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

Drawing Conclusions

# Background

Scientists conduct experiments to test their hypotheses but then need to explain their results to the rest of the scientific community. They have to explain why their data is valid proof to answer their question and provide reasoning for how their data is explained by what we already know about science. Being able to explain your results and reasoning is an important communication skill.

## The Question

The main question we have been asking throughout this unit is: **How are the sickle red blood cells of Patient 2 different from the normal red blood cells of Patient 1?**

In the following steps, you will build an argument to answer this question using what you have learned in this unit.

### *Constructing a Claim*

First, we want to construct a claim, a statement to answer the question being asked. Use the box below to write your claim.

|  |  |
| --- | --- |
| **Question/Prompt** | **Your Response** |
| **Claim****Example:**Sickle red blood cells have \_\_\_\_\_ that changes \_\_\_\_\_\_\_. | **[Answers are intentionally BLUE]** |

###

### Finding Strong Evidence

Once we have a claim, we want to cite evidence that proves our claim. This can be scientific data or observations. Use the box below to cite your evidence.

|  |  |
| --- | --- |
| **Question/Prompt** | **Your Response** |
| **Evidence** | **[Answers are intentionally BLUE]** |

### Using Reasoning to Explain Evidence

With the evidence to support our claim, we now have to tie the two together with reasoning. This is important because it is how we explain how a piece of evidence directly proves our claim to the viewer or reader. This is usually built on scientific principles or theories. Keep in mind that each piece of evidence may have a different justification for why it supports the claim.

Use the table below to help you align your evidence with your reasoning. List each piece of evidence in its own row of the table, so every piece of evidence has its own reasoning box.

|  |  |
| --- | --- |
| **Evidence (copy from box above)** | **Reasoning** |
| **Evidence 1** | **[Answers are intentionally BLUE]** |
| **Evidence 2** |  |
| **Evidence 3** |  |
| **Evidence 4** |  |

# Writing Your Argument

Now that you have completed your claim, evidence and reasoning you can assemble your argument. This should be a paragraph answering the question by presenting evidence and explaining how it supports your claim. Use the rubric on the next page to help you form your argument.

|  |  |
| --- | --- |
| **Question/Prompt** |  **Your Argument** |
| How are the sickle red blood cells of Patient 2 different from the normal red blood cells of Patient 1? | **[Answers are intentionally BLUE]** |

#

## Rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **Meeting (3)** | **Approaching (2)** | **Beginning (1)** | **N/A (0)** |
| **Claim***A statement of conclusion that answers the original question.* | Makes an accurate and complete claim.  | Makes an accurate, but incomplete claim.  | Makes an inaccurate or vague claim.  | Does not make a claim. |
| **Evidence***Scientific data that supports the claim.*  | Provides appropriate and sufficient evidence from the sources used to support the claim. | Provides appropriate, but insufficient evidence from the sources used. May include some inappropriate evidence. | Evidence is inappropriate or it does not support the claim. | Does not provide evidence. |
| **Reasoning***A justification that links the claim to the evidence.*  | Provides accurate and complete reasoning that links the evidence to the claim. Includes appropriate and sufficient scientific principles and vocabulary. | Provides reasoning that links claims to evidence. Repeats evidence and/or includes some scientific principles and vocabulary, but not sufficient. | Reasoning is not appropriate or does not link the claim to the evidence. | Does not include reasoning. |