

Hermann Ludwig Ferdinand von Helmholtz

Compiled by: **Shweta Singh**
G.S.V.M. Medical College, Kanpur, India



1. **Hermann Ludwig Ferdinand von Helmholtz** (August 31, 1821 – September 8, 1894) was a German physician and physicist who made significant contributions in several scientific fields.
2. Helmholtz was born in Potsdam the son of the local Gymnasium headmaster, Ferdinand Helmholtz, who had studied classical philology and philosophy.
3. In physiology and psychology, he is known for his mathematics of the eye, theories of vision, ideas on the visual perception of space, colour vision research, and on the sensation of tone, perception of sound, and empiricism in the physiology of perception.
4. Trained primarily in physiology, Helmholtz wrote on many other topics, ranging from theoretical physics, to the age of the Earth, to the origin of the Solar System.
5. In physics, he is known for his theories on the conservation of energy, work in electrodynamics, chemical thermodynamics, and on a mechanical foundation of thermodynamics.
6. As a philosopher, he is known for his philosophy of science, ideas on the relation between the laws of perception and the laws of nature, the science of aesthetics, and ideas on the civilizing power of science.
7. Helmholtz revolutionized the field of ophthalmology with the invention of the direct ophthalmoscope; an instrument used to examine the inside of the human eye. Although some credit the invention of the ophthalmoscope to Charles Babbage in 1847, it was not until it was independently reinvented by Hermann von Helmholtz in 1851 that its usefulness was recognized.
8. In 1881, Helmholtz was elected Honorary Fellow of the Royal College of Surgeons in Ireland.
9. On 10 November 1881, he was awarded the Légion d'Honneur: au grade de Commandeur, or Level 3 - a senior grade. (No. 2173).
10. The largest German association of research institutions, the Helmholtz Association, is named after him. The asteroid 11573 Helmholtz and the lunar crater Helmholtz as well as the crater Helmholtz on Mars were named in his honour. In Charlotte burg, Berlin, the street Helmholtzstraße is named after von Helmholtz.