

Kid Inventors

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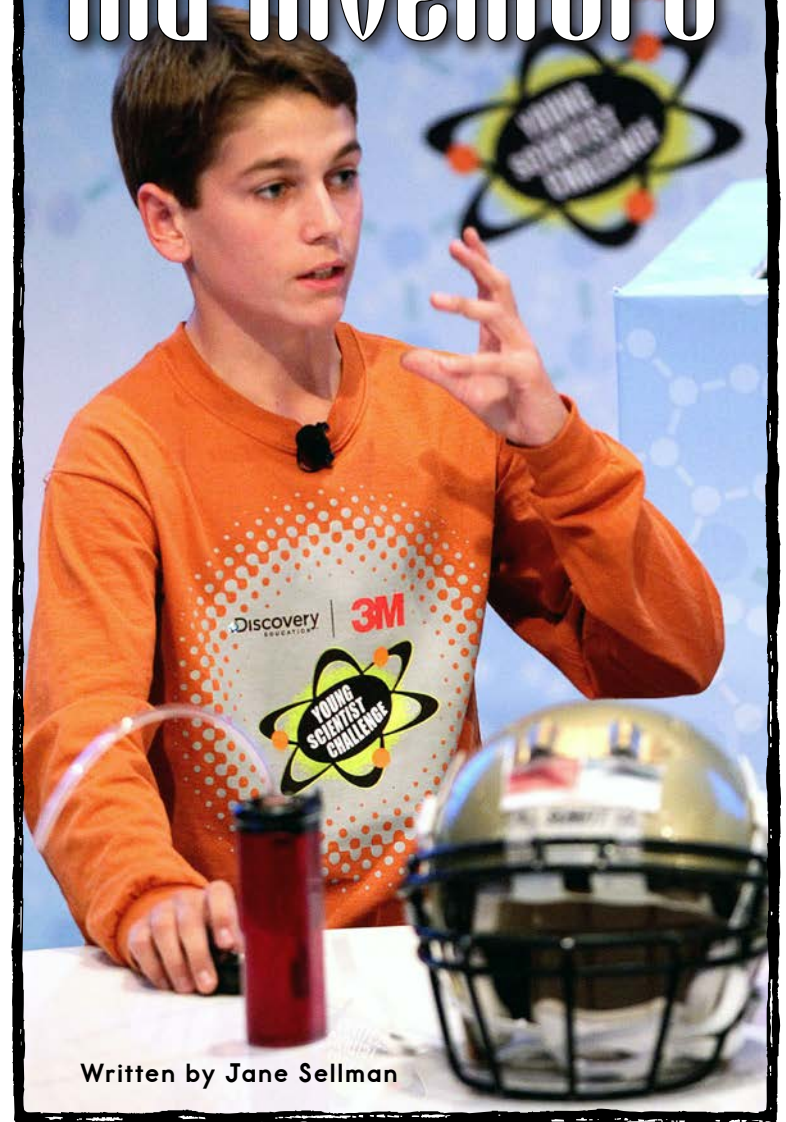


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Kid Inventors



Written by Jane Sellman

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Kid Power!

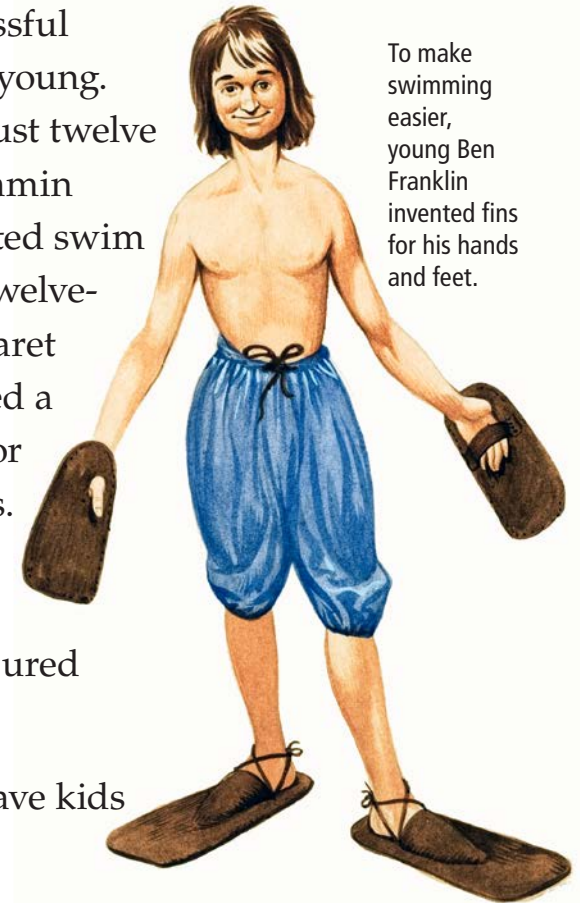
What do Popsicles, snowboards, and trampolines have in common?

