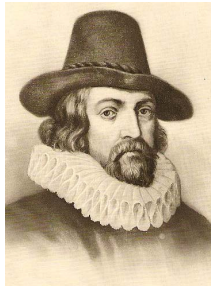


# Other Discoveries of the Revolution

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## Sir Francis Bacon

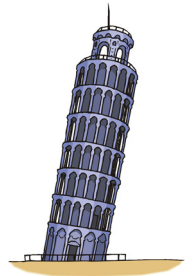
•Sir Francis Bacon (1561-1626) was a multi-talented Englishman. He was a lawyer, philosopher, statesman and scientist.



•Bacon's scientific work provided a blueprint for future scientists, as he used *inductive reasoning* which is key in the *scientific method*.  
•Inductive reasoning suggests that conclusions are drawn or theories are made based on the observed facts in evidence. This became the cornerstone of the scientific method.

## Galileo

•Galileo also conducted experiments in motion. Most famously, he is said to have dropped a heavy and a light object from the Leaning Tower of Pisa to show that objects fall at the same rate, regardless of mass (directly contradicting Aristotle).  
•He also suggested that an object in motion tended to remain in motion unless slowed by friction. He was not the first to suggest this, but he was able to verify it experimentally and express it mathematically.



## Mathematicians

•Both René Descartes and Blaise Pascal developed mathematical and philosophical theories in France.

•Descartes created analytic geometry – the bridge between algebra & geometry and the precursor to calculus. He is also considered the *Father of Modern Philosophy* as he attempted to prove existence with his phrase, "I think, therefore I am".



•Pascal was an important mathematician, physicist and philosopher. He is known for his mathematical contribution of Pascal's triangle, and his contribution to physics in Pascal's law.

•Both Gottfried Leibniz and Isaac Newton developed *calculus*, apparently at the same time, but independently of each other. There were accusations of intellectual theft on both sides, but importantly, calculus became an essential tool for scientific advances.

## Advances in Medicine

•There were three prominent scientists that made advances in the area of medicine: *Andreas Vesalius*, *Ambroise Paré* and *William Harvey*.

•Andreas Vesalius was a physician who is often considered the Father of Modern Human Anatomy. He employed some of the best artists of the day to help him illustrate his book *On Human Anatomy*.

•Ambroise Paré was a French surgeon who first used ointments to prevent infection. Originally, boiling oil or cauterization (burning) was used to close battlefield wounds. Paré ran out of oil, and used an ointment containing turpentine. This was very effective – fewer wounds became infected, and it was less painful for patients.



•William Harvey was an English physician who correctly identified that the heart acted as a pump to circulate the blood throughout the body. He also correctly identified the two circulatory tracts.