|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name: | **[insert name]** | Period: | **[insert Period]** | Date: | **[insert date]** |

Electrophoresis Analysis

# Background

To better understand how sickle cell anemia is caused, scientists have used molecular biology techniques, like gel electrophoresis. This is a technique that uses electricity to cause samples to move and sometimes separate.

## Video Questions

Watch the video “[Mystery of the Crooked Cell: Investigating the Heredity of a Blood Disorder](https://vimeo.com/405925057)” and answer the questions below.

|  |  |
| --- | --- |
| **Question/Prompt** | **Your Response** |
| 1. Why is it important to include normal and sickle hemoglobin in our patient’s test?
 | **[Answers are intentionally BLUE]** |
| 1. Which end of the electrophoresis chamber will the hemoglobin be attracted to? (Highlight your response.)
 | 1. **Positive**
2. **Negative**
3. **Neither**
4. **Both**
 |
| 1. How will we be able to differentiate between the hemoglobin samples if they are all migrating to the same end of the gel? (Highlight your response.)
 | 1. **You can’t**
2. **Varying charges**
3. **Size fragments**
4. **Voltage**
 |
| 1. What type of hemoglobin do you expect to be more attracted to the positive end of the gel? (Highlight your response.)
 | 1. **Normal**
2. **Sickle**
3. **They will be attracted equally**
 |

##

## Drawing Conclusions

View the following patient result and answer the following question.



|  |  |
| --- | --- |
| **Question/Prompt** | **Your Response** |
| 1. Based on the given result, is the patient sample (in the third well) healthy or sickle cell anemic? How do you know
 | **[Answers are intentionally BLUE]** |