

Nobel Prize Case Studies

Discussion Questions Answer Key

Arnold Sommerfeld

- (1) How many times was Arnold Sommerfeld nominated for the Nobel Prize?
 - 84
- (2) Summarize two arguments for why Arnold Sommerfeld should have been awarded a Nobel Prize.
 - “He was the sole nominee on 26 nominations and a joint nominee on 25 others than included no future laureates.”
 - “His collective body of work stacked up to those of contemporaries who won the prize.”
- (3) Summarize one argument that could explain why Arnold Sommerfeld did not receive a Nobel Prize.
 - “He had no one, single great achievement that the committee could point to.”
- (4) *In 1949, Sommerfeld was awarded the Oersted Medal for his excellence in physics teaching, we he remarked “was one of the things that had given him most pleasure in the whole of his scientific career.” Do you think this recognition sufficiently acknowledges his contributions to physics? Why or why not?*

Lise Meitner

- (1) How many times was Lise Meitner nominated for the Nobel Prize in Physics?
 - 29
- (2) Summarize two arguments for why Lise Meitner should have been awarded the Nobel Prize.
 - “Meitner and Hahn held equal professional standing.”
 - “[Strassmann] insisted that Meitner had been their intellectual leader and that she remained one of them through her correspondences with Hahn, even after she left Berlin.”
- (3) Summarize one argument that could explain why Lise Meitner was not included in the Nobel Prize.
 - “Meitner fled Nazi Germany in 1938 to escape the persecution of Jews, and soon after, Hahn and Strassmann reported the discovery.”
- (4) *Meitner received many awards and honorary degrees later in her career. Despite her exclusion from the Nobel Prize, do you think these recognitions sufficiently acknowledge her contributions to physics? Why or why not?*

Chien-Shiung Wu

- (1) How many times was Chien-Shiung Wu nominated for the Nobel Prize in Physics?**
 - 8
- (2) Summarize two arguments for why Chien-Shiung Wu should have been included in the Nobel Prize.**
 - “Wu was the first to prove this phenomenon experimentally.”
 - Her experiment “confirmed a theory by Chen Ning Yang and Tsung-Dao Lee, who were then awarded the Nobel Prize in physics later that year.”
- (3) Summarize one argument that could explain why Chien-Shiung Wu was not included in the Nobel Prize.**
 - She collaborated with experimentalists at the Low Temperature Group of the US National Bureau of Standards.
- (4) *Despite her exclusion from the Nobel Prize, do you think being awarded the Wolf Prize in 1978 sufficiently acknowledges her contributions? Why or why not?***

Santayendra Nath Bose

- (1) How many times was Santayendra Nath Bose nominated for the Nobel Prize in physics?**
 - 4
- (2) Summarize two arguments for why Santayendra Nath Bose should have been awarded a Nobel Prize.**
 - Bose was nominated four times for the award.
 - He collaborated with several Nobel laureates, including Albert Einstein.
 - “Several Nobel Prizes were awarded for work related to the *boson*, the force-carrying particles named after Bose himself.”
- (3) Summarize one argument that could explain why Santayendra Nath Bose did not receive a Nobel Prize.**
 - Much of his contributions resulted from collaborations (i.e. his work with Einstein).
 - Bose was from and primarily based in India, and the Nobel Prize committee has historically tended to focus on scientists from European and American backgrounds.¹
- (4) *When Bose was asked about his omission from the Nobel Prize, he responded: “I have got all the recognition I deserve.” What do you think this implies about Bose’s opinion of the Nobel Prize?***

¹ See “The international aspirations of the Nobel Prize,” from *Physics Today*.