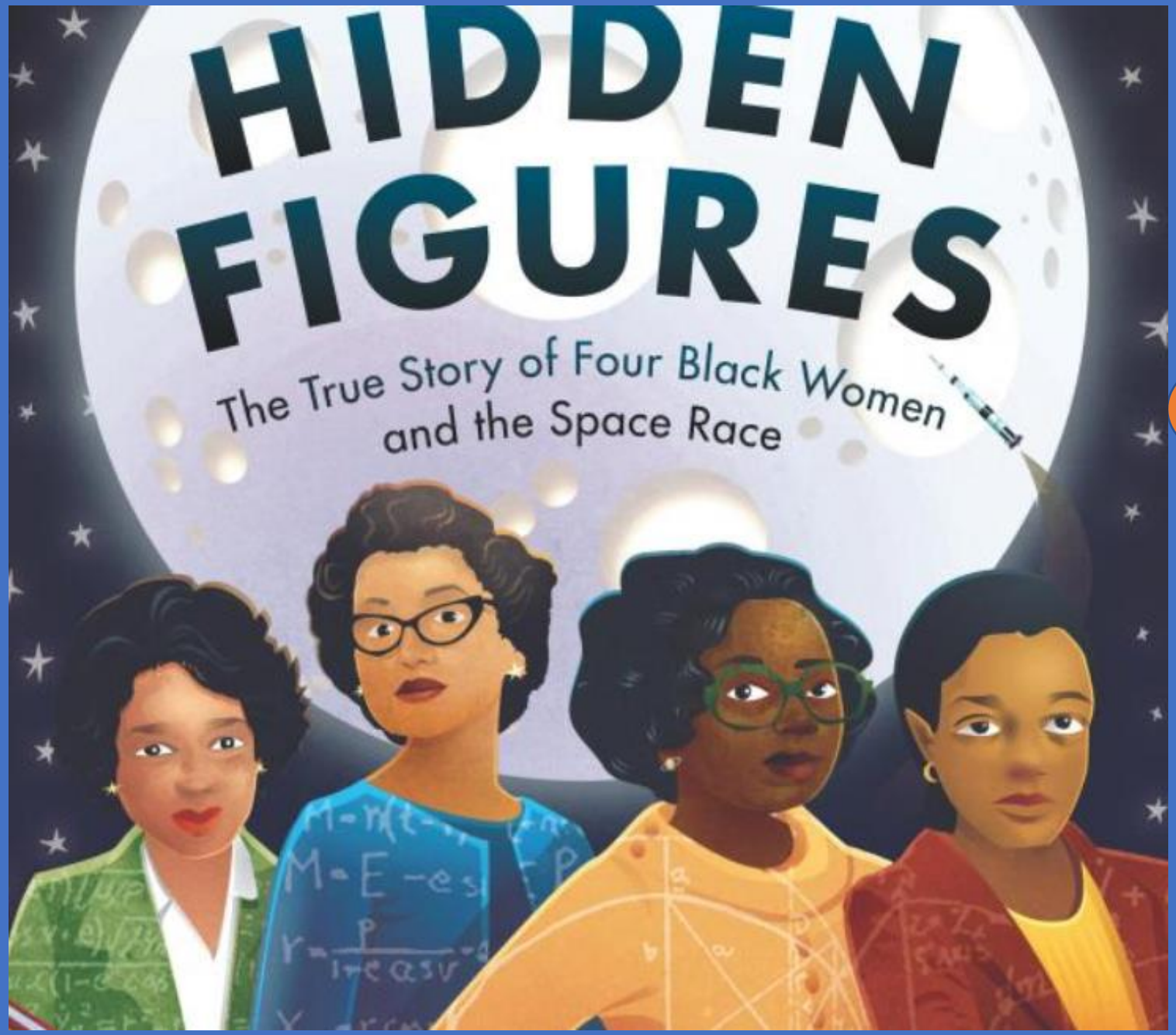
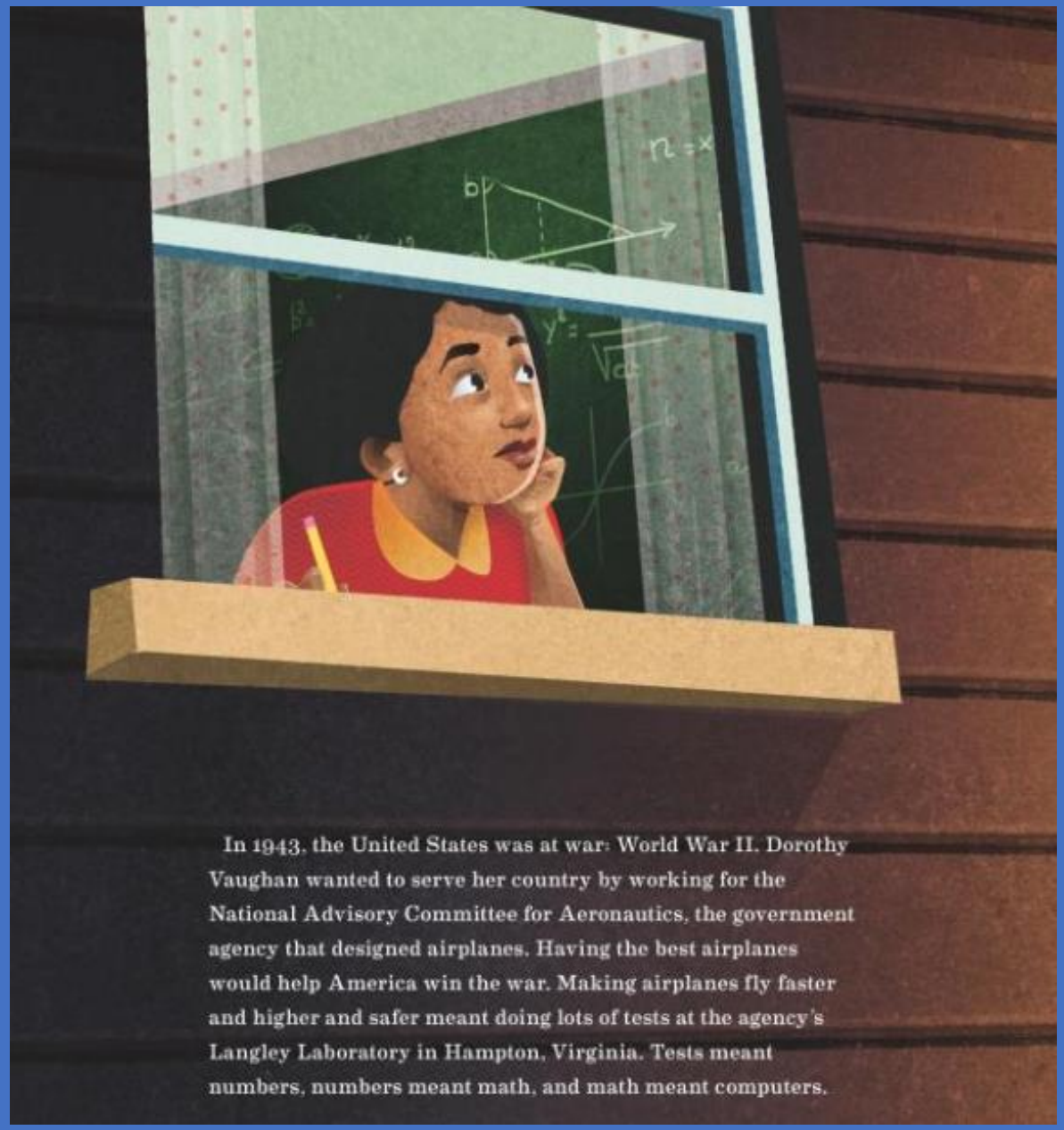
Literacy-Task 1

