

Prep and Discussion Template

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Summary of what we are doing in that week?

This week, we're exploring the history of women in STEM! More than just scientists and engineers, their contributions have shaped industries, advanced technology, and broken barriers throughout history

Guiding Questions

This Week's Discussion: Women in STEM

As you go through this week's readings, consider the following questions and share your thoughts in our discussion:

1. What role have women played in advancing STEM fields? Choose one influential figure or summarize a trend you notice across different disciplines.
2. What challenges have women in STEM historically faced, and how have they overcome them?
3. What is a significant moment, mentor, or experience that has shaped your interest in STEM? Reflect on a personal experience or someone who has inspired you in your journey.

Please take notes on your thoughts and responses, and be ready to engage in our class discussion!

Watch (1 & 2 Video)

<https://youtu.be/waD95VUbWC0>

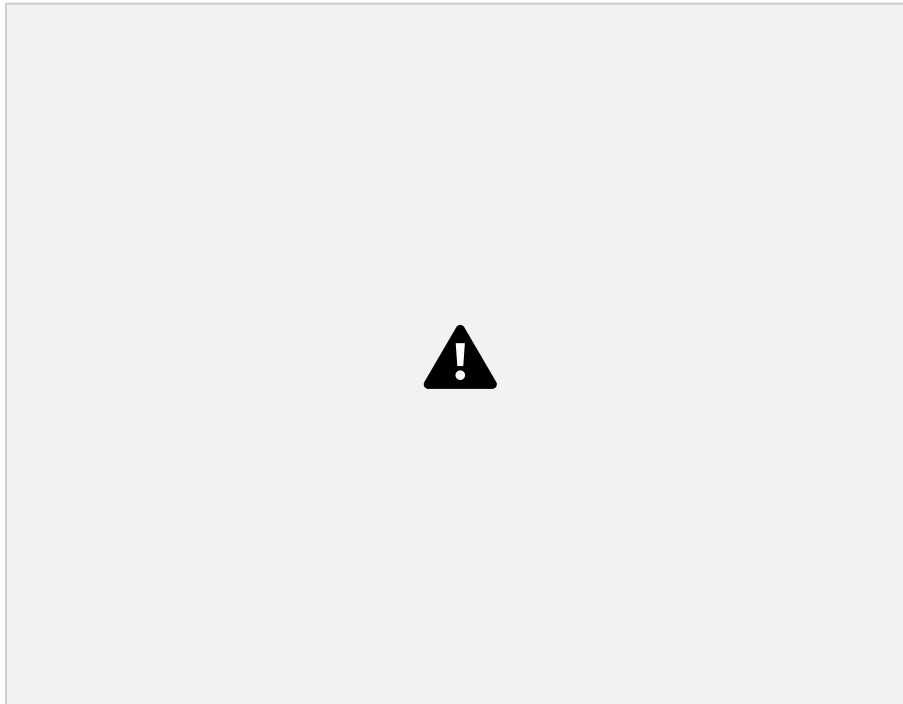
<https://youtu.be/W53Ks824GTA>

Read article

The Hidden Figures: The First Female Computer Programmers

For full article please read: The Story of NASA's Real "Hidden Figures" - by Elizabeth Howell & Space Race: [Source](#)

[Links to an external site.](#)



Mary Jackson was one of the "human computers" portrayed in the film "Hidden Figures." [NASA](#)

[Links to an external site.](#)

When we think of the pioneers of computer science, names like Alan Turing and Charles Babbage often come to mind. However, the history of computing would be incomplete without recognizing the women who played an essential role in its development. From the earliest days of programming to the groundbreaking work in space exploration, female programmers were instrumental in shaping the modern

technological landscape. Despite their contributions, their stories remained hidden for decades. Here, we celebrate the first female computer programmers and their enduring legacy.

The Women of the ENIAC

During World War II, as men were drafted into military service, the U.S. Army recruited a group of women to work on a secret project: programming the Electronic Numerical Integrator and Computer (ENIAC), the world's first general-purpose electronic computer. These women—Kay McNulty, Betty Jennings, Betty Snyder, Marlyn Meltzer, Fran Bilas, and Ruth Lichterman—were responsible for developing the first software programs, writing intricate instructions without the benefit of modern programming languages. They worked tirelessly to manually configure the ENIAC's thousands of switches and wires to solve complex mathematical problems for ballistic calculations. Despite their pivotal role, they were often dismissed as mere clerical workers and were not publicly recognized for their contributions at the time.

Grace Hopper: The Mother of Modern Programming

One of the most influential figures in computing history, Grace Hopper, revolutionized programming by developing the first compiler, which translated human-readable instructions into machine code. Her work led to the creation of COBOL, one of the earliest high-level programming languages still in use today. Hopper's vision of making programming more accessible helped democratize computing, paving the way for future generations of software developers. She also coined the term “debugging” after removing a moth from a computer's hardware.

The Women of NASA: Pioneers in Space Exploration

The contributions of female programmers extended beyond military and industrial computing into space exploration. African American mathematicians and programmers, including Katherine Johnson, Dorothy Vaughan, and Mary Jackson, worked at NASA and were vital to the success of early space missions. Katherine Johnson's precise calculations enabled John Glenn's orbital flight, and Dorothy Vaughan became an expert in FORTRAN programming, ensuring NASA's transition to digital computing.

Their contributions, highlighted in the book and film *Hidden Figures*, have since been recognized as instrumental to the space race.

The Legacy of the First Female Programmers

The pioneering women of computing laid the foundation for the digital world we live in today. Their perseverance in the face of societal and professional barriers opened doors for women in STEM fields. Although they were often overlooked in their time, their impact is now acknowledged and celebrated. Organizations and initiatives worldwide continue to encourage and support women in computing, ensuring that their legacy endures.

Conclusion

The first female programmers were more than just hidden figures—they were innovators, problem-solvers, and trailblazers who changed the course of history. As we continue to advance in technology, it is crucial to remember and honor their contributions. Their stories serve as an inspiration for future generations to break barriers and shape the future of computing.

Want to learn more?

- [Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race](#)