Blood Basics Online Name _____

Use the sites in the Blood Basics section on the Forensic Science page
of the Kid Zone at http://sciencespot.net/.

Site #1: Genes & Blood Type

1. Enter "What is blood" in the search box and click SEARCH. Click on the link for the correct page and then read the information to identify each part of blood based on the descriptions. Use **P** for plasma, **RBC** for red blood cell, **WBC** for white blood cell, and **PLT** for platelet.

_____ A mixture of water, sugar, fat, protein, and potassium and calcium salts.

_____ Contains a special protein called hemoglobin, which carries oxygen and causes these cells to be red

_____ More than 92% of this substance is water.

_____ Produce proteins called antibodies that help our bodies fight infection

_____ Contains chemicals that helps blood form clots

_____ Fragments of cells that gather at a cut or other wound and stick to the edges

_____ Makes up 55% of the blood

_____ Makes up 45% of the blood

_____ Makes up 0.1% of the blood

_____ Makes up 0.17% of the blood

2. Enter "What are blood types" in the search box and click SEARCH. Click on the link for the correct page and then read the information to complete the questions in this section.

- The two genes you receive from your parents determine your blood type by causing proteins called _____ to exist on the surface of all of your _____ blood cells.
- What are the six genotypes (combinations) for blood types? ____ ____ ____ ____ ____ ____
- Other genes make proteins called _____ that circulate in your blood plasma. These are responsible for ensuring that only the _____ _____ of your blood type exist in your _____.
- List the genotypes (letters) that would belong to each blood group below.

Type A = ____ ____ Type B = ____ ____ Type AB = ____ Type O = _____

3. Enter "What are blood transfusions" in the search box and click SEARCH. Click on the link for the correct page and then read the information to complete the questions in this section.

- In order for a transfusion to work, the agglutinogens on the surface of the _____ blood cells match the agglutinogens on the surface of the _____ blood cells.
- This means that the blood type of the _____ and the blood type of the person receiving the transfusion must be _____.
- If the blood types don't match, special antibodies in the recipient's blood, called _____, will attack the donated blood causing blood clots to form in a reaction called _____.
- People with Type O blood are said to be universal _____, because they can donate blood to everyone. However, they can only receive blood that is Type _____.
- People with Type AB blood are said to be universal _____, because they can receive blood from everyone.
- Fill in the chart below using the information on the page.

Blood Type	Can receive blood from …	Can give blood to …
OO		
AB		
AA, AO		
BB, BO		

Site #2: Blood Typing Game

Return to the Forensic Science page of the Kid Zone and try the Blood Typing Game. Use your notes and what you learned about blood transfusions to complete the game.

HINT: You will need to drag the syringe to the patient's arm to draw blood and then hold it over each test tube to test it to determine the blood type.Use the test results to determine the blood type and which bags of blood the patient can receive.

Patient #1 –Man with purple hair **NOTE: A Rh + should be written as A+.**

What was his blood type? _____ Which bags of blood did you give to him? _____

Patient #2 – Older man with white hair

What was his blood type? _____ Which bag of blood did you give to him? _____

Patient #3 – Young lady with red hair

What was her blood type? _____ Which bags of blood did you give to her? _____