Context- Hidden Figures

To be able to comment on a text

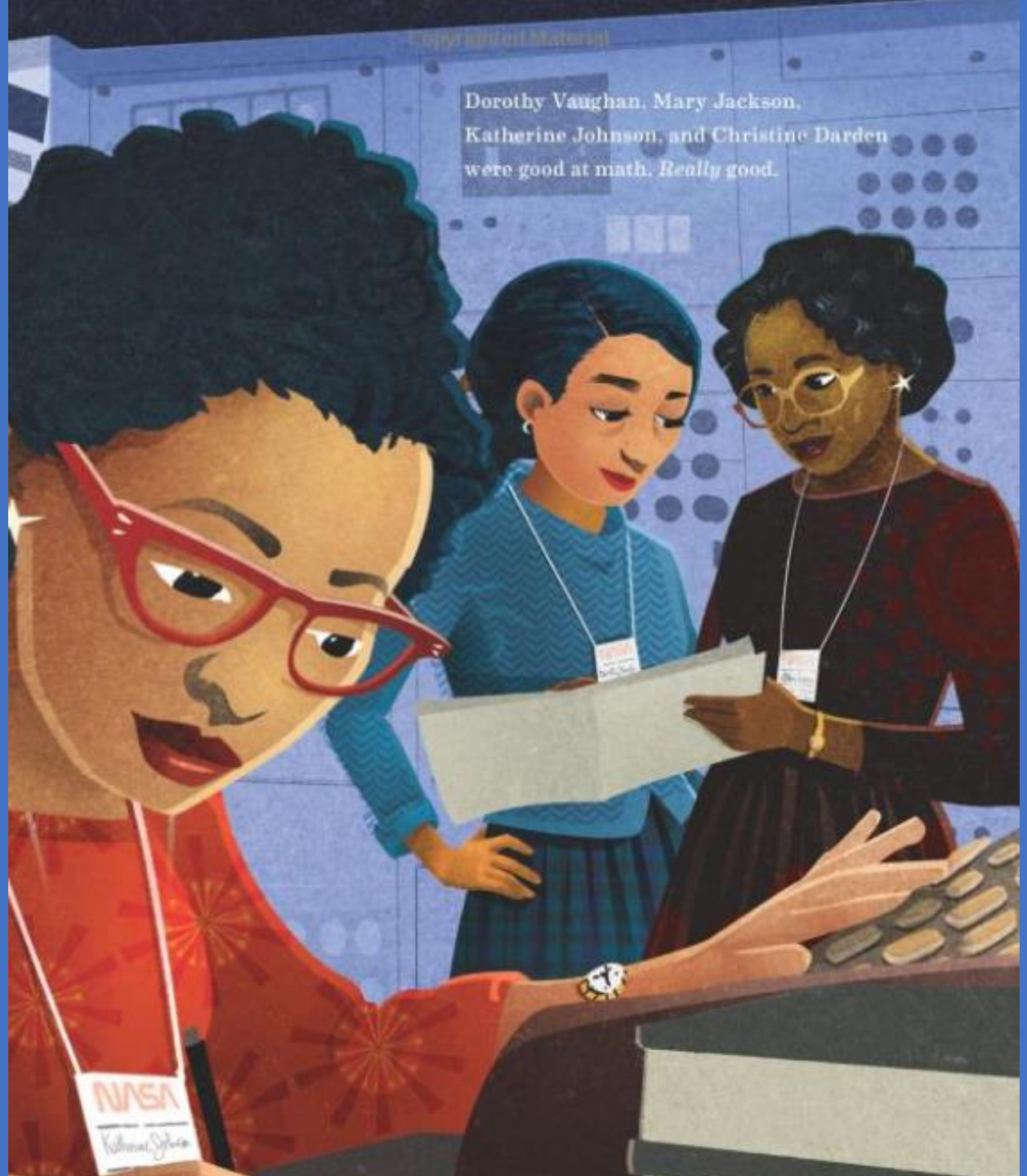


Why do you think the title is Hidden Figures?

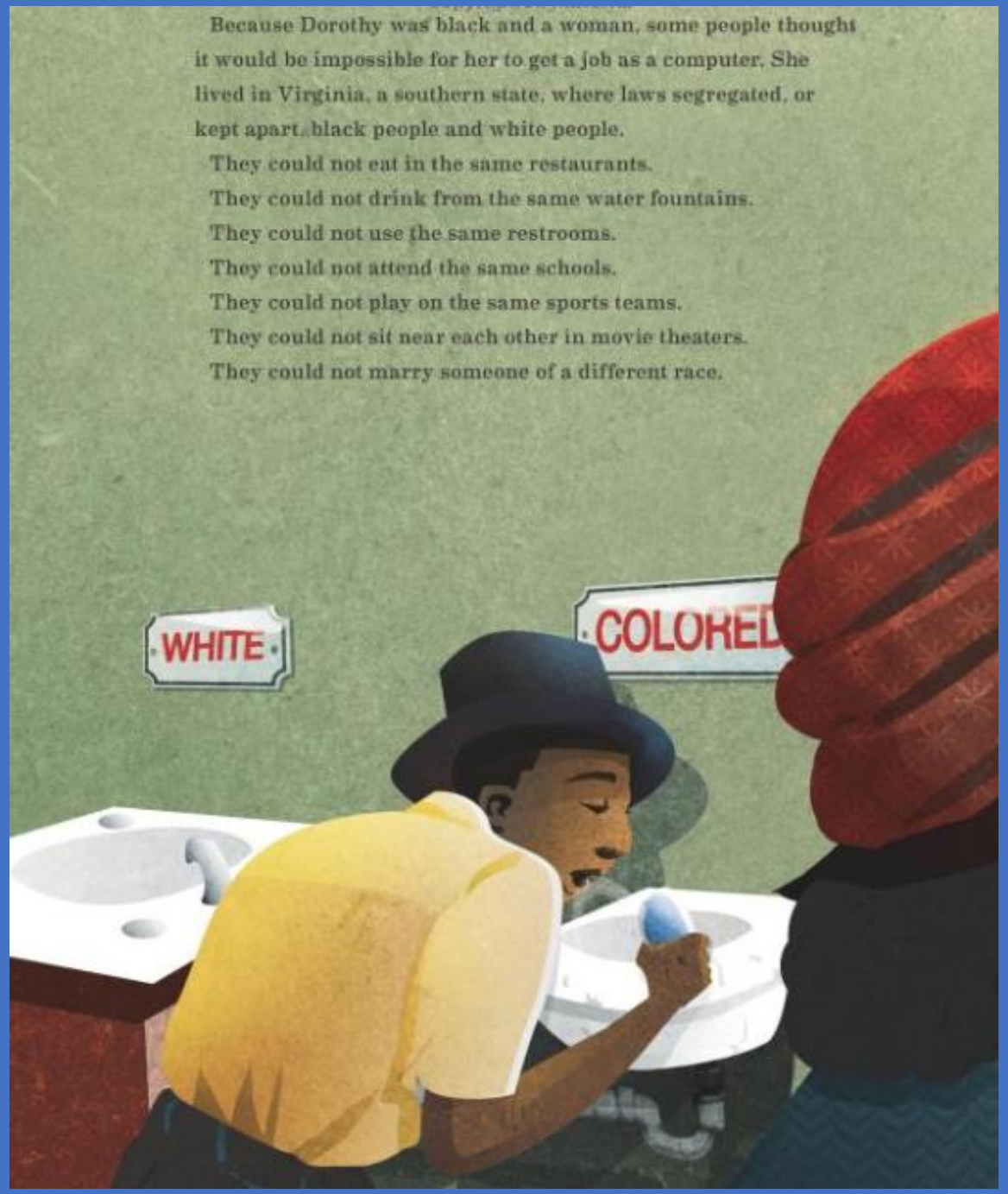


These women were role models because despite the discrimination they faced they were determined to think big.

How efficient would your maths have to be for this job? Can you imagine if you got an answer wrong? Luckily getting things wrong helps us learn.



