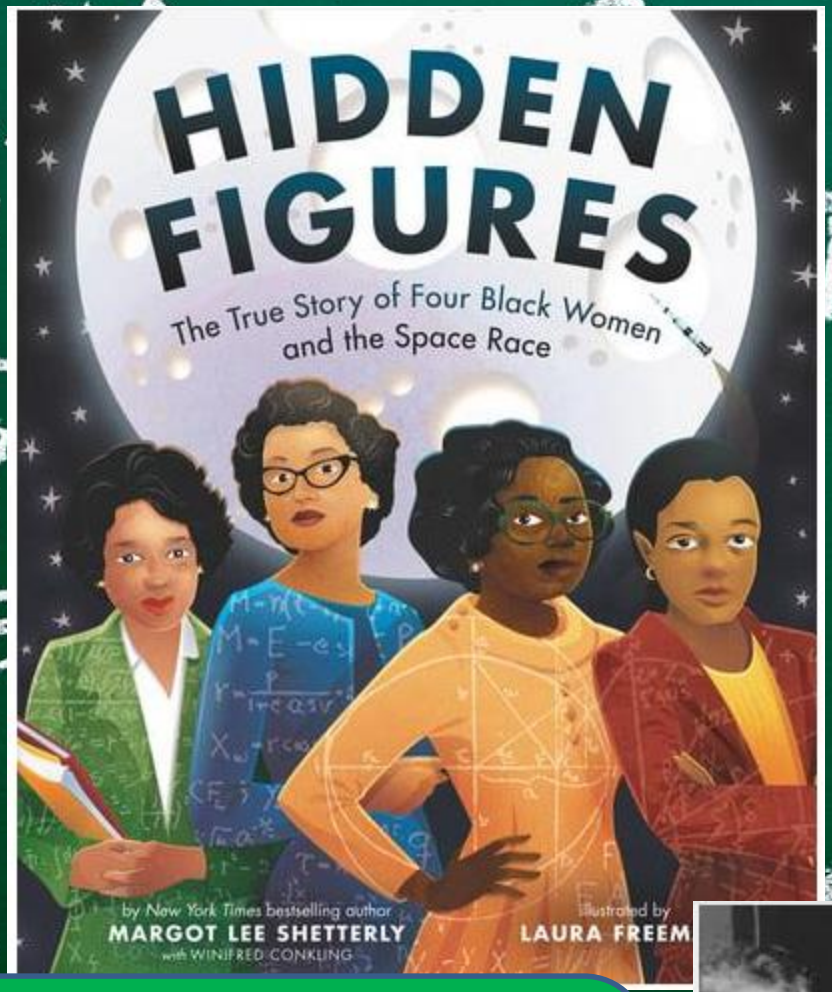

The Maths Department would like to remember the contributions of all African-American mathematicians & scientists to the space programme run by NASA in the 1960s

You may remember that the Maths department did an assembly last year that included information about these amazing women…..

But why are they important?

In the 1960s, Mercury astronauts Alan Shepard, Gus Grissom, John Glenn and others absorbed the accolades of being the first men in space. Behind the scenes, they were supported by hundreds of unheralded NASA workers, including "human computers" who did the calculations for their orbital trajectories. "Hidden Figures," a 2016 book by Margot Lee Shetterly and a movie based on the book, celebrates the contributions of some of those workers.

During World War II, the human computer pool was expanded. Langley (the FBI training school) began recruiting African-American women with college degrees to work as computers, according to NASA. However, segregation policies required that these women work in a separate section, called the West Area Computers — although computing sections became more integrated after the first several years.

As the years passed and the centre evolved, the West Computers became engineers and electronic computer programmers. The women were the first black managers at Langley and it was their brilliant work that propelled the first American, John Glenn, into orbit in 1962.

The "Hidden Figures" movie focuses on three human computers: Mary Jackson, Katherine Johnson and Dorothy Vaughan.

The black ‘human computers’ had to work separately from their white counterparts by law. While their hard work contributed to the success of the space programme, they worked without recognition behind closed doors

Dorothy Vaughan (1910-2008)

Vaughan joined the Langley Memorial Aeronautical Laboratory in 1943 after beginning her career as a math teacher in Farmville, Virginia. Her job during World War II was a temporary position, but thanks in part to a new executive order prohibiting discrimination in the defense industry, she was hired on permanently because the laboratory had a wealth of data to process.

Dorothy Vaughan became the first black supervisor at the National Advisory Committee for Aeronautics (NACA), a precursor of NASA, in 1949.
(Image credit: NASA)

Still, the law required that she and her black colleagues needed to work separately from white female computers, and the first supervisors were white. Vaughan became the first black NACA supervisor in 1949 and made sure that her employees received promotions or pay raises if merited.

Segregation was ended in 1958 when NACA became NASA, at which point NASA created an analysis and computation division. Vaughan was an expert programmer in FORTRAN, a prominent computer language of the day, and also contributed to a satellite-launching rocket called Scout (Solid Controlled Orbital Utility Test). She retired from NASA in 1971. Vaughan died on Nov. 10, 2008 at the age of 98.

Mary Jackson (engineer)

Katherine Johnson Dies at 101; Mathematician Broke Barriers at NASA

She was one of a group of black women mathematicians at NASA and its predecessor who were celebrated in the 2016 movie "Hidden Figures."

Christine Darden

Another woman portrayed in the movie Hidden Figures is Katherine Johnson. She worked as a human computer for NASA as well. The black mathematicians were not allowed to use the toilets that the white staff used at work, and they had to walk half a mile every time they needed to use the bathroom. This clip shows her frustration about this…..

Press to play clip

For more on the story behind these women, this movie featurette (21 mins) gives you an insight into the work that they did, and the struggles they had to face (click to go to the clink)