

Lakeland Central School District
Lakeland Copper Beech Middle School, Yorktown Heights, New York
A Tribute to Space Exploration: Past, Present, Future

Technologies Inspired by NASA

People sometimes question the importance of going to space. They question why we need to explore space, and often discuss the cost that is incurred on space missions. What most people don't realize is that for every dollar the United States spends on a mission, it generates, or makes, seven dollars or more into the economy.

Spaceflight has inspired many inventions that have changed our everyday lives. NASA developed technologies (inventions) to make traveling to space possible and safe, and many of those inventions are passed on to people on Earth to use in their daily lives. NASA has inspired many inventions of the past and today. Engineers have developed more than 2,500 inventions that we use on Earth. These inventions include UV (ultraviolet) sunglasses, cell phones, compression chamber sneakers (air shocks), iron man watches (LCD), portable computers, laser technology, space heaters, food processing controls (freeze-dried foods), orthodontic wires (wires for your braces), smoke detectors, long-lasting batteries, and no-stick pans.

Sneakers:

Did you know that athletic sneakers originated from space? Yes, it is true. Many of the athletic shoes that you buy today have a layer of cushioning that was originally developed for walking on the moon. Alexander L. Gross, an aerospace engineer of Lunar Tech., Inc. designed a shoe that would retain its shock absorption, stability, and flexibility. In durability tests at Penn State Center, the Compression Chamber mid-sole was subjected to stresses equivalent to 400 miles of running and showed no signs of wear or structural fatigue. It was said to be the first step towards a completely foamless, mid-sole that would never wear out.

UV Sunglasses:

Did you ever wonder where UV sunglasses came from? Well, Suntiger Inc. Biomedical Optics from North Hollywood, California produced a line of sun filtering glasses that protect human vision by blocking blue, violet, and ultraviolet light. UV sunglasses block out the intense glints of reflected sunlight. They were first designed for astronauts to wear to protect their eyes from harmful rays from the sun.

Cordless Products:

One successful invention taken from NASA is cordless products, including cell phones, rechargeable drills, and handheld vacuum. Etc. Astronauts from the Apollo era used the first drill to collect rock samples from the moons surface. This lunar surface area is very hard so astronauts had to use a tool that could cut into at least ten feet of surface area. This drill was both lightweight and compact. It also had its own power source.

Lakeland Central School District
Lakeland Copper Beech Middle School, Yorktown Heights, New York
A Tribute to Space Exploration: Past, Present, Future

Portable Computers:

In 1983 the first high performance navigation monitoring computer was developed. The shuttle portable onboard computer was the first true portable laptop computer, produced by GRID Systems Corporation, in Fremont, California. NASA wanted a separate computer to provide reliable monitoring of the craft's orbital path and a visual display of its position at any time. This computer had to be both small and lightweight. It also had to have graphic display capability, a large memory storage capacity, high processing speed, and had to be able to withstand launch vibration.

Food Processing Control:

How and what do you feed an astronaut? This was one question that had to be answered by NASA. NASA officials had several concerns. One was how to prevent food crumbs from contaminating the spacecraft's atmosphere. They were also worried about bacteria and toxins entering their bodies. To solve these problems NASA developed space foods. Pillsbury quickly solved the first problem by coating bite-sized foods to prevent crumbling. Pillsbury developed the Hazard Analysis and Critical Control Point concept, which was designed to prevent food safety problems. The Critical Control Points included, cooking, chilling, re-hydrating, pasteurizing, chilling again, and storing food. Pillsbury used this process to manufacture the food that went to the moon aboard the Apollo spacecraft. This began in the year 1969.