

INVENTORS

Archimedes

HIGHLIGHTS

1. Archimedes lived during the reign of King Heiro II, who ruled Syracuse from 270 B.C. until 216 B.C.
2. Heiro was dedicated to the peace and prosperity of his city and built many temples, theaters, and fortifications to protect it,
3. During his 54-year reign, he reportedly ruled “without killing, exiling, or injuring a single citizen,” an extraordinary achievement for the times.
4. This environment allowed Archimedes, Hiero’s resident genius, to concentrate on some of the greatest math and science discoveries ever.

THE PERSON

1. Archimedes was born in Syracuse, then a Greek city-state, about 287 B.C.
2. He was a wealthy aristocrat who never had to worry about a living and could devote his time to what interested him.
3. As a youth, he studied in Alexandria, then the scientific center of the world.

4. One of his teachers was Euclid, the ancient Greek who founded modern day geometry.
5. Archimedes’ inventions helped keep his city safe from attacking armies until the Romans finally overpowered Syracuse in 212 B.C.
6. Archimedes was killed at age 75 by a Roman soldier within a few hours of the Roman invasion.

ACCOMPLISHMENTS

1. Archimedes developed the principle of Specific Gravity.
2. He created the Archimedes Principle, that a floating body loses in weight an amount equal to the weight of the water it displaces.
3. He created the compound pulley, a tool known today as the block and tackle.
4. He developed the Archimedes Screw, a hollow cylinder with spirals like a screw that was used to pump out flooded ships.
5. He developed advanced mathematical systems, many of which weren’t discovered until some of his writings were uncovered in 1906.

6. Operating in a place and at a time that were ages behind his own mind, Archimedes must have been viewed more as a wizard than a genius. Unfortunately, he made few attempts, if any, to preserve his writings.

UNIQUE INFLUENCE

1. It was Archimedes who elevated mathematics from a mental exercise to a practical tool for solving problems.
2. He figured out the effects of gravity and weight distribution on buildings, dams, bridges, and other structures, just as engineers do today.
3. One can only wonder how the world might have progressed had not the work of Archimedes been buried for more than 1,500 years. By the time his work was discovered, many of his truths had been relearned by those who followed him.
4. Archimedes was an inspiration to many who followed him, including Newton and Galileo.
5. The methods Archimedes discovered at the very dawn of science pointed the way to the advances of today.

QUOTABLE QUOTES

Once, Galileo was answering an argument against the law for the path of projectiles. He said in rebuttal, “The authority of Archimedes alone will satisfy everyone.”

His mind focused on finding a method to determine whether the king crown was pure gold or alloyed with silver Archimedes stepped into a bath and noticed that gold displaced less water than an equal weight of silver (which is less dense than gold); and he is said, in his excitement at his discovery, to have run home naked, shouting “Eureka! Eureka!” “I have found it! I have found it!”

The historian Plutarch once wrote about Archimedes, “He possessed so high a spirit, so profound a soul, and such treasures of scientific knowledge, that though these inventions had now obtained for him the renown of more human sagacity, he yet would not design to leave behind him any writing on such subjects.”

The 1906 find of Archimedes work was hailed as “One of the most revealing documents in history, not only of ancient science, but of science in general at all times.”