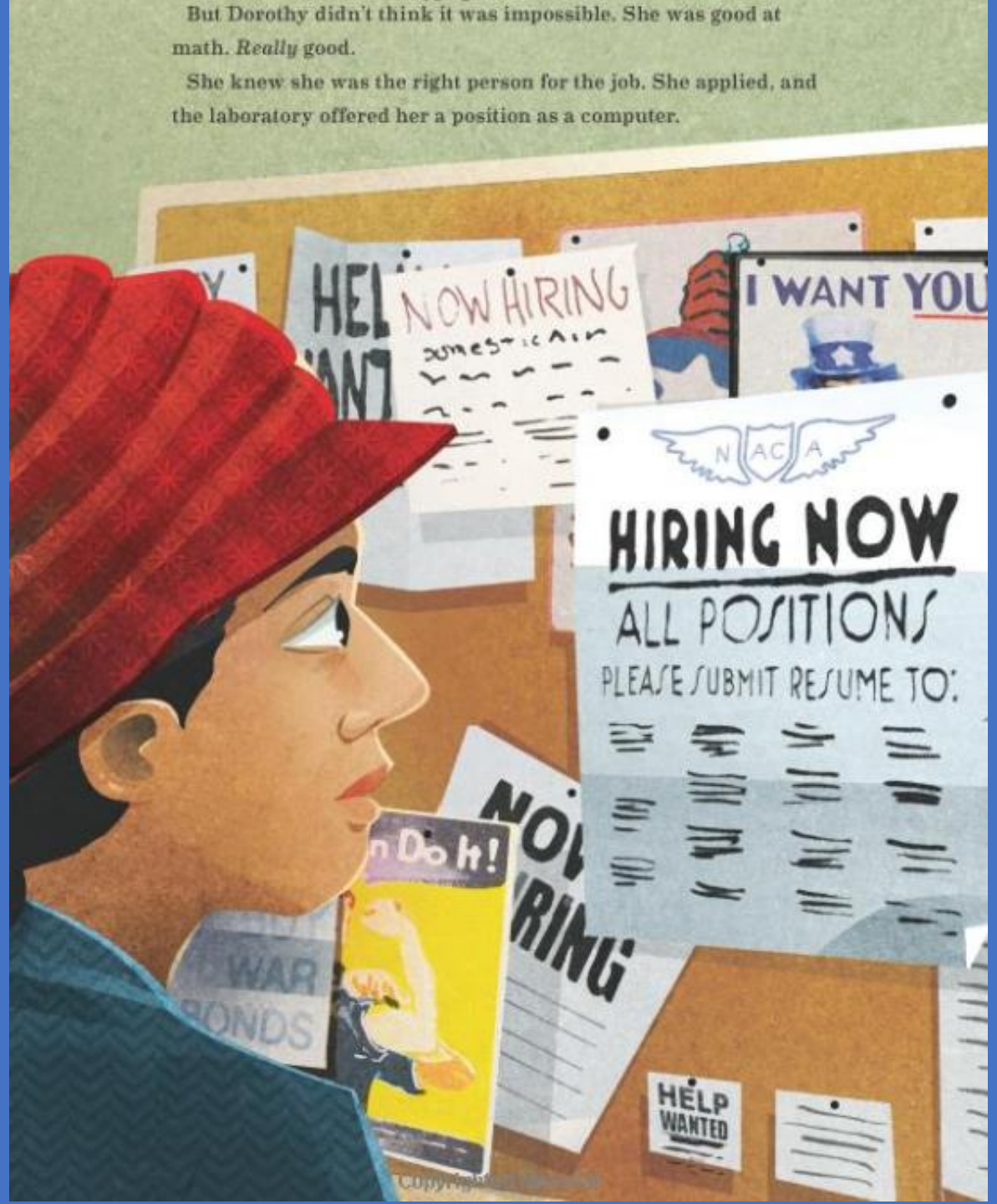
Why were the women always seen together?



Can you imagine this to be the case?
No, we don't see this today but inequality, prejudice and racism still take place.

