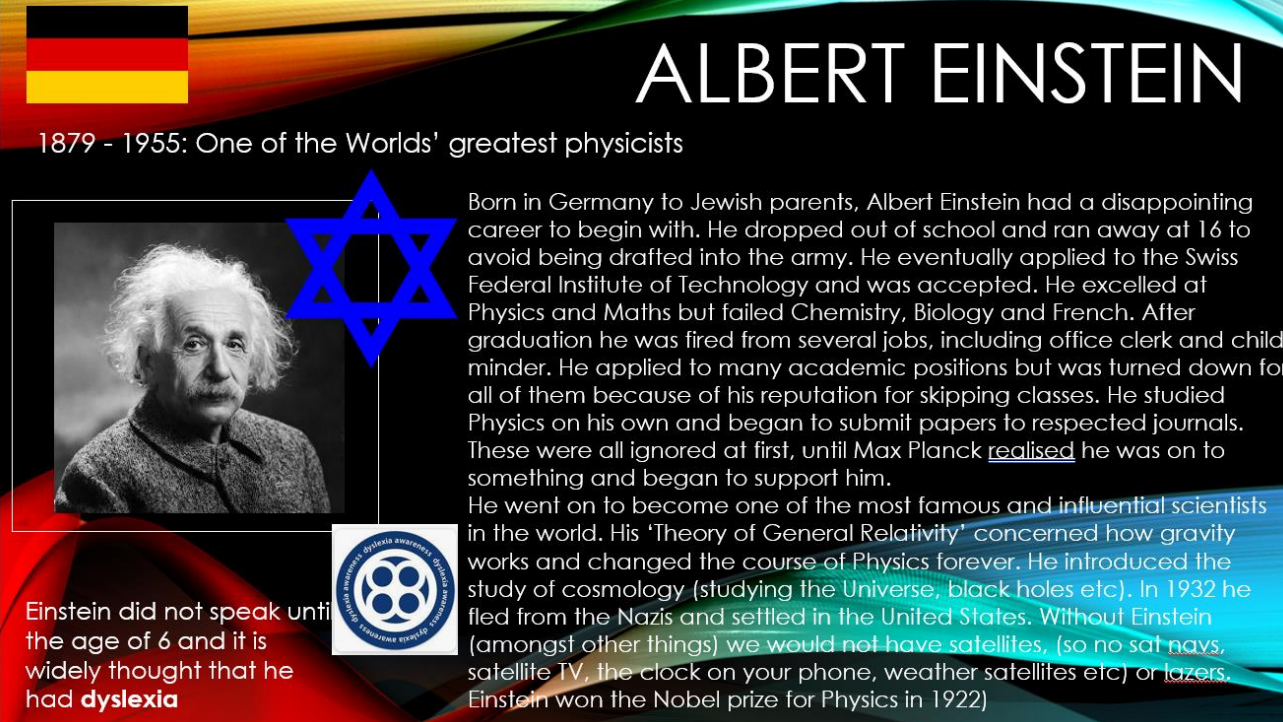


Lower 5 explore diversity in Science



ALBERT EINSTEIN

1879 - 1955: One of the Worlds' greatest physicists

Born in Germany to Jewish parents, Albert Einstein had a disappointing career to begin with. He dropped out of school and ran away at 16 to avoid being drafted into the army. He eventually applied to the Swiss Federal Institute of Technology and was accepted. He excelled at Physics and Maths but failed Chemistry, Biology and French. After graduation he was fired from several jobs, including office clerk and child minder. He applied to many academic positions but was turned down for all of them because of his reputation for skipping classes. He studied Physics on his own and began to submit papers to respected journals. These were all ignored at first, until Max Planck realised he was on to something and began to support him. He went on to become one of the most famous and influential scientists in the world. His 'Theory of General Relativity' concerned how gravity works and changed the course of Physics forever. He introduced the study of cosmology (studying the Universe, black holes etc). In 1932 he fled from the Nazis and settled in the United States. Without Einstein (amongst other things) we would not have satellites, (so no sat navs, satellite TV, the clock on your phone, weather satellites etc) or lazars. Einstein won the Nobel prize for Physics in 1922)

Einstein did not speak until the age of 6 and it is widely thought that he had **dyslexia**

As part of our Science Week celebrations, Lower 5 explored diversity in science. The pupils had to conduct some research into scientists from all sorts of walks of life and create a poster to represent their chosen scientist.

It was fascinating not only to learn about some of the work that different scientists have done (or are doing) but also to see a wide representation of people of different races, religions, genders and sexualities as well as people with different disabilities and degrees of neurodiversity.

The posters are being made into an inspirational display to go outside the Science labs. You can see some of the work above and below.

Ms Jo Rayner

Sir Chandrasekhara Venkata Raman 1888 - 1970



- C. V. Raman was born in Tiruchirapalli in the Madras Presidency of British India (now Tiruchirapalli, Tamil Nadu, India) on the 7th November 1888
- C. V. Raman was a Indian physicist known for his work in the field of light scattering. Using a spectrograph that he developed, he and his student K. S. Krishnan discovered that when light traverses a transparent material, the deflected light changes its wavelength and frequency.
- He was knighted in 1929
- He was the **first Asian scientist to win the Nobel Prize** in 1930 for discovering the "[Raman effect](#)"
- At the end of October 1970, Raman had a cardiac arrest and collapsed in his laboratory. He was moved to the hospital where doctors diagnosed his condition and declared that he would not survive another four hours. He however survived a few days and requested to stay in the gardens of his institute surrounded by his followers.

