

hidden figures movie worksheet

The compelling true story of Katherine Johnson, Dorothy Vaughan, and Mary Jackson, the brilliant African-American women who were the brains behind some of NASA's greatest achievements in space, captivated audiences worldwide. The film Hidden Figures not only shed light on their incredible contributions but also sparked a desire to delve deeper into their lives and the historical context of their work. For educators, students, and anyone interested in this significant period of American history and scientific advancement, a well-designed hidden figures movie worksheet can be an invaluable tool. This article explores what makes a great hidden figures movie worksheet, its various components, how it can be used effectively in educational settings, and where to find resources to enhance your learning experience with Hidden Figures. We will delve into the historical accuracy, the mathematical concepts presented, the social issues addressed, and the inspirational messages embedded within the film, providing a comprehensive guide for utilizing a hidden figures movie worksheet to its fullest potential.

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Understanding the Purpose of a Hidden Figures Movie

Worksheet

A hidden figures movie worksheet serves a multifaceted purpose, primarily acting as a structured guide to engage with the film's rich narrative and historical significance. For educators, it transforms a cinematic experience into an educational opportunity, encouraging critical thinking and deeper comprehension. Students can use a hidden figures movie worksheet to actively process the information presented, ensuring they grasp the key historical events, scientific principles, and personal struggles of the protagonists. The goal is not just to watch a movie but to learn from it, and a well-crafted worksheet facilitates this active learning process. It helps bridge the gap between the emotional impact of the film and the analytical understanding of its underlying themes and factual underpinnings. By providing prompts and questions, a hidden figures movie worksheet ensures that crucial aspects of the story, like the contributions of these women and the societal barriers they faced, are not overlooked.

The purpose extends beyond mere comprehension. A hidden figures movie worksheet aims to foster an appreciation for STEM fields, particularly for underrepresented groups, by showcasing relatable and inspiring role models. It encourages students to consider the intersection of race, gender, and professional achievement during the Civil Rights era and beyond. Furthermore, it can be used to assess understanding, spark classroom discussions, and even serve as a springboard for further research. The versatility of a hidden figures movie worksheet makes it a powerful tool for both individual learning and collaborative educational activities, enhancing the overall impact of the film's powerful message.

Key Components of an Effective Hidden Figures Movie

Worksheet

An effective hidden figures movie worksheet is designed to guide the viewer through the film's narrative and thematic elements systematically. It typically includes a variety of question types to cater to different learning styles and encourage diverse forms of engagement. These components work together to provide a comprehensive learning experience, ensuring that no significant aspect of the movie is left unexamined.

Character Analysis and Development Questions

These questions focus on the main characters: Katherine Johnson, Dorothy Vaughan, and Mary Jackson. They might ask about the protagonists' initial challenges, their personal growth throughout the film, and their specific contributions to NASA's missions. Understanding the individual journeys of these women is central to appreciating the film. A good hidden figures movie worksheet will prompt users to consider their motivations, their resilience, and the relationships they build.

Historical Context and Accuracy Prompts

Given that Hidden Figures is based on true events, a crucial component of any hidden figures movie worksheet involves questions about the historical period. This includes the era of segregation, the Space Race, and the broader Civil Rights Movement. Worksheets might ask about the specific laws or social norms that impacted the characters, or prompt viewers to research aspects of the era that the film portrays. Questions about the historical accuracy of the film's depiction are also common, encouraging critical engagement with the source material.

STEM Concepts and Application Queries

The film highlights complex mathematical and engineering challenges faced by the characters. A

hidden figures movie worksheet should include prompts that encourage viewers to understand the basic concepts of orbital mechanics, trajectory calculations, and the critical role of human computers. Questions might ask viewers to explain the significance of Katherine Johnson's calculations for John Glenn's orbit or Dorothy Vaughan's pioneering work with early computers. This section aims to demystify the scientific aspects and showcase the brilliance of the protagonists.

Themes and Social Issues Exploration

Beyond the scientific and historical, Hidden Figures delves into significant social issues. A hidden figures movie worksheet will likely include questions that explore themes of racism, sexism, perseverance, and the fight for equality. These prompts encourage viewers to reflect on the systemic barriers faced by the characters and the courage they displayed in overcoming them. Discussions about teamwork, mentorship, and the importance of breaking down barriers are also vital components.

