Inventor Profile: **Alexander Graham Bell**

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| **AT A GLANCE:**Alexander Graham Bell, American inventor and teacher of the deaf, was most famous for his invention of the telephone. Since the age of 18, Bell had been working on the idea of transmitting speech. In 1874, while working on a multiple telegraph, he developed the basic ideas for the telephone. His experiments with his assistant Thomas Watson finally proved successful on March 10, 1876, when the first complete sentence was transmitted: "Watson, come here; I want you." |  |
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| lexander Graham Bell photo courtesy www.sciencetech.technomuses.ca |

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| **Birth:** | March 3, 1847, in Edinburgh, Scotland |
| **Death:** | August 2, 1922, at Baddeck, Nova Scotia, Canada |
| **Nationality:** | Scottish |

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| **Invention:** | telephone on March 10, 1876 |

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| arly telephone photo courtesy www.att.com |

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| **Function:** | noun / tel·e·phone |
| **Definition:** | An instrument which converts sound, specifically the human voice, to electrical impulses of various frequencies and then back to a tone that sounds like the original voice. |

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**The Story: (Must tell inventor’s life story to date. Consider birth, childhood, family, education, inspiration, life challenges, research, interests, publications, failures, health issues, colleagues, awards, etc.)**

Alexander Graham Bell was born on March 3, 1847, in Edinburgh, Scotland, and educated at the universities of Edinburgh and London. He immigrated to Canada in 1870 and to the United States in 1871. In the United States he began teaching deaf-mutes, publicizing the system called visible speech. The system, which was developed by his father, the Scottish educator Alexander Melville Bell, shows how the lips, tongue, and throat are used in the articulation of sound.

In 1872 Bell founded a school for deaf-mutes in Boston, Massachusetts. The school subsequently became part of Boston University, where Bell was appointed professor of vocal physiology. He became a naturalized U.S. citizen in 1882.

Since the age of 18, Bell had been working on the idea of transmitting speech. In 1874, while working on a multiple telegraph, he developed the basic ideas for the telephone. His experiments with his assistant Thomas Watson finally proved successful on March 10, 1876, when the first complete sentence was transmitted: "Watson, come here; I want you." Subsequent demonstrations, particularly one at the 1876 Centennial Exposition in Philadelphia, Pennsylvania, introduced the telephone to the world.

He improved the results with a series of experiments over the next few months, including a critical test with this instrument on November 26. That day he transmitted sound clearly over a wire between Cambridge and Salem, Massachusetts. This design, used for both the transmitter and the receiver, became standard for the commercial instruments introduced in 1877.

In 1877, Bell and his investors Gardiner Hubbard and Thomas Sanders formed the Bell Telephone Company to operate local telephone exchange operations.In 1882, American Bell acquired a controlling interest in the Western Electric Company, which became its manufacturing unit. The American Telephone and Telegraph Company was incorporated on March 3, 1885 as a wholly owned subsidiary of American Bell, chartered to build and operate the original long distance telephone network.

In 1880 France bestowed on Bell the Volta Prize, worth 50,000 francs, for his invention. With this money he founded the Volta Laboratory in Washington, D.C., where, in that same year, he and his associates invented the photophone, which transmits speech by light rays. Other inventions include the audiometer, used to measure acuity in hearing; the induction balance, used to locate metal objects in human bodies; and the first wax recording cylinder, introduced in 1886. The cylinder, together with the flat wax disc, formed the basis of the modern phonograph.

After 1895 Bell's interest turned mostly to aeronautics. Many of his inventions in this area were first tested near his summer home at Baddeck on Cape Breton Island in Nova Scotia, Canada. His study of flight began with the construction of large kites, and in 1907 he devised a kite capable of carrying a person. With a group of associates, including the American inventor and aviator Glenn Hammond Curtiss, Bell developed the aileron, a movable section of an airplane wing that controls roll. They also developed the tricycle landing gear, which first permitted takeoff and landing on a flying field.

Applying the principles of aeronautics to marine propulsion, his group started work on hydrofoil boats, which travel above the water at high speeds. His final full-sized "hydrodrome," developed in 1917, reached speeds in excess of 113 km/h (70 mph) and for many years was the fastest boat in the world. He died on August 2, 1922, at Baddeck, where a museum containing many of his original inventions is maintained by the Canadian government.