



Have you ever played with Tinker Toys or Lincoln Logs? Do you have a Raggedy Ann doll? Just think about the toys that your great-grandparents, grandparents, or your parents may have played with when they were your age. Here are just a few of the popular toys in history that may still be around today. Check out from what, how, and when these toys were invented and the chemistry that was involved in discovering or creating each of them.

About 3,000 years ago

Kites



What is it? A light-weight frame covered with material that can be flown in the wind.

History: People in China discovered kites. Because they were invented so long ago, no one knows exactly by whom or how they were developed.

Where's the Chemistry? Chemists have used kites to collect air in the atmosphere. They can study the air to measure certain types of chemicals, like carbon dioxide and oxygen.

Interesting fact: Kites have been used in many different ways: to fish, to help build a bridge and to deliver messages.



1903

Crayola Crayons



What is it? A small stick of wax that comes in different colors made for drawing.

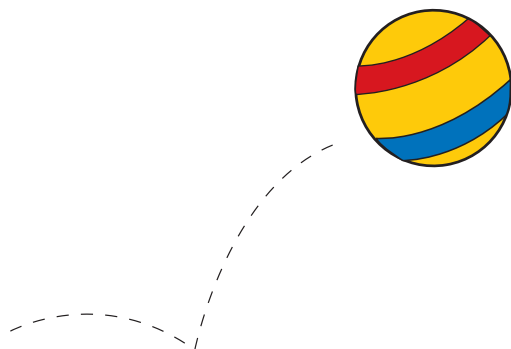
History: Edwin Binney and C. Harold Smith saw a need for a more affordable and better quality crayon.

Where's the Chemistry? Crayons are made from two types of materials. The first is called a wax.

Wax can be a solid or a liquid that comes from petroleum, a natural material found deep in the earth. The second material is a pigment. It is a substance used to give color.

Interesting fact: The first known crayons were made in Europe from recipes used by the ancient Greeks and Romans.

Photo Credit: Binney & Smith, Inc. Records. Archives Center, National Museum of American History, Behring Center, Smithsonian Institution.



1931

Latex Balloons

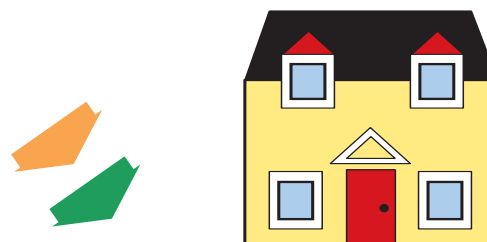


What is it? A flexible bag normally filled with air or other gas.

History: Neil Tillotson drew a picture of a cat's head on cardboard, cut it out, and dipped it into sap from a rubber tree. When it dried, he peeled it off and blew it into a "cat balloon".

Where's the Chemistry? Latex is a naturally occurring milky sap that comes from rubber trees. Latex balloons can be filled with helium, air, or water.

Interesting fact: Latex balloons are biodegradable. Biodegradable means the balloons will begin to break down, like the leaves in your yard.



1943

Silly Putty



What is it? A soft plastic that can bend, bounce and stretch.

History: James E. Wright was an engineer at General Electric. During World War II, there was a shortage of natural rubber. Another form of rubber was needed to produce boots

and tires. Silly Putty was accidentally discovered during the process.

Where's the Chemistry? Silly Putty is a combination of boric acid and silicone oil.

Interesting fact: Zookeepers use it to make casts of animal footprints for identification.

Photo Credit: Binney & Smith, Inc. Records. Archives Center, National Museum of American History, Behring Center, Smithsonian Institution.

1945

Magic Rocks



What is it? Special rocks that grow into magical-looking colored crystals.

History: Jim and Arthur Ingoldsby were in a small store in California when they first saw a "Magic Underwater Garden".

It was a garden with white mountain-like rock formations. They wanted more colorful rocks instead of white.

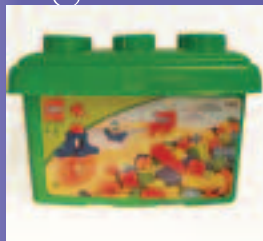
Where's the Chemistry? Magic Rocks use a chemical reaction between Epsom salt and sodium silicate.

Interesting fact: Magic Rocks grow two to four inches in height. They will not grow any higher no matter how many rocks you add to the mix.



