

Eureka!

*By Dennis Payton Knight*

Archimedes had been commanded by the king to assess whether a goldsmith had cheated him by substituting an equal measure of silver into his new crown of what was supposed to be pure gold. Old Archie was stepping into the tub for his bath when he noticed the water level rise. It was an aha moment in which he saw the solution to his thorny challenge: displacement of water was a means to measure volume. Legend has it that Archimedes then streaked naked through the streets of Syracuse proclaiming, "Eureka! Eureka! I have found it!"

Alexander Fleming, a research biologist and chemist, thought there might be a substance in mucus that worked as an antibiotic. He smeared Petri dishes with bacteria and his own phlegm, and went on vacation. When he returned after two weeks, the mucus had killed none of the bacteria, but instead mold had contaminated one of the samples, and the bacteria around it had died. When Fleming examined the intrusive mold he saw it was producing a chemical that killed the bacteria. It was the discovery of penicillin.

Albert Einstein was working in the patent office in Bern, Switzerland. He thought, in a moment of profound mental distraction, "If a man falls freely he would not feel his weight." Later he said this idea had made a deep impression on him. Einstein's aha moment led to his creation of the general theory of relativity.

Noah and Joseph McVicker tried to invent a wallpaper cleaner in the form of putty, but it failed. However, a kindergarten teacher found it handy for modeling clay and the McVickers were in the Play-Doh business. When Ingvar Kampard took the legs of a table to get it into his car, he had a eureka moment and Ikea was born.

A chemist named Spencer Silver mixed substances looking for a strong adhesive but produced a weak one instead. His colleague Arthur Fry realized he could use it to stick temporary notes in his hymn book, and thus the Post-It Note was invented.

George de Mestral was on a hunting trip in Switzerland when he observed cockleburs attaching to his dog's fur. He took some home, examined them under a microscope, and came up with Velcro. Richard James was working on developing new springs to steady equipment aboard ships. When he accidentally knocked some working samples over, they walked across the floor, and the Slinky was born. Perry Spencer was working around microwave transmitters and noticed a chocolate bar in his pocket had started to melt. He put popcorn kernels in front of the source. They popped, and soon microwave ovens were popping up in kitchens around the world.

I've have had aha moments, too, like recognizing that cars need oil and tires need air. I've made a few pancakes that could have been used to clean wallpaper, and this morning I found some mold in my refrigerator that just might be the cure for old age. Eureka!