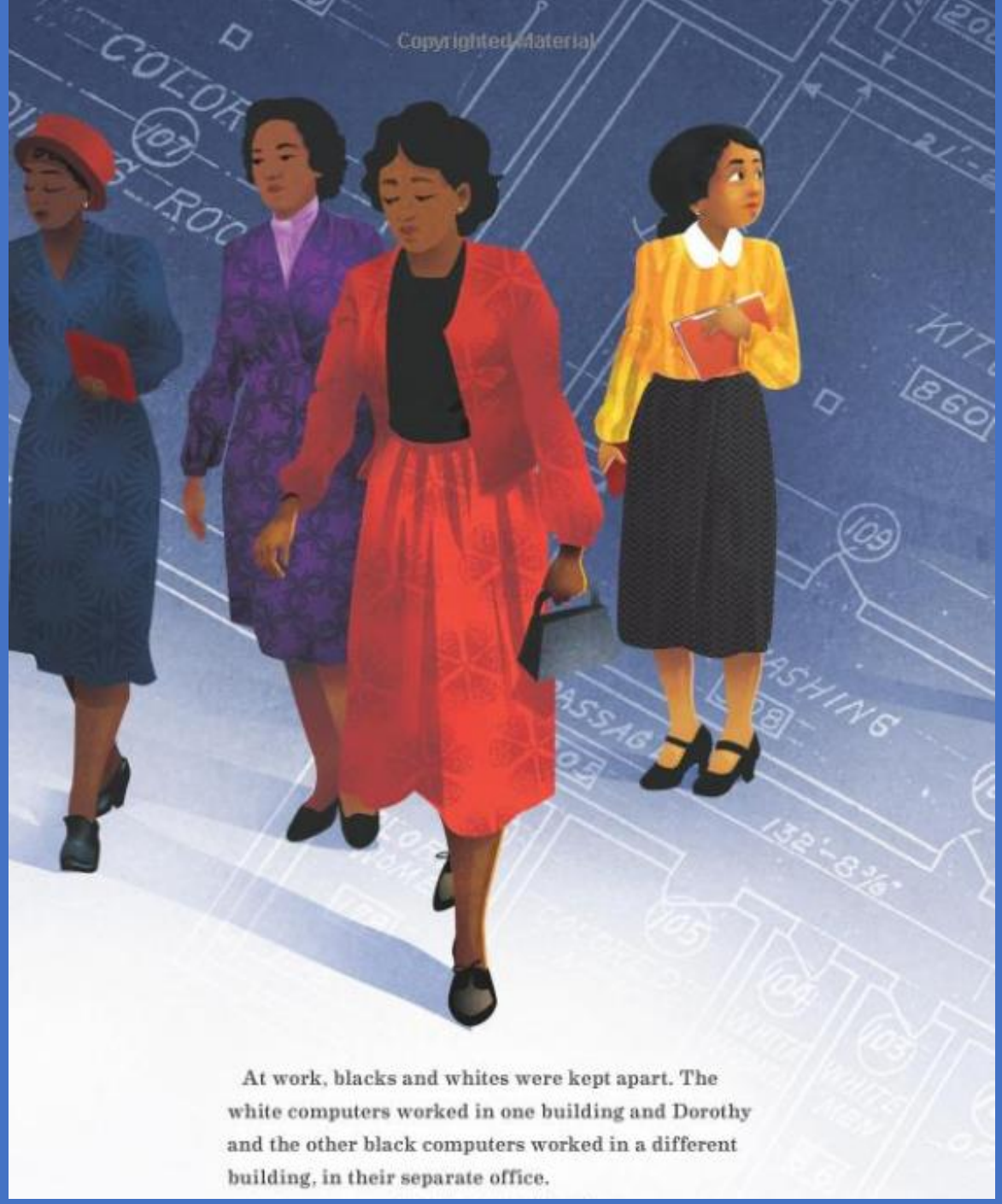
But Dorothy didn't think it was impossible. She was good at math. *Really* good.

She knew she was the right person for the job. She applied, and the laboratory offered her a position as a computer.



What repetitive phrase are we seeing through the book?

Why is it so effective?



They were chosen for being amazing mathematicians but still were discriminated against because of the colour of their skin.

Meet the Computers

Dorothy Johnson Vaughan (1910–2008)

Dorothy was born September 20, 1910, in Kansas City, Missouri. She and her family moved to West Virginia when she was eight. Dorothy received a full scholarship to Wilberforce University, a historically black college in Ohio, where she graduated at age nineteen with a degree in mathematics education. She married Howard Vaughan in 1932, and they had six children.

After college, Dorothy worked as a high school math teacher in Farmville, Virginia. In 1943, she began her job at Langley Memorial Aeronautical Laboratory in Hampton, Virginia. She worked as a mathematician and computer, later becoming NASA's first African-American supervisor. When machine computers were introduced at Langley, Dorothy learned the programming language FORTRAN and taught it to her staff. She died in 2008 at age ninety-eight.

Mary Winston Jackson (1921–2005)

Mary was born April 9, 1921, in Hampton, Virginia. She graduated with highest honors from the all-black Phenix High School, then graduated from Hampton Institute in 1942 with degrees in mathematics and physical science. She taught math at an all-black high school in Maryland for a year before taking a job as a bookkeeper back in her hometown. She married Levi Jackson Sr., and they had two children.

Mary began work as a computer at Langley Memorial Aeronautical Laboratory in 1951. She worked in a supersonic wind tunnel, studying the impact of wind forces that were nearly twice the speed of sound. In order to be promoted to engineer, she needed to take graduate-level courses in physics and math. She had to petition the City of Hampton, Virginia, for permission to attend the classes because they were held at a whites-only high school. She completed the classes, and in 1958 she became the first female African-American aerospace engineer at NASA. Late in her career, Mary took a position in NASA's Equal Opportunity Office, where she worked to support the careers of other women and minorities. She volunteered for more than thirty years as a Girl Scout leader. She died in 2005 at age eighty-three.

Katherine Coleman Goble Johnson (1918–)