Vocabulary and Key Terms

To enhance understanding and provide a richer learning experience, some hidden figures movie worksheets may include a section for defining key terms related to space exploration, mathematics, or the historical period. This can include terms like "orbit," "trajectory," "human computer," "segregation," or "calculus."

Discussion Starters and Extension Activities

A comprehensive hidden figures movie worksheet often concludes with open-ended questions designed to stimulate post-viewing discussions or suggest further activities. These could involve researching other overlooked figures in STEM, comparing the film to historical accounts, or reflecting on the relevance of the film's themes today. This encourages a deeper, more lasting impact from the viewing experience.

Utilizing a Hidden Figures Movie Worksheet for Enhanced Learning

The effectiveness of a hidden figures movie worksheet is amplified when used strategically in an educational setting or for personal study. It's not simply about filling in answers; it's about actively engaging with the material to deepen understanding and foster critical thinking. Implementing a hidden figures movie worksheet can transform a passive viewing experience into an active learning journey.

Before starting the film, educators can use sections of the hidden figures movie worksheet as pre-viewing activities. This might involve asking students to research the historical context of NASA in the 1960s or to make predictions about the challenges the characters might face. During the viewing, students can actively fill out the worksheet, pausing at designated points to answer questions, ensuring they are processing information as it unfolds. This active note-taking approach helps in retaining information and identifying key moments.

After the film, the hidden figures movie worksheet becomes a powerful tool for discussion and reflection. Teachers can use the questions to lead classroom conversations, encouraging students to share their insights and interpretations. The worksheet can also serve as a basis for assessment, allowing educators to gauge students' comprehension of the film's historical, scientific, and social themes. For independent learners, completing a hidden figures movie worksheet provides a structured way to review the film's content, consolidate learning, and identify areas for further exploration.

Moreover, a hidden figures movie worksheet can be adapted for various age groups and learning levels. Younger students might focus on plot comprehension and character identification, while older students or university students can delve into more complex analytical questions about the film's critique of societal structures and its portrayal of scientific problem-solving. The flexibility of a hidden figures movie worksheet makes it a universally applicable educational resource.

Deep Diving into the Historical Context with a Hidden Figures

Worksheet

The historical backdrop of Hidden Figures is as crucial to its narrative as the scientific achievements it portrays. The film is set against the backdrop of racial segregation and the burgeoning Civil Rights Movement in the United States, a period that significantly shaped the lives and careers of Katherine Johnson, Dorothy Vaughan, and Mary Jackson. A hidden figures movie worksheet that focuses on this historical context can significantly enhance a viewer's appreciation of the film's messages.

Questions on a hidden figures movie worksheet might explore the Jim Crow laws and their tangible impact on the characters, such as the "colored" restrooms and segregated workplaces within NASA. Viewers can be prompted to consider the daily indignities and systemic discrimination the protagonists endured. Understanding the concept of "separate but equal" and how it manifested in professional environments is key to grasping the magnitude of their achievements. A hidden figures movie worksheet can ask viewers to identify specific instances where segregation created obstacles for the characters.

Furthermore, the Space Race between the United States and the Soviet Union provides a critical geopolitical context. The film subtly highlights how the urgency of this competition sometimes led to a greater openness to talent, even across racial lines. A hidden figures movie worksheet can prompt discussions about the nationalistic fervor and the intense scientific race that propelled NASA's early missions, and how this environment influenced the opportunities available to women of color. Understanding the pressure to succeed in the Space Race helps explain why the contributions of these exceptional women, often overlooked, were so vital.

A well-designed hidden figures movie worksheet might also encourage research into the broader Civil Rights Movement happening concurrently. By connecting the characters' personal struggles with the larger societal changes, viewers can gain a more profound understanding of the interconnectedness of individual lives and historical movements. Exploring the bravery of activists and leaders during this era, and how it resonated with the quiet defiance and professionalism of the hidden figures, adds another layer of appreciation.

Exploring the STEM Concepts with a Hidden Figures Movie

Worksheet

One of the most compelling aspects of Hidden Figures is its ability to demystify complex STEM concepts and highlight the brilliance of the mathematicians who brought them to life. A hidden figures movie worksheet focused on science, technology, engineering, and mathematics can make these subjects more accessible and engaging for learners of all backgrounds.

