

Chapter 4: A Truly Beautiful Mind

Before You Read

Question 1:

Who do you think of, when you hear the word 'genius'? Who is a genius- what qualities do you think a genius has?

Answer:

I think of Albert Einstein when I hear the word 'genius'.

A genius is a person with exceptional intellectual or creative abilities. I think a genius has a strong drive, devotion and curiosity to gain knowledge. He works patiently and with great concentration. He is imaginative and solves problems with an open mind. He is a versatile person who is not only perfect in his field of work but also devotes energy towards bettering the society.

(A model answer has been provided for students' reference. It is strongly recommended that students prepare the answer based on their own understanding.)

Thinking about the Text

Question 1:

1. Here are some headings for paragraphs in the text. Write the number(s) of the paragraph(s) for each title against the heading. The first one is done for you.

Answer:

- | | |
|--|----|
| (i) Einstein's equation | 9 |
| (ii) Einstein meets his future wife | 7 |
| (iii) The making of a violinist | 3 |
| (iv) Mileva and Einstein's mother | 10 |
| (v) A letter that launched the arms race | 15 |
| (vi) A desk drawer full of ideas | 8 |
| (vii) Marriage and divorce | 11 |

2. Who had these opinions about Einstein?

- (i) He was boring.
- (ii) He was stupid and would never succeed in life.
- (iii) He was a freak.

Answer:

- (i) Einstein's playmates thought that he was boring.
- (ii) Einstein's headmaster thought that he was stupid and would never succeed at anything in life.
- (iii) Einstein's mother thought that he was a freak.

3. Explain what the reasons for the following are.

- (i) Einstein leaving the school in Munich for good.
- (ii) Einstein wanting to study in Switzerland rather than in Munich.
- (iii) Einstein seeing in Mileva an ally.
- (iv) What do these tell you about Einstein?

Answer:

(i) Albert Einstein left the school in Munich because he hated the school's strict and controlled environment, and often had disagreements with his teachers.

(ii) According to Einstein, Switzerland was more liberal than Munich. Hence, he wanted to study in Switzerland.

(iii) Einstein found in Mileva an ally because she, like him, disapproved of the philistines or the people who did not like art, literature or music.

4. What did Einstein call his desk drawer at the patent office? Why?

Answer:

Einstein called his desk drawer at the patent office the bureau of theoretical physics. This was because the drawer was where he used to store his secretly developed ideas.

5. Why did Einstein write a letter to Franklin Roosevelt?

Answer:

Einstein wrote a letter to Franklin Roosevelt to warn him of the fatal consequences of an atomic explosion.

6. How did Einstein react to the bombing of Hiroshima and Nagasaki?

Answer:

Einstein was profoundly disturbed by the magnitude of the destruction caused by the bombing of Hiroshima and Nagasaki. He even wrote a public letter to the United Nations proposing the formation of a world government. Gradually he became more and more involved in politics, attempting to bring about world peace.

7. Why does the world remember Einstein as a world citizen?

Answer:

Einstein is remembered as a world citizen as much as a genius scientist because of his efforts towards world peace and democracy, and for his crusade against the use of arms.

8. Here are some facts from Einstein's life. Arrange them in chronological order.

Einstein publishes his special theory of relativity.

He is awarded the Nobel Prize in Physics.

Einstein writes a letter to U.S. President, Franklin D. Roosevelt, and warns against Germany's building of an atomic bomb.

Einstein attends a high school in Munich.

Einstein's family moves to Milan.

Einstein is born in the German city of Ulm.

Einstein joins a university in Zurich, where he meets Mileva.

Einstein dies.

He provides a new interpretation of gravity.

Tired of the school's regimentation, Einstein withdraws from school.

He works in a patent office as a technical expert.

When Hitler comes to power, Einstein leaves Germany for the United States.

Answer:

[1] Einstein is born in the German city of Ulm.

[2] Einstein attends a high school in Munich.

[3] Einstein's family moves to Milan.