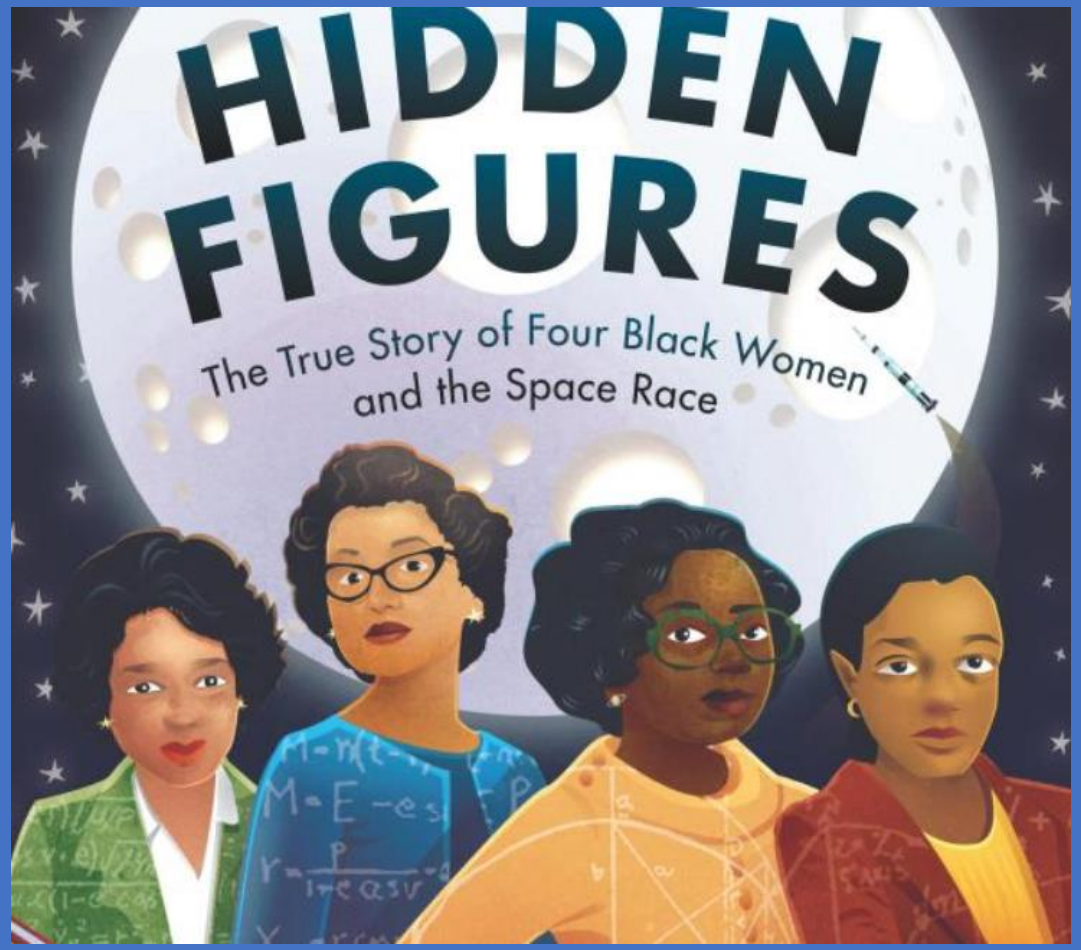
Katherine was born August 26, 1918, in White Sulphur Springs, West Virginia. Her community did not offer public school for African Americans after eighth grade, so her family arranged for her to attend the high school run by West Virginia State Institute, 125 miles away. She completed high school at age fourteen and went to West Virginia State College, graduating *summa cum laude* at age eighteen with degrees in mathematics and French. In 1939, she married her first husband, Jimmy Goble, and they had three children. Jimmy Goble died of a brain tumor in 1956. Katherine married James Johnson in 1959.

Katherine taught high school math before beginning work as a computer at Langley Memorial Aeronautical Laboratory in Hampton, Virginia, in 1953. Her expertise in analytic geometry earned her a place in the Flight Research Division. She worked on the flight trajectories—the flight paths—for Project Mercury, the program that sent the first American astronauts into space. Astronaut John Glenn specifically requested that Katherine double-check the computer's calculations of his spacecraft's orbit around the Earth. She also contributed calculations to the 1969 *Apollo 11* mission to the moon.

Discussion Questions

Why should we remember the achievements of these women?
How might the women have been feeling at different points in the story?
What were the times in the women's lives when they had to prove themselves?
How are these women role models?
What is your opinion of society then?
Do you think things have changed?

Task 1: Have a conversation about these questions then write down your thoughts.



