

Go to <http://sciencespot.net/> → Kid Zone → Forensic Science Links Page 2 to find the link.

**Part A: What is a blood type?**

*Note: Click BACK at the top to return to the Main Menu*

**1. What are the four components of blood? Identify each based on the description.**

\_\_\_\_\_ help the blood to clot, if you get a wound for example.

\_\_\_\_\_ contains salts and various kinds of proteins.

\_\_\_\_\_ blood cells transport oxygen to, and remove carbon dioxide from, the body tissues. They contain hemoglobin, a protein that binds oxygen. They

\_\_\_\_\_ blood cells fight infection by producing antibodies to destroy foreign material.

**2. How our blood types determined? \_\_\_\_\_**

**3. Complete this paragraph about blood types:** The \_\_\_\_\_ blood types have different combinations of certain molecules, \_\_\_\_\_, on the surface of the red blood cells. The \_\_\_\_ and \_\_\_\_ antigens are sugars and the \_\_\_\_ antigens are proteins. The antigens expressed in the \_\_\_\_\_ blood cells determine an individual's blood \_\_\_\_\_. Other molecules, called \_\_\_\_\_ may be found floating around in the blood plasma and differs depending on blood type.

**Part B: How do you determine a person's blood type?**

**1. Complete the steps in the blood typing procedure.**

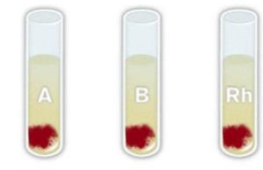
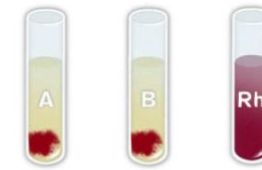
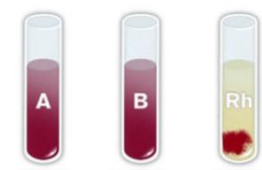
1<sup>st</sup> – The patient's blood is mixed with three different \_\_\_\_\_ representing the antibodies, A, B, or Rh.

2<sup>nd</sup> – Look for clumping, or \_\_\_\_\_, to show the blood has reacted with a certain antibody.

3<sup>rd</sup> – Determine the \_\_\_\_\_ blood type based on the results. Clumping would show the blood has those antibodies.

4<sup>th</sup> – Determine the \_\_\_\_\_ blood groups, which would be either a \_\_\_\_ or a \_\_\_\_\_.

**2. Determine the blood type for each example below and then check your answers. Remember, clumping indicates a positive result for that factor.**

Example 1	Example 2	Example 3
 <p>_____</p>	 <p>_____</p>	 <p>_____</p>

### Part C: How do you perform blood transfusions?

1. Complete this statement: A blood \_\_\_\_\_ involves taking blood from one person (a \_\_\_\_\_) and giving it to another person, or recipient, to replace blood lost in major accidents, or during life-saving operations.

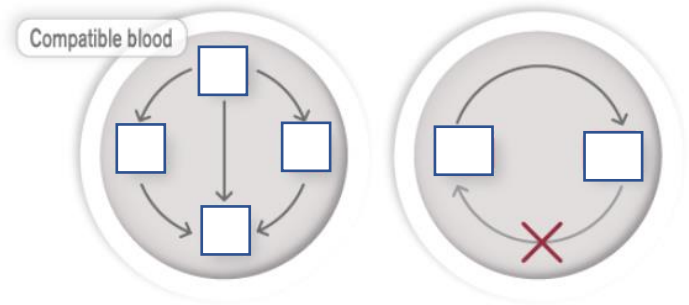
2. What would happen if a recipient would be given an incompatible blood type? \_\_\_\_\_

---

3. Label each diagram to show which blood types are compatible. →

4. Which blood type is known as the “universal recipient”? \_\_\_\_\_

*Challenge: Which blood type would be the “universal” donor? \_\_\_\_\_*



### Part D: Blood Typing Game

Click **START PLAYING** and follow the directions to complete the activity.

#### Patient A - Red-Haired Man

What is his blood type (based on the results shown)? ? \_\_\_\_\_

Which kind of blood can you give him? \_\_\_\_\_

#### Patient B - Green-Haired Man

What is his blood type (based on the results shown)? ? \_\_\_\_\_

Which kind of blood can you give him? List 2. \_\_\_\_\_

#### Patient C - Purple-Haired Lady

What is her blood type (based on the results shown)? \_\_\_\_\_

Which kind of blood can you give her? List 4. \_\_\_\_\_