



November

Monthly Patch Program Girl Scouts of Central Illinois

Mary G. Ross

“To function efficiently in today’s world, you need math. The world is so technical, if you plan to work in it, a math background will let you go farther and faster.”

Mary Golda Ross was the first Native American female engineer. She worked at Lockheed, an American aerospace and technology corporation, for nearly 30 years. She was best remembered for her work on aerospace design.



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.

Order patch on-line by December 15th at www.getyourgirlpower.org



Monthly Patch Program

Girl Scouts of Central Illinois

Discover

1. Who was Mary G. Ross? Where did she grow up? Who were her family members? Discover information about her life.
2. What is an engineer? What is an aerospace engineer?
3. Mary was the great-granddaughter of the Cherokee Chief John Ross and was sent to live with her grandparents in the Cherokee National capital of Tahlequah to attend school. With help from an adult, use a computer or check out books at the library to learn more about the Cherokee tribe.

Connect

4. Mary attended University of California – Los Angeles (UCLA) to receive a professional certificate in engineering. She studied mathematics for modern engineering, aeronautics, and missile and celestial mechanics. Gather with your troop and meet with an engineer in your area. What kind of engineer is he or she? Ask him or her questions about their career, schooling, and interests.
5. Today, the Cherokee Nation is the largest tribe in the U.S., and Oklahoma has the largest number of Cherokee tribal members living within its border. With your troop, compare and contrast the number of Cherokee citizens from 1908 until today. How many live in Oklahoma now compared to the early 20th century? Compare the Cherokee tribe to tribes in Illinois, such as the Illinois and Kickapoo tribes. What were the five subdivision names of Illinois Native Americans?
6. Mary was hired as a mathematician at Lockheed in 1942 and began working on the effects of pressure on an airplane called the Lockheed P-38 lightning, which was the fastest airplane designed at the time. Compare the P-38 airplane to today's air transportation, such as the

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Boeing 777, Airbus A330, and the Douglas DC-3. Which plane holds the most passengers? Which plane travels at the fastest speed?

7. Since the 1950s, Mary was a member of the Society of Women Engineers. What is the society? What other notable members are a part of it?

Take Action

8. Get together with your troop to plan and design a mode of transportation you think the world needs. This could be a speed train, a fancy plane, a hovercraft, or a special bicycle. Why did you design this specific model? If you have time, create a clay model of your blueprint.
9. Mary worked on designing concepts for interplanetary space travel and on preliminary designs for flyby missions to Venus and Mars. She told papers in the 90s, “We were taking the theoretical and making it real.” Today, companies like SpaceX, Virgin Galactic, and Blue Origin have planned trips to space. Plan how you would get to space. What would you pack? How would you get there? What would your mode of transportation be?
10. How has Lockheed grown since it was founded in 1926? Lockheed merged with Martin Marietta to form Lockheed Martin in 1995. What notable women work for Lockheed Martin today? Write a letter to her asking her interesting questions about her projects, life, and profession.

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