KALPANA CHAWLA

1962 - 2003: First woman of Indian origin to go to space

Kalpna Chawla was an Indian-born American astronaut and aerospace engineer who was the first woman of Indian origin to go to space. She first flew on Space Shuttle Columbia in 1997 as a mission specialist and primary robotic arm operator. Her second flight was on STS-107, the final flight of Columbia, in 2003.



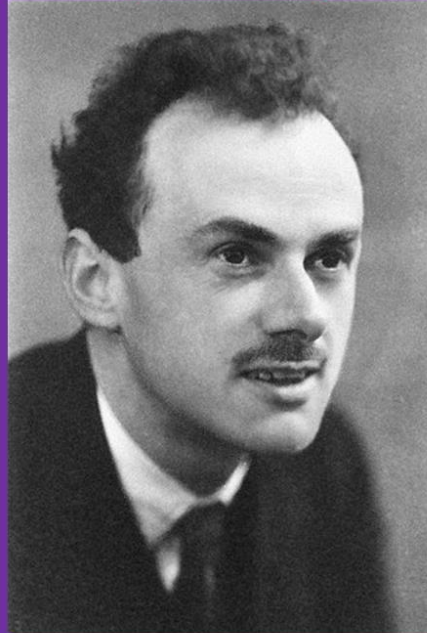
Her assignments included work on development of Robotic Situational Awareness Displays and testing space shuttle control software in the Shuttle Avionics Integration Laboratory. In November, 1996, Kalpna Chawla was assigned as mission specialist and prime robotic arm operator on STS-87.



By: Soheil.

Paul Dirac.

03/16/2023.



- He came up with the theory of Quantum mechanics which provide a description of the physical properties of nature at the scale of atoms and sub-atomic particles.
- He is thought to have **autism** as he was prone to very long silences, responded emotionlessly to certain events, as well as taking a very literal interpretation of statements made by others - These are all traits of autism.

- Paul Dirac's full name is Paul Adrien Maurice Dirac.
- He was born on the 8th of August 1902 in Bristol.
- He died on the 20th of October 1984 at the age of 82 in Tallahassee, Florida, USA.
- He studied Theoretical Physics at both the University of Bristol and the University of Cambridge.
- He is remembered as one of the most significant physicists of the 20th century.



KATHERINE JOHNSON

1918 – 2020: Calculated the trajectory of NASA's first trip into space.



Katherine Johnson was an African-American woman who helped to plan the mission that saw an American astronaut orbit the Earth for the first time at a time when racist laws were still being enforced. The success of the flight was seen as a turning point in the 'space race' with what was then the Soviet Union.

She also had to overcome the sexist stereotype that women are inferior mathematicians to men.

She was so consistently accurate that when NASA began to use computers, they had her check the calculations to make sure they were correct.

She was played by Taraji P Henson in the Oscar-nominated film 'Hidden Figures'.



PROFESSOR MERCEDES T. RICHARDS

STELLAR ASTRONOMER
1955-2016



"It's important to me that I can convey that sense of excitement to my students. I want them to realise it's not just book learning, that there is a sense of adventure and a sense of discovery in every aspect of astronomy." – Professor Mercedes T. Richards commenting on the importance of passion in teaching.

Richards was a mentor and an advocate for the promotion of young people, including women and other underrepresented groups, in physics and astronomy.

Mercedes Tharam Richards was a Jamaican astronomy and astrophysics professor. Her investigation focused on computational astrophysics, stellar astrophysics and exoplanets and brown dwarfs, and the physical dynamics of interacting binary stars systems.

She graduated in 1977, with the degree of BSc in Physics from the University of the West Indies. She then moved to Toronto in 1979, where she received the MS in Space Science at York University, Toronto, and in 1986 she earned her PhD in Astronomy and Astrophysics from the University of Toronto.

During her early years, Richards and her father would go to a botanical garden after dawn and observe the nature around them. He taught her to identify the colour varieties, training that would be useful in her career for the examination of stars.

PROF DR. BINA SHAHEEN SIDDIQUI

1947-2011



Biography

Bina Shaheen Siddiqui holds M.Phil. from University of Karachi, Pakistan in the Year 1978, followed by PhD from University of Karachi, Pakistan, in the Year 1980, followed by D.Sc. from University of Karachi, Pakistan in the year 2001.

She has extended his valuable service for 30 years and has been a recipient of many award and grants.

She has been known to be a famous for being the first Pakistani female scientist to ever win a Nobel peace prize and extended her service by being a Professor of H.E.J. Research Institute of Chemistry, Pakistan.

Her international experience includes various programs, contributions and participation in different countries for diverse fields of study. She is the Editorial board member of Translational medicine.

Scientific

Natural product chemistry directed towards obtaining new molecules bearing potential significance in medicine and agriculture from indigenous plant materials using physical methods of isolation and structure elucidation as well as chemical transformations which sometimes give unexpected new molecules resulting in interesting new findings.

Development of new biopesticides from Neem (*Azadirachta indica*) fruits for use in agriculture and horticulture.

Correlation of structure activity relationship of various potential biological compounds.

Professor at H.E.J. Research InstH.E.J. Research Institute of Chemistry, Karachi, Pakistan

