

# **Double Major: A Puzzle Hunt Challenge**

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## Puzzle: Double Majoring in **Physics** & Creative **Writing**

My Creative Writing professor went through the syllabus in the **speed of light**: novellas, long novels, memoirs, plays, even musicals—I couldn't catch it all. My Physics professor was even more cryptic. He looked at my problem set and said, "If you want to do physics like a mathematician, you have to use this." He handed me something that looked like a color palette. I finally figured it all out. In that moment, I felt... **[a 7-letter English word]**.

Work	Author	The Professor Said...
《3 (1/2) 2 Mancha》	4 9	I am about to face my final judgment, but I am certain: countless tiny wills have converged into a single whole.
《(2/3)》	7 7	A lama walking in dreams, a Red Bull, and India is always hot.
《(3/8)》	9	Not the laws of the city, but the laws of the gods. If Zeus won't protect me, let him strike me with lightning!
《(5/11)》	George Eliot	In the long lanes of the provincial town, the distance between ideal and reality grows ever further.
《8 7》	(9/9) 6	Through a newspaper, the weight of words is so heavy it can change a nation's trajectory.
《(6/10)》	7 5	The prince opened his eyes by the river, an instant of enlightenment, as if he had experienced eternity.
《The (7/7)'s 8》	9 7	Rebelling peasants, the roar of Cossack cannons, and in the darkness, a beam of light fell on her face.



# STOP!

**The following pages contain HINTS.**

*Turn the page only when you're ready to see the hints.*

## Hints:

### I. **I have no clue.**

Perhaps you can try to figure out which works your Creative Writing professor mentioned. If you find it difficult, according to the syllabus of this course, using large language models to help search for information does not violate the Honor Code—as long as you fact-check properly.

### II. **How do I extract?**

As you can see, the first two columns of the table are in English, so you should fill in English. Then, a number represents a word of that length, and a number inside parentheses (X/Y) means this is a word of Y letters, and you should extract the Xth letter.

### III. **I've extracted some letters, but I have no idea how to order them.**

The final ordering is indicated by the colorful wheel below. Its meaning is related to the two letters highlighted in gray in the title, the number 7, and physics.

# STOP!

**The following pages contain the FULL SOLUTION.**

*Turn the page only when you're ready to see the solution.*

## Puzzle Hunt Solution: Double Majoring in Physics & Creative Writing

Final Answer: **ELATION**

### I. Title and Flavor Text

In the title, the **c** is highlighted, corresponding to the "speed of light" mentioned in the flavor text below, hinting that English letters can represent physical quantities. The **si** in the title hints at the International System of Units (SI). **Physics** and **Writing** are both seven-letter words with special typography, and their colors correspond inversely to the black-and-white literary booklist and the physics professor's colorful palette, suggesting a one-to-one correspondence between their seven elements. The number 7 hints that this puzzle is related to the seven SI base units.

In the flavor text, a series of **literary genres** related to the Creative Writing class are mentioned, which can further help identify the literary works. The physics professor's words further evoke the concept of "**units**" (mathematics or computational problems often omit units, while physics requires units unless consistently using SI units). The red text at the end indicates the format of the final answer to be extracted.

### II. Identifying Literary Works and Extraction

The seven works are:

Work	Author	Genre
Man of La Mancha	Dale Wasserman	Musical
Kim	Rudyard Kipling	Novel
Antigone	Sophocles	Drama
Middlemarch	George Eliot	Novel
Personal History	Katharine Graham	Memoir
Siddhartha	Hermann Hesse	Novella
The Captain's Daughter	Alexander Pushkin	Novella

After guessing some easier clues, through observation, guessing, and verification, we can discover that a number represents a word of that length, and a number in parentheses (X/Y) represents a Y-letter word, where X (which does not exceed Y) indicates extracting the Xth letter.

Playtest feedback: Siddhartha and Antigone are relatively well-known. Middlemarch is relatively easy because the author is provided. The "Red Bull" in Kim is a very obvious characteristic. The remaining Personal History and Man of La Mancha are additionally hinted at through literary genres. The Captain's Daughter narrows the range by including 's in the title pattern. If you consult large language models following the hints, most Gen-AI can guess these works after being given the numerical constraints.

In the descriptive texts of these works, besides providing information about the works, there are also references related to physical quantities: "countless tiny wills converging into a whole" (amount of substance), "hot" (temperature), "lightning" (electric current), "distance" (length), "heavy/weight" (mass), "instant/eternity" (time), "a beam of light" (luminous intensity), providing hints related to the SI system.

We extract as follows:

Phrase	Extraction Rule	Letter
Man of La	1st letter of "of" (2 letters)	O
Kim	2nd letter (of 3)	I
Antigone	3rd letter (of 8)	T
Middlemarch	5th letter (of 11)	L
Siddhartha	6th letter (of 10)	A
Captain's Daughter	7th letter of "Captain" (7 letters)	N
Katharine Graham	9th letter of "Katharine" (9 letters)	E

At this point, through brute force and the hints in the flavor text about the final answer, one can almost obtain the correct answer. Note that "Katharine" has variant spellings, but all end with e, so there shouldn't be any issues.