Literacy-Task 2

Context- Hidden Figures

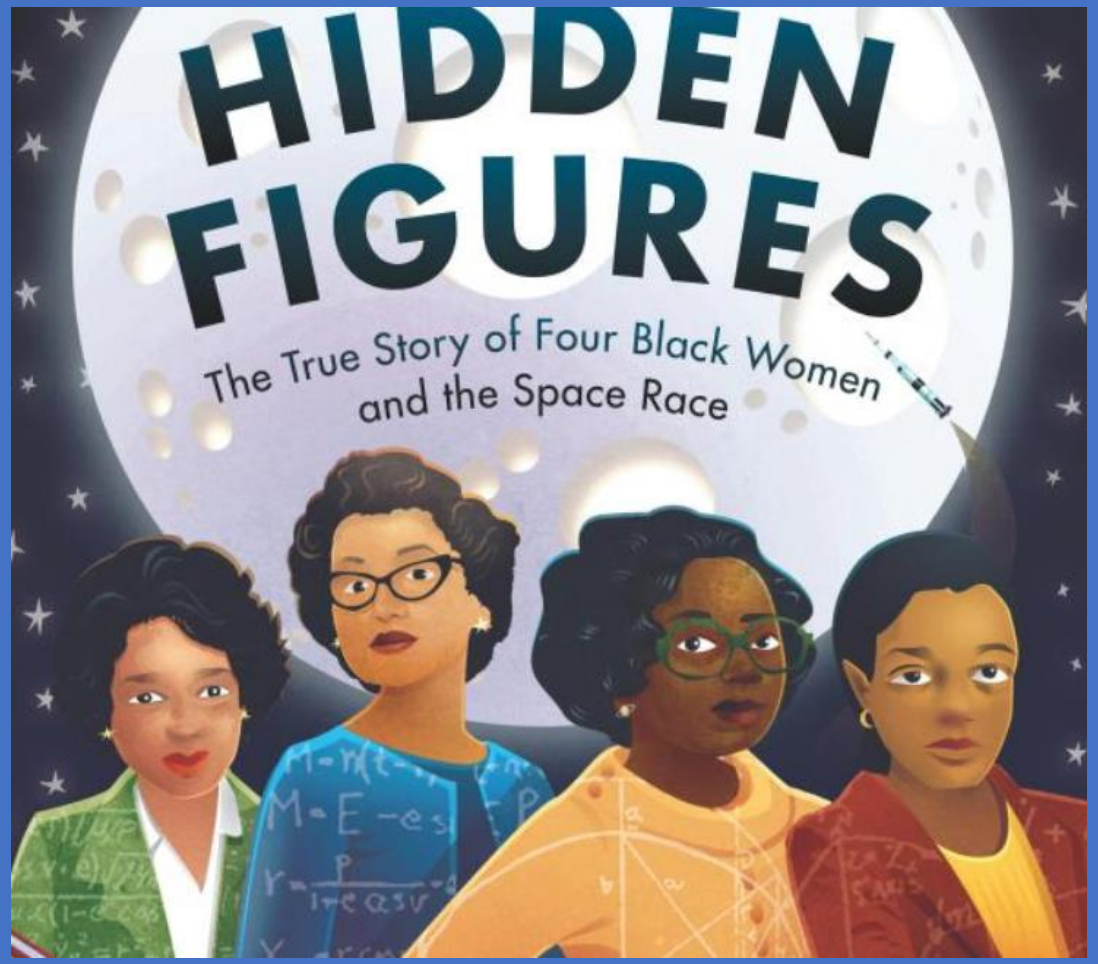
To use ambitious vocabulary

aeronautics
engineer
turbulence
wind tunnel
computer
data
segregated
speed of sound
sonic boom
missiles
bombers
cosmonaut
satellite
orbit

Task 2: Use a dictionary to look up each of these words and phrases. Why would they have been important for our mathematicians to consider. Remember you might not find the correct definition for our topic straight away.

Speed of sound

Online dictionary



Literacy-Task 3

Context- Hidden Figures

To be able to write a speech on how you can be a positive role model

Look at the following words:
Principle, vision, integrity, courage, strength, determination, ingenuity, brilliance, endurance, generosity, cowardliness, stinginess, short-sightedness, dishonesty, weakness, narrowness.
When you grow up would you rather be a man/woman of courage or cowardliness?
Why? Can you use some of these words to write a character description of Dorothy Vaughan?

One way we often describe impressive individuals is to use a noun (of) noun phrase e.g. a woman of integrity.

Dorothy Vaughan was a woman of strength and integrity. She had a vision to exceed expectations despite the segregation and sexism that was everywhere. Dorothy, who worked long hours, was a woman of exceeding strength with a brilliance of mind

Principle, vision, integrity, courage, strength, determination, ingenuity, brilliance, endurance, generosity, cowardliness, stinginess, short-sightedness, dishonesty, weakness, narrowness.

