



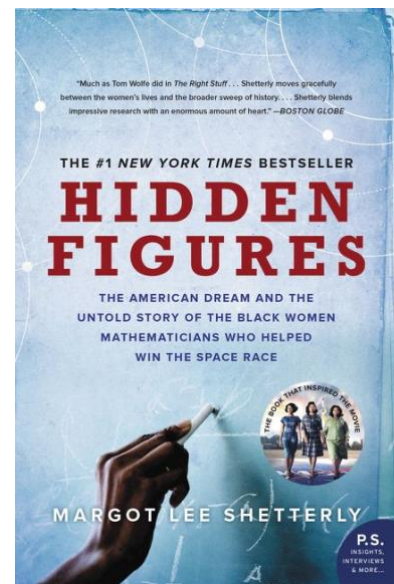
Hidden Figures Viewing Guide, Discussion Questions, and Historical Context



Hidden Figures is a movie based on the book *Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race* by Margot Lee Shetterly.

The book was a top book of 2016 for both *TIME* and *Publisher's Weekly*, a *USA Today* bestseller and a #1 *New York Times* bestseller. It received the prestigious Anisfield-Wolf Award for making an important contribution to understanding racism and human diversity.

The movie adaptation, released on December 25, 2016, was a critical and box office success earning numerous nominations and awards.



Introduction

Hidden Figures was selected as the Next Gen 2023 Human[kind] Cinema Series feature for its potential to help teachers engage students in discussion that positively impacts kindness, courage, and empathy, ultimately leading to more positive and constructive interactions and relationships within schools.

The story provides a close up look at one pivotal point in time: the intersection of Jim Crow segregation, the civil rights movement, the cold war with the USSR, the ensuing space race, and the fight for gender equality. *Hidden Figures* is a true story, more biography than history. Audiences experience a slice of history through the lives of three remarkable Black women. These history-making women were unknown to the public until *Hidden Figures* illuminated a story which still inspires today.

Getting Started

Many schools seek engaging, accessible methods which guide students into reflection and discussion about ways in which society marginalizes, hides, and dis-ables (i.e., the opposite of "enables") individuals. A story such as the one told in *Hidden Figures* may be used with students to address and initiate conversation around gender bias, social justice, diversity, mental health (i.e., how unfair practices and stereotyping can impact positivity, productivity, happiness, and fulfillment), and cultural contexts (e.g., school, work, and family cultures).

Hidden Figures complements many curricular areas. Included are Psychology (e.g., Social and Emotional Learning Competencies as set forth by the State of Michigan), History (e.g., recurrent themes of struggle around identity and power), English (literature; writing prompts), and STEM (e.g., math, science, technology).

The discussion questions provided below connect content areas to **mental health and wellness**, including optimism, happiness, the ability to thrive, and a sense of belonging.



Discussion Questions/Writing Prompts

- Who or what are the “hidden figures” in the movie? In what ways do you feel “hidden” in your life? How do you respond when you feel invisible? How did Katherine, Dorothy, and Mary evolve in terms of their responses over the course of the film?
- What is the significance of the scene with the policeman? What does it say about power and stereotyping, in general? Are there times at school when you feel silenced, disrespected, or “hidden” by power and/or stereotyping? What can you learn from these women about how to respond to abuse of power, stereotyping, or intolerance?
- Consider the many moments of joy in the movie. Why include them? What do *you* do to find joy in the middle of struggle? When you are at school or school-related events, how can you help create or bring joy to others when you see them struggling? What, if any, obstacles exist that may make your good intentions uncomfortable? Did you see similar obstacles in the film?
- What risky acts of courage do Katherine, Mary, and Dorothy take? How are they rewarded? Discuss an act of courage you've displayed or witnessed in your life and how it impacted you and/or another.
- The film shows the strong relationships that Katherine, Mary, and Dorothy have with each other and with their families. Why do these relationships matter? In what ways are your classmates similar to and different from your families? If you thought about your peers as “family,” in what ways would that change your treatment of them?
- Why did racism and sexism break down at NASA? In what ways, if any, do you witness racism or sexism in your life? Discuss how stereotypes and intolerance of those different from us - “others” - negatively impact the atmosphere in which you work, play, and study in school. In what ways might you be contributing to the struggles?
- Al Harrison, Katherine’s boss, saw Katherine’s genius. Yet he didn’t see discrimination against her in the Space Task Group -- his own department -- until she confronted him with it. Why do you think we humans are often blind to our own prejudices and judgments?
- Transformation is the story-line of the movie. What characters are transformed? What characters are not transformed in some way? Share a transformative experience in your life. In what ways is transformation difficult or scary?
- What is the role of coffee and the coffee pot? What does it symbolize?
- Who are the hidden figures in our community today? What about in your school? Why do we not see them?
- To which character in the story do you most relate and why? What struggle does that character wrestle with and do you also wrestle with that struggle? How would *you* respond differently from the character to the struggle? In what ways **in your school or home life** have you dealt with a similar struggle? Finally, what lesson(s) did you learn from watching the story of this character unfold in the movie?



