**NAME:**

In this investigation, you are going to use the process of Gel Electrophoresis to identify some unknown samples of dye. This technique is similar to that which is used to identify DNA samples for various purposes, such as in forensics to aid in the identification of criminals.

SCENARIO:

Two burglars have broken into a house by smashing a window. Unfortunately for the burglars, they have cut themselves and left blood on the floor under the window, in two different locations. This is fortunate for the forensic scientist (you) as DNA can be extracted from the white cells from these two blood samples and DNA profiles can be determined. These profiles can be used to obtain a match with any of the four possible suspects. Your task is to carry out electrophoresis to obtain the DNA profiles of the four suspects and the two blood samples. Preliminary testing of the samples has identified that they are from two different people.

You are to follow the procedure on the handout to set up the electrophoresis. At Step 4, you are to do the following:

* Use the micropipettor provided to carefully place the samples in the appropriate wells. Use a different tip for each sample and place used tips in container provided.
* Load the samples into the wells in the following order:

1. Ladder (this is a control that contains all samples – to determine when separation is complete. You won’t have to use this information in your identification of unknowns.)
2. Sample 1 (Suspect 1)
3. Sample 2 (Suspect 2)
4. Sample 3 (Suspect 3)
5. Sample 4 (Suspect 4)
6. Unknown 1 (from crime scene)
7. Unknown 2 (from crime scene)

**While the electrophoresis is running, you are to complete the questions on accompanying sheets. This is to be done individually.**

When the electrophoresis is complete and you have interpreted your separation patterns, complete the following:

**Identity of Unknown 1 is Suspect ................**

**Reasons:**

**Identity of Unknown 2 is Suspect .................**

**Reasons:**