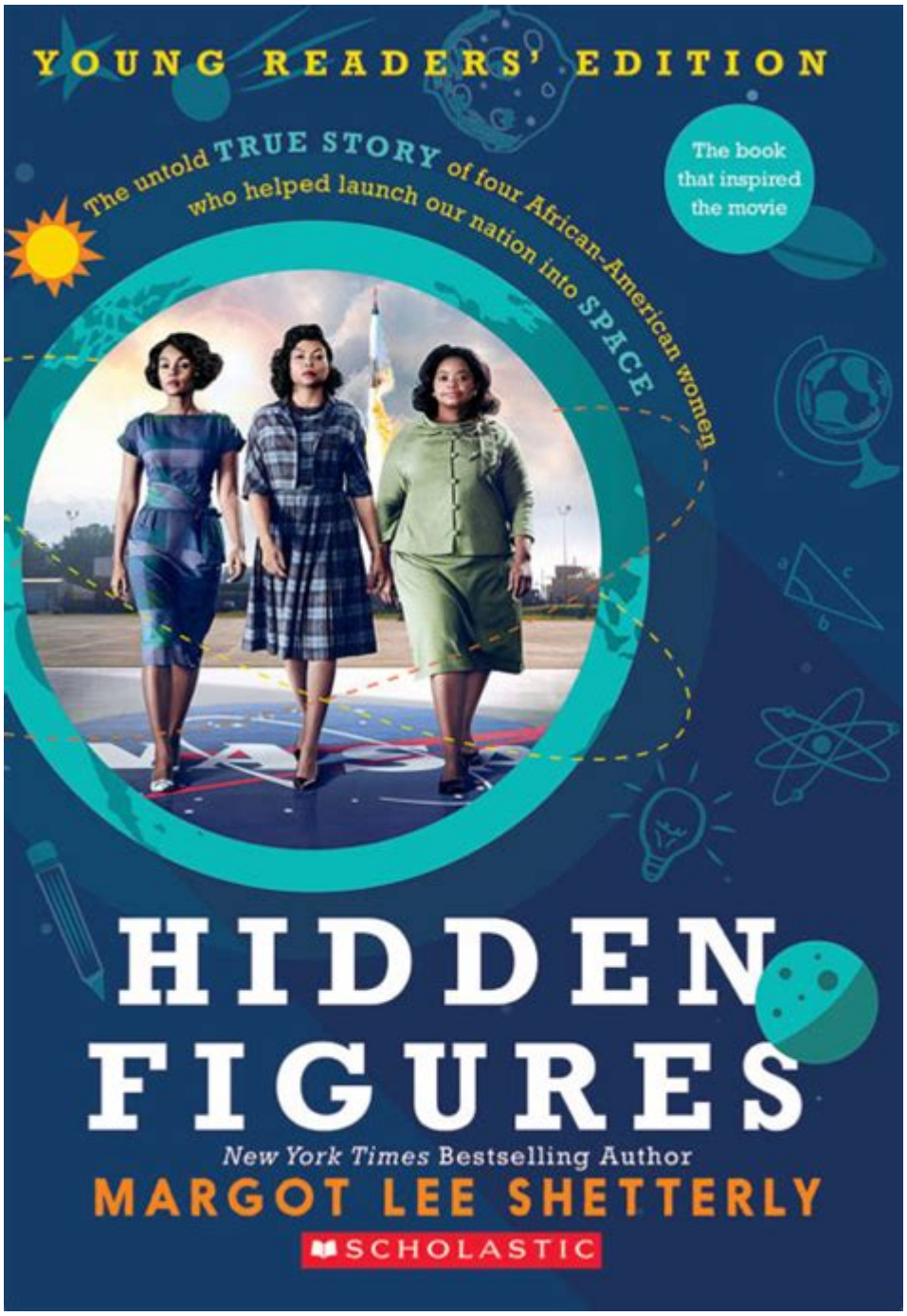
Hidden Figures Questions And Answers For Students



Hidden figures questions and answers for students can serve as a valuable resource for educators and learners alike. Understanding the historical context and significance of the contributions made by the women depicted in the film "Hidden Figures" can deepen students' appreciation for STEM fields and the intersection of race, gender, and science. In this article, we will explore various questions and answers that can help students engage with the material more effectively, promote discussion, and enhance their learning experience.

Understanding the Context

The Historical Background

Before delving into the questions and answers, it is essential to understand the historical context in which the events of "Hidden Figures" take place. The film focuses on three African American women—Katherine Johnson, Dorothy Vaughan, and Mary Jackson—who made significant contributions to NASA during the space race in the 1960s. This was a time when segregation was still prevalent in the United States, and opportunities for women, especially women of color, were severely limited.

1. What was the role of NASA during the 1960s?
- NASA was tasked with the United States' efforts to explore space, particularly in response to the Soviet Union's advancements during the Cold War.
- The agency focused on launching astronauts into space, with pivotal missions like Mercury and Apollo.

2. Why was the work of Katherine Johnson, Dorothy Vaughan, and Mary Jackson significant?
- Their work contributed to vital calculations that ensured the success of space missions, including John Glenn's orbit around Earth.
- They challenged racial and gender barriers in a male-dominated field, paving the way for future generations of scientists and engineers.

Key Themes in "Hidden Figures"

The film encapsulates several important themes that can be explored through questions and answers.

1. Overcoming Adversity
- How did the main characters overcome obstacles in their professional and personal lives?
- What strategies did they employ to cope with discrimination and bias?