Kids **invented** them.

An invention is a new product, process, or service. It may be unique or an improvement over something else.

Many successful inventors start young. When he was just twelve years old, Benjamin Franklin invented swim fins. Another twelve-year-old, Margaret Knight, invented a safety **device** for factory workers. It kept them from getting their fingers injured in machines.

What else have kids invented?



To make swimming easier, young Ben Franklin invented fins for his hands and feet.

Modern earmuffs are quite similar to the original ones from more than one hundred years ago.



Maine Winters Are Cold!

Growing up on a farm in Maine, Chester Greenwood worked outside in the winter. The bitter cold made his ears turn red and hurt.

In 1873, at fifteen, he made a wire headpiece to cover his ears. He asked his grandmother to sew bear fur on it. He wore it, and his ears no longer got cold. At first, his friends laughed, but soon they wanted “ear protectors,” too.

In 1877, Chester received a **patent** for earmuffs, which proved he invented them. No one could use his idea without permission. Many of Chester’s neighbors worked with him to make earmuffs in their homes to sell to stores.



Popsicles are still popular. More than two billion are sold each year.

Way Cool

What’s better on a hot day than a refreshing lick of a Popsicle? An eleven-year-old Californian invented this treat.

In 1905, Frank Epperson ran the soda stand in a small amusement park. He sold drinks made from soda water mixed with flavor packets.

Frank wondered how a frozen drink would taste. One cold night, he left a glass of flavored soda outside with a wooden stirring stick in it. The soda froze. Frank took his creation to school, and his classmates said it tasted good.

When Frank grew up, he made and sold “Ep-sicles.” His kids suggested he change the name to “Popsicles.” The rest is history.

Getting a Jump on the Competition

George Nissen, a natural acrobat, loved tumbling and gymnastics. At the circus, he watched acrobats somersaulting off the safety net. George thought gymnastics on that net would be thrilling.

When George was a teenager, he built a “bouncing rig.” In 1934, with the help of his college coach, Larry Griswold, he constructed the first trampoline. He made it out of scrap metal, canvas, and inner tubes.

George and Larry made a portable **version**, and George **demonstrated** it everywhere. Trampolines were soon in many gyms, schools, and backyards.

In 2000, trampoline gymnastics became an Olympic event. George never stopped being an acrobat. On his eightieth birthday, he performed a handstand on the dining room table.



George Nissen introduces a kangaroo to his invention.

A Skateboard for the Snow



Modern snowboards allow riders to perform many tricks.

Tom Sims took up skateboarding in the 1960s. He loved it, but he was sad that he couldn’t “board” in winter because of ice and snow. To solve his problem, he made a wooden “ski-board” in junior high shop class at age twelve.

He kept improving the **design**. He opened a company to build skateboards and snowboards. Tom designed many boards, including some made specially to fit the feet of girls and women.

Tom won many skateboarding and snowboarding competitions. He performed snowboard stunts in a James Bond movie! He made snowboarding cool.

In 1998, snowboarders began competing at the Winter Olympic Games.

Designing Girl

Eleven-year-old Cassidy Goldstein had a school project due and nothing to use but broken crayons.

She needed something that would hold small crayon pieces so she could draw with them. It had to be the right size to hold the pieces tight.

Cassidy remembered that roses from the flower shop come with a small tube of water to keep them fresh. She used one of the tubes to make a **prototype**, or **model**, of her invention.

She received a patent for her “crayon holder” in 2002 and was named Youth Inventor of the Year.

