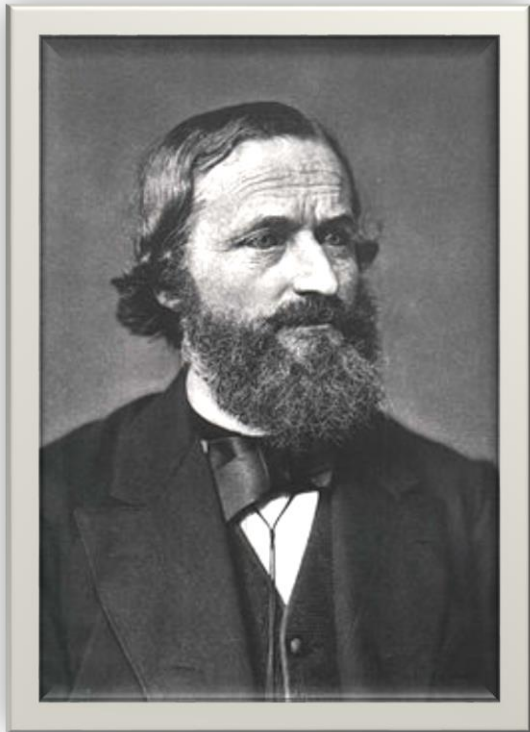


## **Gustav Robert Kirchhoff**

(1824 – 1887)



Gustav Robert Kirchhoff was born in Königsberg, Prussia. His father Friedrich Kirchhoff, was a lawyer. He graduated from the Albertus University of Königsberg in 1847. He was a German physicist who contributed to the fundamental understanding of electrical circuits, spectroscopy, and the emission of black-body radiation by heated objects. Mainly known for his development of spectroscopy, he also made many important contributions to mathematical physics, among them, his first and second rules for circuits.

In 1845, Kirchhoff first announced Kirchhoff's laws, which allow calculation of currents, voltages, and resistances of electrical networks. He further studied that current flows through a conductor at

the speed of light. In 1862, he was awarded the Rumford Medal for his researches on the fixed lines of the solar spectrum, and on the inversion of the bright lines in the spectra of artificial light. Kirchhoff went further to apply spectrum analysis to study the composition of the Sun. He found that when light passes through a gas, the gas absorbs those wavelengths that it would emit if heated. In 1875, Kirchhoff was appointed to the chair of mathematical physics at the University of Berlin. In 1884 he became foreign member of the Royal Netherlands Academy of Arts and Sciences. He also contributed to optics, carefully solving Maxwell's equations to provide a solid foundation for Huygens' principle.

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