The film prominently features Katherine Johnson's work as a "human computer." A hidden figures movie worksheet can explore what this role entailed, distinguishing it from modern computing. Questions might ask viewers to explain the manual calculations involved in trajectory analysis and orbital mechanics. Understanding the meticulousness and accuracy required for such tasks underscores the exceptional talent of these women. The film also depicts the transition from human computers to electronic computers, and a hidden figures movie worksheet could prompt viewers to consider the challenges and opportunities presented by this technological shift, particularly Dorothy Vaughan's foresight in learning programming.

For instance, the iconic scene where John Glenn requests Katherine Johnson to personally verify the electronic computer's calculations for his Friendship 7 mission is a prime opportunity for a hidden figures movie worksheet. Questions could delve into the concept of orbital trajectory, the importance of precise calculations for spacecraft re-entry, and why a human check was deemed necessary. Explaining the physics behind orbits or the principles of calculating fuel needs can be made more approachable through simplified explanations within the worksheet. A hidden figures movie worksheet can simplify these concepts for broader understanding.

Moreover, Mary Jackson's journey to become NASA's first African-American female engineer is a testament to perseverance in the face of systemic barriers. A hidden figures movie worksheet might ask viewers to identify the engineering challenges that Mary addressed, such as the design of the wind tunnel or the thermal protection system for spacecraft. It can also explore the educational hurdles she had to overcome, like attending night classes in an all-white school, and the legal battles involved in her quest for advanced education.

The film's visual representations of complex calculations, often shown on blackboards and in notebooks, can be a focus for a hidden figures movie worksheet. Viewers could be asked to identify

mathematical symbols or equations, prompting curiosity about their meaning and application.

Ultimately, a hidden figures movie worksheet focusing on STEM aims to showcase that mathematics and science are not abstract concepts but tools used to solve real-world problems and achieve remarkable feats.

Addressing Social Justice and Equality: A Focus for the Hidden Figures Worksheet

Beyond its scientific and historical narrative, Hidden Figures is a powerful story about social justice and the fight for equality. A hidden figures movie worksheet can serve as an excellent tool to guide discussions and critical thinking about the pervasive issues of racism and sexism depicted in the film. These themes are central to understanding the characters' struggles and triumphs.

Questions on a hidden figures movie worksheet can prompt viewers to identify specific instances of discrimination faced by Katherine, Dorothy, and Mary. This might include the lack of access to certain facilities, the assumptions made about their capabilities, or the explicit barriers placed in their paths to advancement. By cataloging these instances, viewers can better grasp the systemic nature of the prejudice they encountered. The film powerfully illustrates how these women had to excel not just to do their jobs, but to prove their worth in an environment that often sought to devalue them.

A key aspect to explore is the intersectionality of race and gender. The film shows how, as Black women, Katherine, Dorothy, and Mary faced challenges that were distinct from those faced by white women or Black men. A hidden figures movie worksheet can prompt viewers to consider these overlapping oppressions and how the characters navigated them with grace and determination. For example, Dorothy Vaughan's efforts to keep her team employed by mastering the FORTRAN programming language demonstrate her awareness of the changing technological landscape and her commitment to her colleagues' professional survival in the face of potential obsolescence, exacerbated by racial and gender bias.

Mary Jackson's fight to attend engineering classes at an all-white high school is a pivotal storyline. A hidden figures movie worksheet can explore the legal and social ramifications of her case, highlighting the courage it took to challenge segregation in education. Questions might ask viewers to consider the

broader implications of her actions for the Civil Rights Movement. Similarly, Katherine Johnson's quiet persistence in demanding access to the main conference room where critical decisions were being made underscores her refusal to accept segregation as a permanent state.

The theme of mentorship and solidarity among the women is also vital. A hidden figures movie worksheet can explore how they supported each other, shared knowledge, and uplifted one another. Dorothy Vaughan's role as a supervisor and her dedication to training her staff, particularly in the new field of computer programming, exemplifies this. The film shows that their collective strength was instrumental in their individual and group success. These discussions, facilitated by a hidden figures movie worksheet, can help viewers connect the film's narrative to contemporary issues of diversity, equity, and inclusion in workplaces and society.

Finding and Creating Your Own Hidden Figures Movie

Worksheet Resources

For those looking to deepen their understanding of Hidden Figures, a wealth of resources exists, including pre-made hidden figures movie worksheet materials and guidance on creating custom ones. The accessibility of these resources makes learning about these remarkable women and their contributions more manageable for a wide audience.