Cassidy’s father started a company to help other kids develop and market their inventions.



New Ways to Say Hello

When he was seventeen years old, Colorado native Ryan Patterson sat in a restaurant, trying to decide on a science project. Some deaf customers came in and ordered food. The restaurant workers didn’t know sign language, so the customers had to use an interpreter.

Ryan wondered what they would have done without the interpreter. His science project provided the answer.

Ryan developed the Sign Language Translator. It’s a glove that “reads” the finger alphabet of American Sign Language. It sends letters to a small screen so that deaf and hearing people can communicate with each other.

Ryan won several awards, including a \$103,000 scholarship to college.



Ryan’s glove translates the finger movements of American Sign Language into written English.

Smells Like a New Catcher's Mitt

Hart Main's sister was selling candles for a school fundraiser. Hart took one whiff and complained that they were too flowery. He asked why his sister wasn't making any candles with smells that guys would like. His family suggested that he invent some, and he did.

ManCans are candles with guy-friendly scents, like "brand-new baseball mitt" and "fresh cut grass."

Hart uses recycled soup cans to hold the candles, but he can only eat so much soup. To get more cans, he donates canned soup to local soup kitchens and picks up the empty cans.

Now ManCans is selling lots of candles and feeding hungry people.



After the success of ManCans, Hart created a line of candles for women called SheCans.

A Little Light on the Subject

Blair Breazeale couldn't wait to start sixth grade and get her own school locker. When she looked inside the dull, dark locker, though, she felt let down.

She tried shopping for decorations, but she couldn't find what she wanted. She decided to make something herself. With her parents' encouragement, she came up with LockerLites, magnetic colored LED lights. A student can

attach them anywhere in the locker.

LockerLites come on when the locker door opens and turn off when it closes.



Blair shows off a locker decorated with her inventions.



Talking with others can be a good way to improve an invention.

Becoming an Inventor

Becoming an inventor may seem impossible, but it's not. Many inventors got their start when they saw a problem and tried to solve it.

Once they have an idea about how to solve a problem, budding inventors often talk to their parents, friends, or teachers about it. "Advice I often give kids I meet is to not be afraid to ask someone for help," says Hart Main. He didn't know how to make candles, so he talked to someone who did.



Braeden Benedict, 14, won the title of "America's Top Young Scientist" in 2011. He invented a low-cost sensor that warns when a football player may have a serious but hard-to-detect head injury.

As a next step, inventors often build a model of their invention. They might show it at a school science fair. A trip to a larger gathering, such as a Maker Faire, might follow. Maker Faires are like big show-and-tells for all ages, where inventors share their ideas and creations.

Students in grades five to eight can go to yearly competitions such as "America's Top Young Scientist." The grand prize is \$25,000. Peyton Robertson, eleven, won this title for an improved sandbag. Sandbags can protect places from flooding, but carrying heavy sandbags and putting enough into place can be hard and take a lot of time. Peyton's invention is lighter than a regular sandbag. It gets bigger when it absorbs water and protects better against flooding.

Building robots is another way that young inventors develop their skills. The National Robotics Challenge is open to students from elementary school on up. Kids in grades four to eight may enter the U.S. FIRST LEGO League championships. During these competitions, teams of students build robots that can complete a series of tasks on their own. The team that creates the most successful robot wins. Robotics competitions help kids learn teamwork, collaboration, **creativity**, and problem solving.

Inventing is an awesome activity. With their inventions, kids solve everyday problems and make people's lives better and easier. Maybe you will be the next great inventor.



Glossary

- creativity** (*n.*) the ability to make, design, invent, or imagine new things (p. 15)
- demonstrated** (*v.*) showed how something works (p. 7)
- design** (*n.*) a plan that shows how to build, make, or assemble something (p. 8)
- device** (*n.*) a thing that has been built for a purpose (p. 4)
- invented** (*v.*) created, designed, or built something that did not exist before (p. 4)
- model** (*n.*) a usually smaller version of an object made to look like the real thing (p. 9)
- patent** (*n.*) a document granting the right to make money from an invention (p. 5)
- prototype** (*n.*) an original form used as the model for later production (p. 9)
- version** (*n.*) a form of something that is different from other forms of the same thing (p. 7)