

Big life Journal

Did you know many of the products we use or food we eat were created by mistake? It's true! Everything from microwave ovens, to SuperGlue ( $^{TM}$ ) and, chocolate chip cookies were created by accident. Check out the list below to see some ingenious inventions. And remember — making mistakes is an important part of life! Who knows what you could create?

### **PLASTIC**

INVENTOR: LEO HENDRIK BAEKELAND

Leo Hendrik Baekeland accidently created plastic when trying to invent a replacement for shellac, an expensive product obtained from lac beetles. He created a polymer called Bakelite (plastic) that was unique, as it didn't melt under heat and stress. It was the first synthetic material to stand on its own.

### **FRISBEE®**

INVENTOR: WILLIAM RUSSELL FRISBIE, FOUNDER FRISBIE PIE COMPANY

William Frisbie opened the Frisbie Pie Company in 1871. Schoolchildren would throw empty pie tins to each other, yelling "Frisbee!" as they let go. Frisbee was picked up by Wham-O, an American toy company. It is one of the world's most popular toys.

## POST-IT NOTES®

INVENTOR: ARTHUR FRY, CHEMICAL ENGINEER

In 1974, Arthur Fry sung in a choir and kept having a problem with losing his song page. He recalled a seminar by Spencer Silver on a low-tack adhesive and had the idea to use some of the adhesive on a slip of paper to help save the page in his songbook.

**SLINKY**®

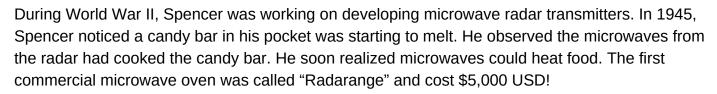
INVENTOR: RICHARD JONES, U.S. NAVAL ENGINEER



In 1943, Richard was working to develop a spring that would stabilize and support sensitive equipment on ships at sea. When accidentally knocking a sample off a shelf, the spring "stepped" as it fell on various objects, then re-coiled itself and stood upright. Richard and his wife, Betty, came up with the name Slinky (™), meaning "sleek and graceful."

### MICROWAVE OVEN

### INVENTOR: PERCY SPENCER. AN ENGINEER AT THE RAYTHEON COMPANY



**VELCRO®** 

## INVENTOR: GEORGE DE MESTRAL. A SWISS ENGINEER

In 1941, George was out for a walk in the Jura Mountains in Switzerland. He noticed burdock seeds were clinging to his coat and dog and he wondered if he could turn it into something useful. It took eight years of research to successfully reproduce a strip with tiny hooks and another strip with tiny loops. The name Velcro (™) is a combination of the words "velvet" and "crochet" and was later patented in 1955.

## CHOCOLATE CHIP COOKIES

## INVENTOR: RUTH GRAVES WAKEFIELD AND SUE BRIDES, AMERICAN CHEFS



The first chocolate chip cookie was created at the Toll House Inn in 1938. One day, Ruth Graves went to make a batch of chocolate butter drop cookies to serve to her quests. She discovered she was out of baker's chocolate. She decided to chop up a block of Nestlé semi-sweet chocolate that was gifted to her by Andrew Nestlé of the Nestlé Company. She expected the chocolate to melt throughout the cookie but instead, the chocolate retained its form. The first known chocolate chip cookie was invented! She called her invention the "Chocolate Crunch Cookie."

## X-RAY IMAGES

## INVENTOR: WILHELM CONRAD RÖNTGEN, GERMAN MECHANICAL ENGINEER AND PHYSICIST

On November 8, 1895, Wilhelm stumbled on X-rays while experimenting with Lenard tubes and Crookes tubes, electrical discharge tubes. He discovered that a piece of barium platinocyande glowed across the room, even though the tube was encased in thick black cardboard and theorized radiation must be traveling through space. He tested his theory on his wife and created the first X-ray by capturing images of the bones in her hand.

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**POPSICLES**®

**INVENTOR: FRANK EPPERSON** 



In 1905, an 11-year-old boy from San Francisco accidentally invented the Popsicle (™). He mixed a sugary soda powder with water and a wooden spoon for stirring, then forgot about it and left it outside, where it froze overnight. In the morning, Frank discovered he had made a delicious treat. He named it an "Epsicle", by using part of his name and the word "icicle". He began selling the treat around his neighborhood. He expanded his sales by selling at Neptune Beach and a nearby amusement park.