Numerous educational websites, teacher resource platforms, and film study guides offer ready-made hidden figures movie worksheet templates. These often cater to specific grade levels or learning objectives, covering aspects like historical context, character analysis, and STEM concepts. Searching online for terms like "Hidden Figures lesson plan," "Hidden Figures comprehension questions," or "NASA human computers worksheet" can yield a variety of valuable materials. Many of these resources are developed by educators who have experience in utilizing films like Hidden Figures to teach important subjects.

For educators or individuals who wish to tailor the learning experience, creating a custom hidden figures movie worksheet is also a viable option. This involves carefully reviewing the film and identifying key moments, concepts, and themes that are most relevant to the specific learning goals. When crafting questions, consider the age and prior knowledge of the intended audience. For younger

students, focus on plot points and character motivations. For older students, incorporate more complex analytical questions about historical context, social issues, and scientific principles. A good hidden figures movie worksheet should be challenging yet achievable.

When creating your own hidden figures movie worksheet, ensure it includes a mix of question types: multiple-choice, short answer, true/false, and open-ended response questions. This variety can cater to different learning styles and assessment methods. Incorporating vocabulary sections for key terms and suggesting further research topics can also enhance the worksheet's educational value. Remember to align the questions with the learning objectives you aim to achieve by using the hidden figures movie worksheet.

Furthermore, supplementing the hidden figures movie worksheet with additional resources can enrich the learning experience. This could include historical documents, biographies of the real Katherine Johnson, Dorothy Vaughan, and Mary Jackson, or articles about the Space Race. These supplementary materials can provide a broader context and allow for more in-depth exploration beyond what is presented in the film. Access to such varied resources ensures that the impact of using a hidden figures movie worksheet is maximized, fostering a comprehensive understanding of this important historical narrative.

Conclusion: The Lasting Impact of Hidden Figures and Your Worksheet

The film Hidden Figures has undeniably illuminated the critical, yet often overlooked, contributions of Katherine Johnson, Dorothy Vaughan, and Mary Jackson to America's space program. It serves as a powerful testament to intellect, perseverance, and the fight against systemic inequality. Utilizing a hidden figures movie worksheet is an effective strategy to engage deeply with the film's profound messages, making its historical context, scientific achievements, and social justice themes accessible and impactful for a wide audience.

Whether you are an educator seeking to inspire your students, a student eager to learn, or an individual fascinated by this remarkable chapter of history, a hidden figures movie worksheet acts as a crucial guide. It transforms passive viewing into active learning, encouraging critical thinking about the

scientific challenges faced, the societal barriers overcome, and the enduring legacy of these brilliant women. By delving into the specifics of the film through structured questions, viewers gain a richer appreciation for the intersection of race, gender, science, and history.

The journey of these three women reminds us of the importance of recognizing all contributions, regardless of background, and the power of determination in achieving the seemingly impossible. By using a hidden figures movie worksheet, we not only honor their memory but also draw inspiration from their lives, fostering a greater appreciation for STEM fields and the ongoing pursuit of equality. The lessons learned from Hidden Figures, amplified by the thoughtful use of a hidden figures movie worksheet, continue to resonate, encouraging a more inclusive and forward-thinking approach to progress.

Frequently Asked Questions

What is a common learning objective of a 'Hidden Figures' movie worksheet?

A common learning objective is to explore the historical context of the Civil Rights Movement and the Space Race, and to analyze the contributions of African American women to NASA during this era.

What kinds of questions are typically found on a 'Hidden Figures' movie worksheet?

Worksheets usually include questions about character analysis (Katherine Johnson, Dorothy Vaughan, Mary Jackson), plot comprehension, identifying themes (perseverance, overcoming discrimination, intellectual prowess), and connecting the film's events to broader historical facts.

How do 'Hidden Figures' movie worksheets help students understand

the challenges faced by the main characters?

They prompt students to identify and discuss the specific obstacles the protagonists encountered due to their race and gender, such as segregation, limited opportunities, and pervasive societal biases.

What is a key takeaway often reinforced by discussion questions on a 'Hidden Figures' worksheet?

A key takeaway is the importance of recognizing often-overlooked contributions of marginalized groups to significant historical achievements, and the power of intellect and determination.

Are 'Hidden Figures' movie worksheets primarily for educational purposes, or can they be used in other settings?

While primarily educational for history, STEM, and social studies classes, they can also be used in book clubs, women's history groups, or diversity and inclusion training to spark discussions on representation and meritocracy.

