



John Dalton

1766 - 1844

Dalton was one of the founders of Atomic Theory. **Both Chemistry and Physics have been completely changed by Dalton's work.** Dalton's name is also remembered in connection with colour blindness, the so called '*Daltonism*'. Both Dalton and his brother were colour blind and he was the first to describe this phenomenon in his work 'Extraordinary Facts Relating to the Vision of Colours'.

John Dalton was born in the village of Eaglesfield in Cumbria. He was the third of six children of a Quaker weaver, who did not register the date of his son's birth. John was educated at the village school until the age of 11, but he was largely self-taught. At the age of only 12, Dalton himself started to teach in the village school and after two years he joined his elder brother as an assistant at a school in Kendal. His wealthy friend and tutor, Quaker Robinson, first encouraged his interest in meteorology and until his death Dalton maintained a diary of weather observations.

In 1793 Dalton moved to Manchester and was appointed as a teacher of mathematics at New College Presbyterian Institute.

In 1794 he was elected to the Manchester Literary and Philosophical Society at which most of his papers were read. After six years he resigned from the College and worked as a private tutor to make a living and in order to provide for his own research.

Studying the physical properties of the atmosphere and other gases, he obtained the law of partial pressures in a mixture of gases, (*Dalton's law*), and asserted that air is a mixture, not a compound, in which the various gases exert a pressure on the wall of a vessel independently of each other.

Drawn & Etched by J. Stephenson

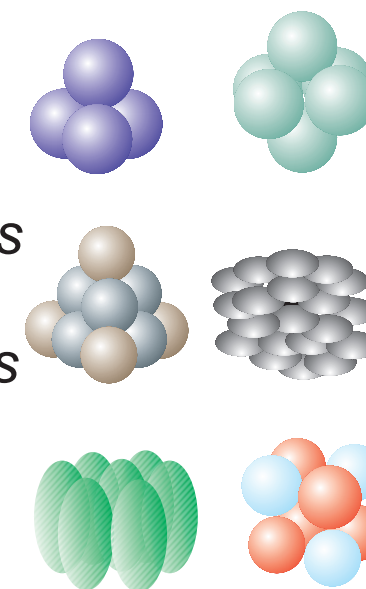


He was colour blind



ELEMENTS			
Hydrogen 1	Strontian 86		
Azote 5	Barytes 68		
Carbon 5	Iron 56		
Oxygen 7	Zinc 65		
Phosphorus 9	Copper 63		
Sulphur 16	Lead 207		
Magnesia 24	Silver 197		
Lime 28	Gold 197		
Soda 46	Platina 197		
Potash 56	Mercury 200		

Matter is made of atoms



His atomic theory recognized that all matter is made up of combinations of atoms. The atoms of different elements have different weights and properties. He presented a list of atomic weights (*many of which were improved later*). Dalton concluded that in the chemical combination of different elements, atoms join together in definite simple numbers to form compound atoms (*now called molecules*). Dalton used spherical balls for the representation of atoms and molecules, as is still often done today.

After he had produced his atomic theory, Dalton was offered nomination to the Royal Society in 1810, but he refused. **Apparently, he regarded himself as merely a school teacher.** However, he was elected to the Royal Society in 1822 without his consent!

According to his biographers, Dalton was duly honoured in his lifetime abroad sooner than in England, or, one should say, than in London. However, he did receive an Honorary Degree from Oxford in 1832. When Dalton traveled to Paris in 1822 he had the privilege of being introduced to distinguished French scientists, and he visited Ampère's laboratory.

It is said that in his chemical and physical research Dalton was a somewhat crude experimentalist. His instruments were simple and some of them even made by himself. He distrusted the results of other scientists, preferring to rely on his own experiments.

Throughout his life Dalton retained his Quaker habits and dress; and his life was 'monotonous in form and in detail'. He never married. As he became older he had fewer and fewer friends and he became even more deeply engrossed in his research.