[4] Tired of the schools regimentation, Einstein withdraws from school.

[5] Einstein joins a university in Zurich, where he meets Mileva.

[6] He works in a patent office as a technical expert.

[7] Einstein publishes his special theory of relativity.

[8] He provides a new interpretation of gravity.

[9] He is awarded the Nobel Prize in Physics.

[10] When Hitler comes to power, Einstein leaves Germany for the United States.

[11] Einstein writes a letter to U.S. President, Franklin D. Roosevelt, and warns against Germany's building of an atomic bomb.

[12] Einstein dies.

Thinking about Language

Question I:

Here are some sentences from the story. Choose the word from the brackets which can be substituted for the italicised words in the sentences.

1. A few years later, the marriage *faltered*. (failed, broke, became weak)
2. Einstein was constantly at odds with people at the university. (on bad terms, in disagreement, unhappy)
3. The newspapers proclaimed his work as a scientific revolution. (declared, praised, showed)
4. Einstein got ever more involved in politics, agitating for an end to the arms build-up. (campaigning, fighting, supporting)
5. At the age of 15, Einstein felt so stifled that he left the school for good, (permanently, for his benefit, for a short time)
6. Five years later, the discovery of nuclear fission in Berlin had American physicists in an uproar. (in a state of commotion, full of criticism, in a desperate state)
7. Science wasn't the only thing that appealed to the dashing young man with the walrus moustache. (interested, challenged, worried)

Answer:

1. became weak
2. in disagreement
3. declared
4. campaigning
5. permanently
6. in a state of commotion
7. interested

Question II:

Complete the sentences below by filling in the blanks with suitable participial clauses. The information that has to be used in the phrases is provided as a sentence in brackets.

1. _____, the firefighters finally put out the fire. (They worked round the clock.)
2. She watched the sunset above the mountain, _____ (She noticed the colours blending softly into one another.)
3. The excited horse pawed the ground rapidly, _____ (While it neighed continually.)
4. _____, I found myself in Bangalore, instead of Benaras. (I had taken the wrong train.)
5. _____, I was desperate to get to the bathroom. (I had not bathed for two days)
6. The stone steps, _____ needed to be replaced. (They were worn down).
7. The actor received hundreds of letters from his fans, _____ (They asked him to send them his photograph.)

Answer:

1. Working round the clock, the fire fighters finally put out the fire.
2. She watched the sunset above the mountain, noticing the colours blending softly into one another.
3. The excited horse pawed the ground rapidly, neighing continually.
4. Having taken the wrong train, I found myself in Bangalore, instead of Benaras.
5. Having not bathed for two days, I was desperate to get to the bathroom.
6. The stone steps, being worn down, needed to be replaced.
7. The actor received hundreds of letters from his fans, asking him to send them his photograph.

Writing Newspaper Reports

Here are some notes which you could use to write a report.

Write a report which has four paragraphs, one each on:

- What was unearthed.
- Who unearthed it and when.
- What the document contained.
- Where it will be kept.

Your report could begin like this:

Student Unearths Einstein Manuscript

21 AUGUST 2005. An original handwritten Albert Einstein manuscript has been unearthed at a university in the Netherlands ...

Answer:

Student Unearths Einstein Manuscript

By a Staff Reporter

Netherlands, 21 AUGUST 2005. An original handwritten Albert Einstein manuscript has been unearthed at a university in the Netherlands. The yellowed 16-page German manuscript was dated December 1924.

Rowdy Boeynik, a student in the University of the Netherlands, was researching papers belonging to an old friend of Einstein when he stumbled upon the manuscript. The fingerprints of Einstein have been traced on these research papers.

The document, titled 'Quantum theory of the monatomic ideal gas', contains Einstein's work on what is now known as the Bose-Einstein condensation. It concerns the behavior of atoms at a low temperature, the last major work of the scientific genius.

The manuscript will be kept at Leyden University where Einstein got the Nobel Prize for Physics in 1921.