1949

Lego



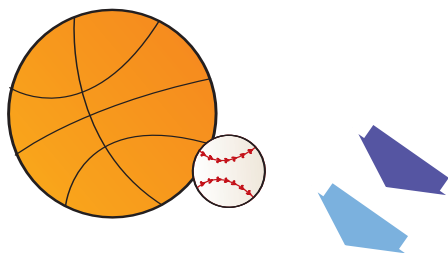
What is it? Plastic interlocking building blocks.

History: Ole Kirk Christiansen's company had already been in business for years making wooden toys. Mr. Christiansen wanted to make interlocking building blocks, but knew

making them out of wood would be too expensive.

Where's the Chemistry? Lego blocks are made out of a type of plastic called acrylonitrile butadiene styrene (ABS). The plastic is heated to very high temperatures and molded into blocks.

Interesting fact: There are replicated Lego structures of Mount Rushmore, the Empire State Building, the Statue of Liberty, and the White House.



1945

Slinky



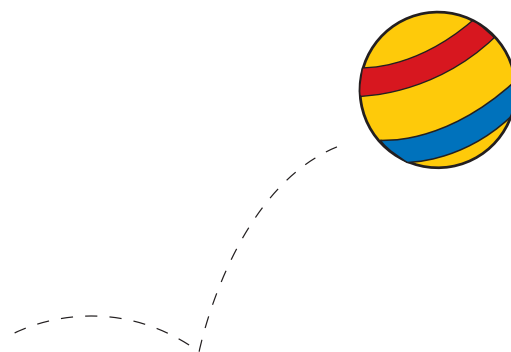
What is it? Coiled steel wire or plastic.

History: As an engineer in the navy, Richard James was trying to develop a meter with springs. When one of his test springs fell on to the ground, it kept "walking". His wife Betty

thought of the name "Slinky".

Where's the Chemistry? Slinkys can be made out of steel or a type of plastic called styrene. Steel is a type of metal. It is a mixture of iron and carbon.

Interesting fact: When stretched all the way, a standard-sized Slinky is 24 meters (80 feet) long.



1956

Play-Doh



What is it? A non-toxic moldable plastic modeling clay.

History: Young Joe McVicker invented this putty-like substance to clean the smudges off of wallpaper.

Where's the Chemistry? The putty-like substance is a type of polymer that can be molded into different shapes.

Interesting facts: Vanilla gives Play-Doh its special scent. At first it was available only in a 1½ pound can in an off-white color.



1958

Etch-A-Sketch



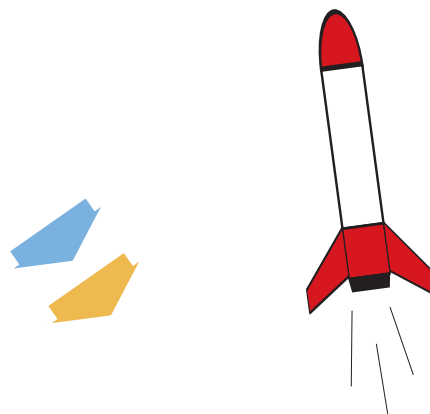
What is it? A box-shaped drawing device controlled by two knobs.

History: Arthur Granjean liked to put things together.

Where's the Chemistry?

Aluminum powder and plastic beads coat the inside of the screen. When you turn a knob, the aluminum dust coating is scratched off the screen to create a line.

Interesting fact: The Etch-A-Sketch's original name was "Magic Screen".



1965

Super Ball



What is it? A ball that bounces with six times the bounce of regular rubber balls.

History: Norman Stingley was a chemical engineer who accidentally discovered the rubbery product, which he called Zectron.

Where's the Chemistry? Rubber is a type of polymer used in many toys. The ingredient that increases the Super Ball's bounce is a secret to this day.

Interesting fact: The name of the NFL championship game "Super Bowl", was inspired by the toy's name, Super Ball.

1974

Magna Doodle



What is it? A "dustless chalkboard".

History: Four engineers from Pilot Pen Corporation wanted to make a toy for writing or drawing.

Where's the Chemistry? Iron and other metal filings are hidden at the bottom of chambers below a

thick liquid. The magnet pulls the dark filings to the top of the liquid where they can be seen.

Interesting fact: A coach of the Cleveland Browns football team once used the Magna Doodle to draw plays for the game.