2. The Importance of Education
- How did education play a pivotal role in the careers of Katherine, Dorothy, and Mary?
- What sacrifices did they make in pursuit of their education and careers?

3. Teamwork and Collaboration
- What role did teamwork play in the success of NASA's missions?
- How did the women support each other in their professional journeys?

Discussion Questions for Students

Incorporating discussion questions can encourage deeper thinking and engagement with the material. Here are some questions that can be posed to students:

1. Character Analysis
- What are the defining characteristics of Katherine Johnson, Dorothy Vaughan, and Mary Jackson? How do these traits contribute to their successes?
- Compare and contrast the challenges faced by each woman. How did their experiences differ, and what commonalities can you find?

2. Impact of Societal Norms
- How did societal norms regarding race and gender affect the opportunities available to the women in the film?
- In what ways do you think the experiences of the characters reflect broader societal issues of the time?

3. Legacy and Influence
- How have the contributions of Katherine Johnson, Dorothy Vaughan, and Mary Jackson influenced modern STEM fields?
- What lessons can be learned from their stories that are applicable to today's society?

Answers to Common Questions

Students may have specific queries about the film and its historical accuracy. Here are some answers to common questions:

1. Did Katherine Johnson really calculate the trajectory for John Glenn's flight?
- Yes, Katherine Johnson was responsible for calculating the trajectory for John Glenn's historic orbital flight in 1962. Her calculations were critical to the mission's success.

2. What position did Dorothy Vaughan hold at NASA?
- Dorothy Vaughan initially worked as a mathematician and later became NASA's first African American manager. She was instrumental in transitioning the agency to computer programming.

3. How did Mary Jackson fight for her rights as an engineer?
- Mary Jackson petitioned the city to allow her to take engineering courses that were only available to white students. She eventually became NASA's first black female engineer.

Activities for Engaging with "Hidden Figures"

To reinforce the lessons learned from "Hidden Figures," educators can create various activities that allow students to explore the content more interactively.

1. Group Projects
- Students can work in groups to research and present on different figures in the history of NASA or other marginalized groups in STEM.
- Each group could create a timeline of significant events related to the contributions of women and minorities in science.

2. Creative Writing
- Ask students to write a diary entry or a letter from the perspective of one of the main characters, describing their daily challenges and triumphs.
- This can help students empathize with the characters and understand their struggles on a personal level.

3. Debate or Discussion Circles
- Organize a debate on a relevant topic, such as the importance of diversity in STEM fields.
- Use discussion circles to allow students to share their thoughts and listen to differing opinions on the subject matter.

Further Learning Resources

To enhance understanding and engagement with the themes of "Hidden Figures," students can explore additional resources:

1. Books
- "Hidden Figures" by Margot Lee Shetterly: The book that inspired the film offers a detailed account of the women’s contributions and backgrounds.
- "Katherine Johnson: The Woman Who Changed the World" by the National Aeronautics and Space Administration: A biography that highlights Johnson’s achievements.

2. Documentaries
- "The Last Man on the Moon" and "Apollo 11": Documentaries that provide insight into space missions and the people behind them.

3. Websites and Online Resources
- NASA’s official website features biographies and articles about the contributions of female mathematicians and engineers.
- Educational platforms like PBS LearningMedia offer lesson plans and activities related to the film and its

themes.

Conclusion

Hidden figures questions and answers for students can open the door to rich discussions about history, perseverance, and the importance of representation in STEM fields. By exploring the lives of Katherine Johnson, Dorothy Vaughan, and Mary Jackson, students gain insight into the challenges these women faced and the impact of their work on society. Engaging with the material through discussion questions, activities, and further resources fosters a deeper understanding of the significance of their contributions and inspires the next generation to continue breaking barriers in science and technology.

Frequently Asked Questions

What are the main themes explored in 'Hidden Figures'?

The main themes include racial and gender equality, the importance of perseverance, and the impact of teamwork in achieving significant goals.

Who are the three main women featured in 'Hidden Figures'?

The three main women are Katherine Johnson, Dorothy Vaughan, and Mary Jackson, who made significant contributions to NASA during the Space Race.

How did Katherine Johnson contribute to NASA's space missions?

Katherine Johnson was a mathematician who calculated trajectories, launch windows, and emergency return paths for many space missions, including John Glenn's orbital flight.

What challenges did the women in 'Hidden Figures' face in their careers?

They faced racial segregation, gender discrimination, and limited access to professional opportunities in a predominantly white male field.

How does 'Hidden Figures' highlight the role of teamwork?

The film emphasizes that collaboration among diverse individuals led to innovative solutions and successful outcomes in the face of adversity.

What impact did the women's work have on the Civil Rights Movement?

Their achievements challenged societal norms, showcased the capabilities of African American women, and inspired others to fight for equality and justice.

How did Dorothy Vaughan contribute to computer programming at NASA?

Dorothy Vaughan was a leader who taught herself and her team to program the IBM computers, ensuring they remained relevant as technology evolved.

What role did Mary Jackson play at NASA?

Mary Jackson was an engineer who worked on aerodynamics and advocated for women and minorities to pursue careers in engineering and science.

Why is 'Hidden Figures' considered an important educational tool?

It teaches about the contributions of overlooked figures in history, promotes STEM education, and illustrates the importance of diversity and inclusion.

How does the film portray the intersection of race and gender?

The film illustrates how the women navigated and challenged both racial and gender barriers, highlighting the unique struggles they faced as Black women.

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