The Story Behind the Story

Hidden Figures, the book, is the previously untold true story of the Black women “computers” whose calculations helped America win the space race. (Yes, people were called “computers”.) These highly skilled mathematicians worked for NASA in Langley, Virginia at a time when Virginia was still “The South” and Jim Crow laws were still in force, even at NASA.

Hidden Figures, the movie, is an adaptation of the book that follows the lives of three very real heroes – Katherine Johnson, Mary Jackson, and Dorothy Vaughan – and their indispensable contributions to the US space program. The movie focuses on the dramatic chain of events leading to the first manned Earth orbit by John Glenn in February, 1962. John Glenn agreed to the launch only after he knew that Katherine Johnson had calculated and confirmed the trajectories.

Set primarily in 1961, the movie weaves together the post-WWII space race between the US and the USSR with the harsh realities of Jim Crow segregation and gender bias, and the Civil Rights movement.

But *Hidden Figures* isn’t a documentary. It’s a story. A true story. We’re taken into this unique time through the personal stories of three exceptional women who triumphed through it: Katherine Johnson, Mary Jackson, and Dorothy Vaughan.

About the Author

Author Margot Lee Shetterly has a personal connection to the *Hidden Figures* story. She grew up in Hampton, Virginia where her father worked for NASA at its Langley campus as an atmospheric research scientist. She knew Katherine Johnson and Mary Jackson who worked with her father. Yet she didn’t know until her husband pointed it out that the accomplishments of these NASA women and many others like them were unknown to the public – hidden. She made it her mission to learn and tell their stories.

NACA, the predecessor to NASA, was ahead of the curve in terms of hiring female and minority workers during and after World War II out of necessity when the demand for mathematicians far exceeded supply. However, challenges remained for those women and minorities in terms of access to resources and advancement.

Shetterly spent six years researching and writing *Hidden Figures* before it was published in 2016. One of the first people she talked with in 2010 was Katherine Johnson.



Author Margot Lee Shetterly



Meet the Women of the Story

Katherine Johnson: Watch a 4-minute video about Katherine Johnson [here](#). President Obama awarded Katherine Johnson the Presidential Medal of Freedom on November 24, 2015. Katherine Johnson died February 24, 2020 at the age of 101. She and Jim Johnson, whose courtship is part of the *Hidden Figures* story, were married for sixty years until his death in 2019.

Dorothy Vaughan: Dorothy Vaughan was NASA's first African-American manager. Read a short biography of Dorothy Vaughan [here](#). Read an excerpt from book *Hidden Figures* about Dorothy Vaughan: <https://www.thecut.com/2016/08/dorothy-vaughan-space-race-c-v-r.html>

Mary W. Jackson: Mary W. Jackson became NASA's first female engineer in 1958 after persuading a judge to let her take courses at an all-white high school. On June 24, 2020, NASA announced that the agency's headquarters building in Washington, D.C., would be named after Mary W. Jackson, the first African American female engineer at NASA. Read a short biography of Mary W. Jackson [here](#).

Searching Beyond the Obvious

The title *Hidden Figures* is an invitation to look beyond what's obvious. In the movie the need to look beyond applies both to people and to the mathematics that will safely send astronauts into space and back.

At one point in the film, Al Harrison, Katherine's boss says to her, "What I'm asking everyone in that room to do, all my geniuses, is to look beyond the numbers. To look around them, through them, for answers to questions we don't even know to ask."

The women are hidden in plain sight, a fact accentuated by their jewel-toned dresses that stand out against the white shirts worn by the men.

*This is a powerful metaphor for discussion about the ways in which we can **look beyond** the surface of people, events, and challenges in our own lives to get to the really good and important stuff.*





Translating to Today

Compared to the recent past, mental health and well-being are more fragile today coming out of a global pandemic where isolation and fear subsumed social connection and hope for many people - particularly young people. But stories can help us reconnect and become stronger; stories allow us to observe, reflect upon, and apply lessons lived vicariously through their telling and toward our own goals of happiness and self-determination.

Stories and movies like *Hidden Figures* provide real-world examples of the ways others overcame adversity, stayed positive, showed courage, and honored themselves and their communities. We can learn *how to be better* through these characters' decisions, attitudes, and strength. It is through these examples that each of us can begin to more deeply explore what in our own lives hurts, challenges, motivates, limits, and influences our sense of self and of purpose. These women lived during segregation, where Jim Crow Laws and etiquette (see below) were the rule of the day. In our discussion questions, Jim Crow laws and etiquette can serve as a proxy for all forms of unjust treatment of "the other," transcending historical dates and timelines.