Sort them into negative and positive words

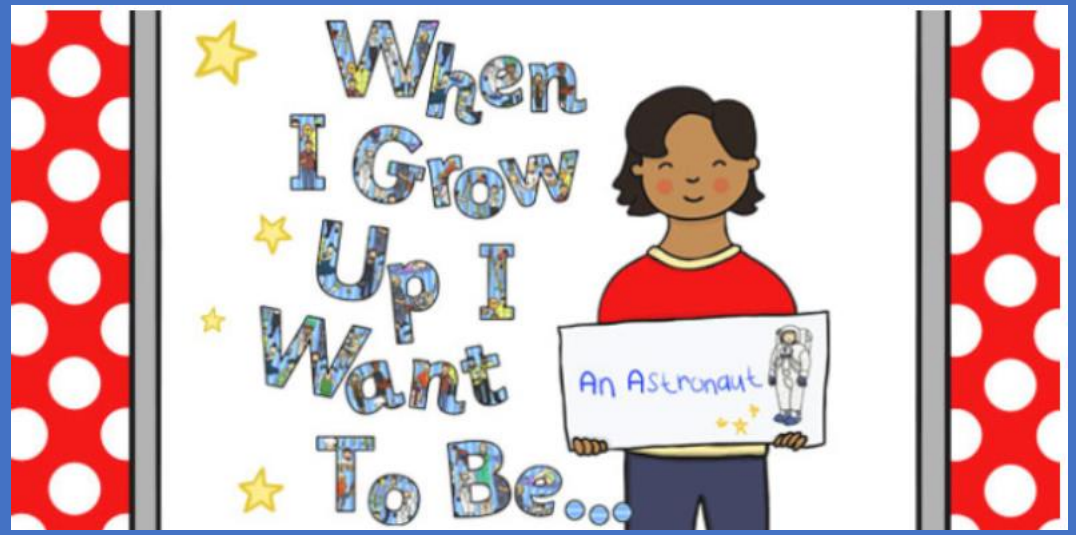
Positive	Negative

This scaffold might be useful:-

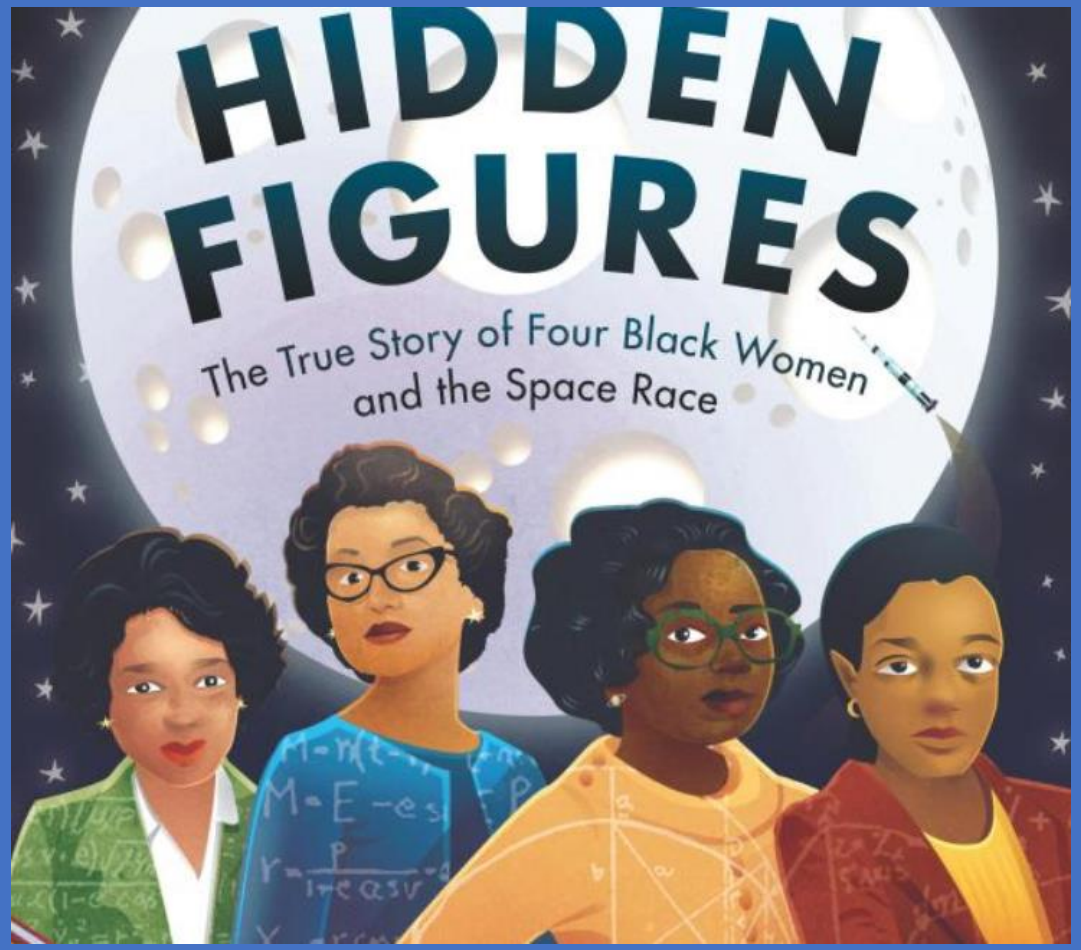
In the future, I would...

Without a doubt, I will need to remember to...

In a fairer world,...



Task 3: Now write a speech about the type of person you would like to be when you grow up. Remember to use the vocabulary shared and include noun phrases.



Literacy-Task 4

Context- Hidden Figures

To understand and use prefixes to change a word

Look at the prefixes un and in

They are followed by a root word and when they are use they change the meaning.

Look at the following words. Which prefix would you use?

justice principled fair reliable realistic questionable able enthusiastic comprehensible controllable appealing credible correct dependent equal

Check by looking up the new words in the dictionary

Early Life and Education

Mary Jackson was born on April 9th 1921. She grew up in Virginia, America. Mary loved science and engineering because of the potential it held to make other people's lives better. She graduated from Hampton Institute with a degree in mathematics and physical science. Jackson used her degree to start teaching maths.

Mary Jackson was not allowed to study at Hampton High School in Virginia due to segregation. Write a persuasive letter to the judge in role as Mary Jackson asking for that situation to change.

Can you use in and un words in your letter?

Explore how, if you are writing a formal letter advising the judge, we might use sentence openers such as e.g. I strongly urge you to change the law and support my application. This is an injustice! I suggest you...I recommend you...It is essential you... It is crucial you...I strongly urge you...

Remember to link one point you are making to one sentence starter

Look at this model to help

Dear Judge_____,

My name is Mary Jackson and being a person of colour I am not allowed to be a pupil at Hampton High School . It is essential that you see that this would be the best school for me because I am an excellent mathematician and this will be my chosen career.

I strongly urge that you understand that it is thoroughly unjust and incomprehensible that I can not go where I feel I will get the best education.

Introduce yourself

Strong sentence openers

Use of prefixes to make strong adjectives

Literacy-Task 5

Context- End of the school year

To understand and explain why you should be so proud of yourself this year.

Congratulate yourself on things you have managed to learn and achieve this year. How would you present this? Maybe write a speech, make a video or even make it into graphic novel text. It is your choice.

You should be so proud of what you have come through. Sometimes we are too hard on ourselves and find it hard to be positive but this is your chance to blow your own trumpet and be well-pleased