B antigen?
   a. ____________________________ b. ____________________________

**Blood transfusions – who can receive from whom?**

19. Examine the blood group chart to answer the following questions.
   a. Which blood type can be donated to anyone? ____________________________
   b. Which person can receive blood from anyone? ____________________________
   c. Which blood type has no antibodies in blood plasma? ____________________________
   d. Which blood type has both A and B antibodies in blood plasma? ____________________________
   e. Which is the only blood type that can receive only 1 type of blood? ____________________________

Click PLAY THE BLOOD TYPING GAME and then click PLAY

**Old Man**

20. Start with the old man. Inject the needle into his arm to draw his blood. Then insert his blood into the 3 test tubes. Examine the results. What is the blood type of the old man? (Circle one)
   A+  A-  B+  B-  AB+  AB-  O+  O-

21. Which blood type can you give him (circle one)? A+  A-  B+  B-  AB+  AB-  O+  O-

**Punk Rocker**

22. Next, click on the punk rocker. Inject the needle into his arm to draw his blood. Then insert his blood into the 3 test tubes. Examine the results. What is the blood type of the punk rocker? (Circle one)
   A+  A-  B+  B-  AB+  AB-  O+  O-

23. Which blood type can you give him (circle two)? A+  A-  B+  B-  AB+  AB-  O+  O-

**Young Woman**

24. Now, click the young woman. Inject the needle into her arm to draw her blood. Then insert her blood into the 3 test tubes. Examine the results. What is the blood type of the young woman? (Circle one)
   A+  A-  B+  B-  AB+  AB-  O+  O-

25. Which blood type can you give her (circle four)? A+  A-  B+  B-  AB+  AB-  O+  O-