Additionally, stories - particularly biographical content like this - can help us understand the importance of *cultural context* (i.e., zeitgeist) in determining behavior and attitudes. For example, how might these women's stories have changed if they were living in Germany during the Nazi regime? What if they were living in South Africa during Apartheid? And how might their stories be different today, in Michigan? What about Northern Michigan? And what about in *your school*? Would your school culture be an atmosphere in which women like Dorothy, Katherine, and Mary would thrive?

The power of stories like this lies in our ability to learn from the characters, to decide what is good and right, and make it our own. We must also be able to look critically at what is hurtful, limiting, or morally wrong and to self-reflect on the ways in which each of us may be guilty of similar behaviors or attitudes. Sometimes we are part of the problem when we simply don't apply courage. We might know something doesn't feel right - maybe we're witnessing an obvious wrong - but we lack the courage or strength to speak up. It can be very comforting to follow, very safe. But what would happen if everyone was simply "safe" in their social or peer-group culture? How would the stories of Dorothy, Katherine, and Mary have ended differently if **everyone** would have followed, if **no one** took a stand and **led**?



Through reflections and questions such as those above, *Hidden Figures* helps teachers connect relevant curriculum content to social and emotional learning goals while engaging students. In this manner, headway may be made in school culture improvements and in individual mental health and wellness as connections are created and "invisibilities" become apparent. The first step in improving how people feel, believe, and behave is to bring those feelings, beliefs, and behaviors first to the conscious mind for exploration and then to put words on them. Discussion is an integral step in identifying what was previously hidden. Only when the hidden becomes "visible" can we become *better*.



Historical Context of the Film

Jim Crow Laws and Etiquette

There are many examples of Jim Crow laws and etiquette in *Hidden Figures*.

In 1865 the 13th amendment to the constitution outlawed slavery and in 1870 the 15th amendment granted full citizenship and voting rights to African Americans. However, state and local governments, primarily in the south, then passed laws that legalized segregation. These laws would come to be known as the Jim Crow laws, named after a character in Black minstrel shows. Jim Crow laws would be enforced until 1965.

Jim Crow laws were upheld by the US Supreme Court in 1896 in the case of *Plessy vs. Ferguson*, in which the court set forth its “separate but equal” legal doctrine.

In 1964, President Lyndon B. Johnson signed the Civil Rights Act, which legally ended segregation. In 1965, the Voting Rights Act ended laws that kept people of color from voting. The Fair Housing Act of 1968 ended discrimination in renting and selling homes.

In addition to Jim Crow laws, there was also Jim Crow etiquette. These were social norms such as:

- White motorists had the right-of-way at all intersections.
- A black male could not offer his hand to shake hands with a white male.
- Blacks and whites were not to eat together. If they did, whites were to be served first, and a partition was to be placed between them.
- Blacks were not allowed to show public affection toward one another in public.
- Blacks were introduced to whites, never whites to blacks.



Did you Know?

The Suffrage Movement (1869 - 1919) holds similarities to the Civil Rights Movement; it led to the adoption of the 19th Amendment, giving women the right to vote, in 1920.





Timeline of Change

1890-1965: Jim Crow laws

1947-1991: Cold War between the US and USSR

1954-1968: Civil Rights Movement

17 May 1954: Brown vs. Board of Education declares segregated schools unconstitutional

1 December 1955: Rosa Parks refuses to give up her seat in the front of the bus and move to the “colored” section in the back.

4 October 1957: The USSR launches Sputnik 1, the first Earth-orbiting satellite.

31 January 1958: The US launches Explorer 1, the first US satellite to reach orbit.

1 October 1958: The National Aeronautics and Space Administration (NASA) is created, headquartered in Hampton, Virginia.

12 April 1961: The USSR sends astronaut Yuri Gagarin into space, making a single orbit around the earth.

5 May 1961: The US sends Alan Shepard into space aboard the Mercury-Redstone spacecraft. Shepard flew 116 miles high but did not orbit Earth. The flight lasted 15 minutes.

20 February 1962: The US sends John Glenn into Earth orbit aboard the Mercury-Redstone (Freedom 7) spacecraft.

1992: Mae Jemison is the first woman of color in space.

1995: Eileen Collins becomes NASA's first female Shuttle Commander and the first female pilot for Discovery, which included a rendezvous with the Russian Space Station Mir.

2007: Peggy Whitson becomes the first woman to command the International Space Station.

5 October 2022: The first female, native American in space also serves as Commander for the SpaceX Crew-5 mission.

*Things can change for the better when what was **hidden** or misunderstood becomes visible and understood - when we see everyone for who they truly are, for what they are truly capable of, and for what they truly stand. With perseverance of effort comes evolution of spirit. Positive mental health and well-being demands that each of us feels valued, respected, included, and **seen**.*