### III. Extraction Order

The words or phrases to be extracted are highlighted with **white text on a gray background**, corresponding to **si** in the title, further hinting at the International

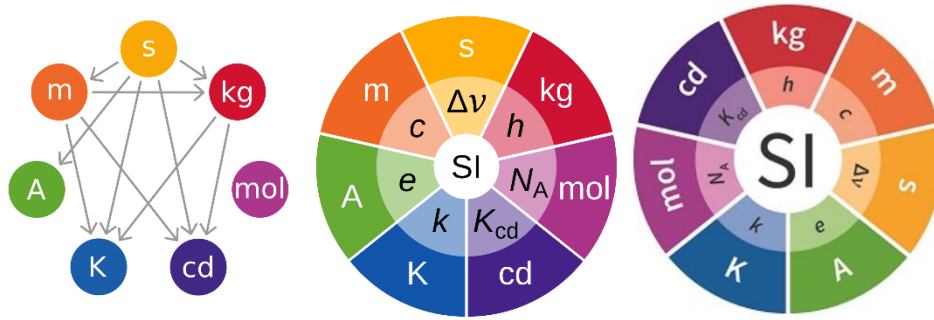
System of Units. Based on the table organized above, we discover that the first letters or letter combinations of the highlighted words/phrases correspond to the units of the seven fundamental physical quantities in the SI system, and they precisely match the physical quantities hinted at in the descriptive texts.

Phrase Initial	Corresponding Unit	The Professor Said...
<b>MOL</b>	mole	I am about to face my final judgment, but I am certain: countless tiny wills have converged into <b>a single whole</b> .
<b>K</b>	kelvin	A lama walking in dreams, a Red Bull, and India is always <b>hot</b> .
<b>A</b>	ampere	Not the laws of the city, but the laws of the gods. If Zeus won't protect me, let him strike me with <b>lightning</b> !
<b>M</b>	meter	In the long lanes of the provincial town, the <b>distance</b> between ideal and reality grows ever further.
<b>S</b>	second	The prince opened his eyes by the river, an <b>instant</b> of enlightenment, as if he had experienced <b>eternity</b> .
<b>CD</b>	candela	Rebelling peasants, the roar of Cossack cannons, and in the darkness, a <b>beam of light</b> fell on her face.
<b>KG</b>	kilogram	Through a newspaper, the <b>weight</b> of words is so heavy it can change a nation's trajectory.

Observing the color wheel below, although one might be misled into thinking about color spectrums or light wavelengths, these interpretations cannot yield a meaningful ordering. In fact, this also points to the International System of Units. The truth is, the seven fundamental physical quantities of the SI system and their corresponding units have a unified and distinctive color correspondence (although



the order may vary in different places), as shown in the diagram.



Therefore, following the order shown in the diagram, we get:

KG (kilogram) → **E**

M (meter) → **L**

S (second) → **A**

A (ampere) → **T**

K (kelvin) → **I**

MOL (mole) → **O**

CD (candela) → **N**

Final Answer: **ELATION** (meaning exhilaration, euphoria)

This word echoes the end of the flavor text: "In that moment, I felt... [a 7-letter English word]." We hope this puzzle brings you this same feeling.

#### IV. Additional Paragraph: Origin of the Puzzle

##### About the "Big and Little" Tradition

This puzzle was created as part of a mentoring tradition known as "Big and Little," where an upper-level student ("Big") mentors and supports a first-year student ("Little") through their academic journey. My "Little" was facing a common dilemma: torn between pursuing a Physics major (where she excelled analytically) and Creative Writing (her true passion). Rather than simply advising her, I designed this puzzle as a gift—a playful demonstration that these two seemingly disparate fields aren't mutually exclusive, but complementary.

The puzzle was originally written in Chinese, as my mentee and I often communicated in our native language. However, since the extraction mechanism relies on English letter patterns and the final answer is an English word, the translation to English loses nothing of the puzzle's core logic or emotional resonance. If anything, presenting it in English makes it more accessible while preserving the interdisciplinary challenge at its heart.

The answer—**ELATION**—captures not just the feeling of solving the puzzle, but the joy of realizing you don't have to choose between your passions. You can be both a physicist and a writer. You can bridge worlds.

### **AI as a Playtesting Partner**

As a puzzle designer, I am fascinated by the intersection of traditional puzzles and modern AI tools. I explicitly designed this puzzle also to test the limits of Large Language Models (LLMs) in "lateral thinking." During playtesting, I used models like GPT-4 and Claude to simulate player behavior. I found that while AI excels at the information retrieval step (identifying the books from the plot summaries), it often struggles with the multimodal synthesis step (mapping the "Color Wheel" to physical units). This insight led me to include the specific "Honor Code" hint, encouraging human players to use AI as a tool for search but relying on their own intuition for synthesis. This experiment reinforces my belief that the future of game design lies in creating challenges where human creativity and AI capability are complementary, not competitive.