**Gel Electrophoresis Virtual Lab Worksheet**

**Instructions**

Go to the following link and complete the gel electrophoresis virtual lab: <https://www.classzone.com/books/hs/ca/sc/bio_07/virtual_labs/virtualLabs.html>

Select “Gel Electrophoresis” from the list and start the virtual lab.

The lab is based on using gel electrophoresis for DNA fingerprinting. In our lesson, we discussed using gel electrophoresis for nanotechnology, specifically determining if the PEG molecule has been attached to the quantum dot. Even though this lab presents a different application for gel electrophoresis, the lab helps you to understand how this method works!

**Questions**

1. Gel electrophoresis a technique used for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. What is the purpose of the power supply?

3. The TBE buffer solution is used to help \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. Shorter strands of DNA travel \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the agarose gel than do larger strands.

5. Once an electric current is applied, notice that the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is closest to the wells, and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is farthest from the wells.

6. Which suspect is the victim? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How do you know? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Do you think you would find the largest or the smallest fragment of DNA closest to the well? Explain.