### **INKJET PRINTERS**

INVENTOR: ICHIRO ENDO, A CANON RESEARCHER

Ichiro invented the first thermal inkjet printer in 1977. He saw a syringe full of ink accidentally being touched with a hot iron. He noticed the heat caused the ink to increase in volume and gush out. He realized this was a perfect way of delivering controlled spurts of ink and within days he had produced a working model of the printer.

### **PENICILLIN**

INVENTOR: DR. ALEXANDER FLEMING, A BACTERIOLOGIST AT ST. MARY'S HOSPITAL

Dr. Fleming returned from summer vacation to find his lab messy and unorganized. He noted that a mold called penicillium had contaminated his Petri dishes. After placing the mold under a microscope, he was amazed the mold had prevented the normal growth of staphylococci, a group of bacteria. Penicillin is one of the world's first antibiotics.

## SILLY PUTTY®

**INVENTOR: JAMES WRIGHT** 

There was a shortage of rubber during World War II and the US government was researching ways to create a synthetic rubber compound. James Wright and his colleague, Rob Roy McGregor, discovered that mixing boric acid and silicone oil would produce a gooey and bouncy material. Later, toy store owner, Ruth Fallgatter, and marketing consultant, Peter C. L. Hodgson, decided to market the putty and called it Silly Putty (™).

## PLAY-DOH®

INVENTOR: JOSEPH AND NOAH MCVICKER

In the mid 1930s, burning coal was a way to heat homes. It left soot on the wallpaper and it was hard to clean. Joseph and Noah McVicker were trying to make wallpaper cleaner to help stop the soap company Kutol from going bankrupt. The clay-like cleaner they invented was no longer needed with people switching from a coal-based home heating to natural gas. It was marketed a year later by toy manufacturer Rainbow Crafts.

SUPER GLUE®
INVENTOR: HARRY COOVER

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In 1942, Harry Coover was searching for materials to make clear plastic gun sights. Instead, he discovered a quick bonding adhesive that stuck to everything and was not suitable for his current project. Later in 1951, Coover was working on another project and recognized the opportunity for it to be used in commercial markets by Kodak, a company that produces camera-related products, as Super Glue ( $^{TM}$ ).

### **FIREWORKS**

INVENTOR: THE ANCIENT CHINESE

Some of the first fireworks were created by the ancient Chinese when they created a crude gunpowder. They were looking for a recipe for eternal life. They would pack gunpowder into bamboo shoots and when tossed into a fire, it created a loud sound and exploded. The Chinese used fireworks to celebrate important events in life and the technology is still used today all over the world.

#### POTATO CHIPS

INVENTOR: GEORGE CRUM, A CHEF AT THE MOON LAKE LODGE RESORT

One day in 1953, a customer at the resort complained that their French-fried potatoes were soggy and too thick. Crum sliced several potatoes very thinly, fried them and added salt. The customer loved the crispy fried potatoes and soon they came to be called "Saratoga Chips."

#### **PACEMAKER**

INVENTOR: WILSON GREATBATCH, PROFESSOR OF ENGINEERING AT THE UNIVERSITY OF BUFFALO

Wilson Greatbatch was working as a medical researcher and was building an oscillator to record heart sounds. He accidentally pulled the wrong resistor, a device that limits the flow of electrons through a circuit, out of a box, and when he assembled his device, it gave off a rhythmic electrical pulse. It was then he realized this could be used as a pacemaker, an electronic device implanted beneath the skin for providing a normal heartbeat by electrical stimulation of the heart muscle, used in certain heart conditions.

## ICE CREAM CONE

INVENTOR: THE IDEA OF ICE CREAM CONES DATES BACK TO THE 1800S IN FRANCE AND EUROPE AND THEN TO THE USA IN THE EARLY 20TH CENTURY.

In 1904 at the St. Louis World's Fair, a concessionaire name Arnold Fornachou was running short on paper cups to hold ice cream. He noticed a waffle vendor named Ernest Hamwi who sold Arnold some of his waffles. Arnold rolled the waffles into a cone to hold the ice cream.

