



May

Monthly Patch Program Girl Scouts of Central Illinois

Chien-Shiung Wu

“... it is shameful that there are so few women in science... In China there are many, many women in physics. There is a misconception in America that women scientists are all dowdy spinsters. This is the fault of men. In Chinese society, a woman is valued for what she is, and men encourage her to accomplishments yet she remains eternally feminine.”

Chien-Shiung Wu was a Chinese-American nuclear physicist who has been dubbed “the First Lady of Physics”. Her research contributions include work on the Manhattan Project and the Wu experiment.



Complete 3-Daisy, 4-Brownie, 5-Junior, 6-Cadette, and 7-Senior/Ambassador steps to earn your patch.

All monthly patches are custom designed patches. Once we get the final number of patches after the 15th of each month, we place an order. Patches take about a month to create and then we mail them to you.

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Discover

1. Who was Chien-Shiung Wu? Visit your local library or research on the internet with an adult's permission.
2. Chien-Shiung was an experimental physicist. Who are some other well-known female physicists? How are they and their work similar and different from Chien-Shiung and her work?
3. Chien-Shiung is most known for her work on the Manhattan Project and the Wu experiment. What are those two scientific discoveries? How did they effect the science community?

Connect

4. Chien-Shiung Wu's family custom for her generation was to have Chien as the first character, or generation name, of their first name, followed by the characters in the phrase "Ying-Shiung-Hao-Jie" which means "heroes and outstanding figures". What is a generation name? Research different known generation names to learn more about them.
5. Chien-Shiung studied nuclear physics at the University of California, Berkley. What is the study of nuclear physics? What does a nuclear physicist do? Research online with permission from an adult.
6. Under her lab coat, Chien-Shiung would wear a qipao that she made herself. She wore this to remember her home country of China, which she missed deeply. What is a qipao? What other countries have traditional clothing that is easily recognizable? Research some countries that interest you and discover what clothing styles they are known for.

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7. Chien-Shiung was born in the Jiangsu province in China in 1912. While growing up, her father encouraged her interests passionately, creating an environment where she was surrounded by books, magazines, and newspapers. Her mother was a teacher who valued education for both genders and her father was an engineer who encouraged women's equality. Do you think this contributed to what she accomplished later in her life? Why? Why do you think it is important to have a reliable support system in place when trying to accomplish great things?
8. In 1958, Chien-Shiung took a permanent position at Columbia University in New York and went on to contribute to the field of medicine. She conducted research to help answer important questions about sickle-cell disease. What is sickle-cell disease? Who does it affect? How did Chien-Shiung's research help scientists better understand sickle-cell disease?

Take Action

9. In 1956, Wu was approached by colleagues and theoretical physicists, Tsung Dao Lee and Chen Ning Yang, who sought her expertise in beta decay. They asked her to conduct a difficult experiment where she utilized radioactive cobalt at near absolute zero temperatures, which proved that identical nuclear particles do not always act the same way during beta decay. This supported Chen and Yang's theory and both men received a Nobel Prize in Physics for what is now known as the "Wu experiment". With your troop or an adult, discuss why you think Chien-Shiung Wu did not also receive a Nobel Prize and if you think that was the right or wrong decision.

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10. Regarded as a true heroine in her field, Wu has inspired future generations of physicists with her work. After her retirement, Wu focused on encouraging young girls to pursue careers in the sciences through educational programs and spoke about her struggle to obtain recognition for her work, hoping to inspire women across the US and China. Who or what inspires you? Make an inspirational poster and put it somewhere you will see it every day.

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