What kind of post-viewing activities might a 'Hidden Figures' movie worksheet suggest?

Worksheets often suggest activities like researching other underrepresented figures in STEM, writing essays on themes from the movie, or creating presentations on the historical accuracy of the film.

Additional Resources

Here are 9 book titles related to the themes and historical context of the movie Hidden Figures:

1. The Immortal Life of Henrietta Lacks

This powerful book tells the story of Henrietta Lacks, a poor Southern tobacco farmer whose cells, taken without her knowledge in 1951, became one of the most important tools in medicine, vital for

developing the polio vaccine, cancer treatments, and more. It explores the ethics of medical research, racial disparities in healthcare, and the profound impact one woman's life had on science. The narrative highlights the often-unacknowledged contributions of individuals, particularly marginalized women, to scientific advancement.

2. A Brief History of Time

While not directly about the women featured in *Hidden Figures*, Stephen Hawking's seminal work offers a profound look at the universe and the quest for scientific understanding. It delves into complex cosmological concepts like black holes and the Big Bang in an accessible way. This book connects to the spirit of intellectual curiosity and the pursuit of knowledge that fueled the mathematicians in the film, showcasing the broader landscape of scientific exploration.

3. The Code Book: Six Decades of Mathematical Discovery

Simon Singh's book unravels the fascinating history of codes and cryptography, a field intrinsically linked to the work of the "human computers" at NASA. It explores how mathematics has been used to secure secrets, from ancient ciphers to modern computer encryption. The narrative emphasizes the crucial role of mathematical ingenuity in solving complex problems, mirroring the challenges faced by Katherine Johnson and her colleagues.

4. The Glass Universe: How the Ladies of the Harvard Observatory Took the Measure of the Stars

This captivating book tells the true story of the women hired by Harvard College Observatory in the late 19th and early 20th centuries to analyze astronomical glass plate negatives. These women, often referred to as "Harvard Computers," made significant contributions to our understanding of the cosmos. Their dedication, meticulous work, and often overlooked achievements resonate strongly with the experiences of the women depicted in *Hidden Figures*.

5. Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race

This is the original non-fiction book by Margot Lee Shetterly that inspired the film. It provides a comprehensive and deeply researched account of the lives and careers of Katherine Johnson, Dorothy Vaughan, and Mary Jackson, and their critical contributions to NASA's early space missions. The book

delves into the societal context of segregation and discrimination these women navigated to achieve greatness in a male-dominated field. It celebrates their resilience, intelligence, and unwavering dedication.

6. __Weird Math: The Story of the Lost Numbers and the People Who Went Looking for Them__

David Wolphe's book explores unusual and often overlooked mathematical concepts and the eccentric mathematicians who discovered them. It highlights the beauty and strangeness found within numbers and the persistent curiosity that drives mathematical exploration. This book connects to the film's portrayal of mathematics as a fascinating and powerful tool, essential for pushing the boundaries of human knowledge.

7. __Genius on the Edge: The Inconvenient Life of Frank Lloyd Wright__

While focused on architecture, this biography of Frank Lloyd Wright shares a common thread with Hidden Figures in its exploration of groundbreaking individuals who defied convention and societal expectations. Wright's relentless innovation and his struggles against prevailing norms mirror the quiet but persistent determination of the women at NASA. The book emphasizes the importance of vision and perseverance in achieving extraordinary feats.

8. __Rise of the Rocket Girls: The Untold Story of the Women Who Helped Land Americans on the Moon__

This book by Nathalia Holt chronicles the lives of the women who worked as "rocket girls" at the Jet Propulsion Laboratory (JPL) during the early days of the space program. Similar to the women at Langley, these female mathematicians and engineers played vital roles in calculating trajectories and solving complex engineering problems. The book celebrates their essential, yet often unacknowledged, contributions to America's space achievements.

9. __Rocket Men: The Daring Odyssey of Apollo 8 and the Astronauts Who Made Man's First Journey to the Moon__

Robert Kurson's gripping account details the perilous mission of Apollo 8, the first manned spacecraft to orbit the Moon. While focusing on the astronauts, the narrative implicitly acknowledges the immense scientific and mathematical calculations that made such a journey possible. This book underscores the

collective effort behind the space race and the critical, often unseen, work of brilliant minds, like those of the Hidden Figures characters, that underpinned these monumental achievements.

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