**IPS Written Response**

Answer the following question. Use examples and evidence to support your answer.

**Essential Question: How and why do scientists study light waves?**

Use the vocabulary words below to help you answer the Essential Question.

**Underline** each vocabulary word in your answer. **Turn in this paper** with your completed response.

|  |
| --- |
| **Vocabulary** |
| Target Words(Use all of these) | Elective Words(Choose \_\_\_\_\_ or more)  |
| frequencyintensityopticstransmissionabsorptionreflectionemission | structurefunctiondiffractionEM SpectrumVisible light | refractionphotoreceptorscone cellsretinaUV light |

|  |
| --- |
| **Examples/Evidence**Hint: Think of different types of technology or tools that scientists use to observe light. List them and describe what they do.Example: \_\_\_\_\_ is an instrument that uses light to \_\_\_\_\_\_\_ . This helps scientists\_\_\_\_\_\_.1)2) |

**Sources** - Circle all of the places that you used for information:

 Science Articles School experiments Other classes Experiences outside of school

The essay will be graded using the rubric below. Check each category after you have finished writing to make sure that you have included everything you need.

|  |
| --- |
| Written Response Rubric |
| Category | Points Possible | Points Received/Comments |
| 10 Vocabulary Words(used and spelled correctly) | 10 |  |
| Gives at least 2 examples of technology and **explains** how they use light | 6 |  |
| Easy to read(Good organization, ideas make sense, answers the Essential Question) | 3 |  |
| Punctuation, Capitalization, and GrammarFor exampleWrong: the clouds is grayRight: **The** clouds **are** gray**.** | 3 |  |
| Additional Comments: | Total: /22 |

**Guiding Questions**
Directions: Use the questions to help you organize your written response. Under each question list the vocabulary words that you will use in your answer.

1. What is Optics?

2. How is light measured?

3. How do light waves move?

4. How do we use light in our daily lives?

**Writing Samples**

Good example:

We see visible light waves when they create a rainbow. A rainbow forms when white light passes through a water droplet.

Why is this example good? Use the rubric to list 5 reasons below.

Bad example:

we see light waves outside. Sometimes we sees rainbows. And clouds. And other things in the sky

Why is this example not good? Use the rubric to list 5 reasons below.