Scientists and Inventors Whose Work and Discoveries Influenced Nikola Tesla's Early Career

(600 BC—1873)

Nikola Tesla was born in 1856, but quite a few important scientific discoveries had already been made in the centuries before his birth. Below is a timeline of early scientists and their discoveries before Nikola Tesla began his career, and many of them greatly influenced his work.

600 BC—**Thales of Miletus** (624 BC-546 BC), a Greek mathematician and philosopher, discovered static electricity when he rubbed fur against amber (fossilized tree resin) and found it attracted lightweight objects, like feathers, to itself.

1720—**Stephen Gray** (1666-1736), an English astronomer and scientist, discovered conductors and insulators. He also experimented with electrical induction, and his demonstration called the 'flying boy' caused a great sensation.

1745— **Ewald von Kleist** (1700-1748), a German physicist, invented a jar which could store electricity in large quantities. It was further investigated by **Pieter van Musschenbroek** (1692-1761), a Dutch scientist, in the city of Leyden in early 1746. The Leyden jar, an early sort of capacitor, stored an electric charge, which could then be discharged at the scientist's will.

1752—**Benjamin Franklin** (1706-1790), an American author, politician, and scientist, proved that lightning was an electrical charge with his kite experiment. He also tested and explained how Leyden jars store an electric charge.

1780—**Luigi Galvani** (1737-1798), an Italian physician and physicist, did experiments that showed how electricity affects living tissue, especially muscle. He touched the nerves in a dead frog's legs with an electrically charged scalpel, making them 'twitch.' He mistakenly believed he'd discovered a new type of electricity, called animal electricity.

1800—**Alessandro Volta** (1745-1827), an Italian scientist, disputed Galvani's frog legs experiment. He said the dead frog's legs twitched because of the differently charged metals used—and not from electricity within the animal. But his main scientific contribution was creating the voltaic pile or the first electrical battery. Volta's battery was able to provide a continuous electrical current in a circuit. He also worked with electrolysis.

1820—**Hans Christian Ørsted** (1777-1851), a Danish physicist and scientist, and **André-Marie Ampère** (1775-1836), a French physicist, both experimented and discovered the connection between electricity and magnetism.

1825—**William Sturgeon** (1783-1850), and English physicist and inventor, created the first electromagnet.

1827—**Georg Ohm** (1789-1854), a German physicist, studied and introduced the concept of electrical resistance. Ohm's Law is named after him.

1831—**Michael Faraday** (1791-1867), an English scientist, discovered how to use magnets to create an electric current by pushing and moving a magnet through a coil of wire. This is called electromagnetic induction.

1862—**James C. Maxwell** (1831-1879), a Scottish physicist and mathematician, created four mathematical equations, later called the Maxwell equations of electromagnetism. He based his formulas on studies and discoveries of previous scientists, especially the work of Michael Faraday. These equations proved the connection between electricity, magnetism, and light and influenced modern-day physics.

1870-1873—**Zénobe Gramme** (1826-1901), a Belgian engineer, developed a DC generator. In 1873, Gramme discovered that if the machine was reversed, it could be used as a motor.