

Sir James Chadwick

(20 October 1891 – 24 July 1974)



James Chadwick was born in Bollington, Cheshire in England. He went to Bollington Cross Primary School for his primary education. He was offered a scholarship to Manchester Grammar School, still he could not avail the opportunity because his parents were not able to afford the small fees to be paid. Instead he attended the Central Grammar School for Boys in Manchester staying with his parents. At the age of 16, he qualified two examinations for university scholarships.

James Chadwick graduated from the Victoria University of Manchester in 1911, where he studied under Ernest Rutherford. After his master's degree, Chadwick chose to study beta radiation under Hans Geiger in Berlin. Using a Geiger counter, Chadwick was able to demonstrate that beta radiations are produced as continuous spectrum not discrete lines. Chadwick earned his Doctor of Philosophy degree under Rutherford's supervision in the Cavendish Laboratory at the University of Cambridge.

Chadwick continued his research on measuring the mass of the neutron (mass of the neutron is 1.00866 atomic mass units). He predicted that neutrons would become a major weapon in the fight against cancer, which has now become a reality. Chadwick left the Cavendish Laboratory in 1935 to become a professor of physics at the University of Liverpool, where he installed a cyclotron. This has been an important center for the study of nuclear physics.

He was awarded the 1935 Nobel Prize in Physics for his discovery of the neutron.

Teachers may suggest students to make a collage of photographs of scientists in physics depicting the advancements in the subject.