mystery science

Grades K-5
Mini-Lesson: “How are toys invented?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! Toys—are you ever really too old to like toys? I mean, I don't think so. I've certainly got my share of toys on my desk here at work. You might know this one. Or check out this 3D-printed skull of a T-Rex. It's based on the real skull of an actual Tyrannosaurus Rex. It's one of my favorites. Someone named Daniela has a question about toys. Let's give Daniela a call now.

[Video Call]

- Hi, Doug!

- Hi, Daniela!

- I have a question for you. How are toys invented?

- Ooh, that's a great question.

Maybe our love of toys never changes, even adults can still like toys. But there's one thing about toys that has changed over time, and that's the toys themselves. The fidget spinner is a great example. This became one of the most popular toys in the year 2017. But when I was growing up, as a kid in the 1980s, fidget spinners didn't even exist. That's because they hadn't been invented yet. For every generation of children or group of children born around the same time, there are new toys that get invented. Toys that the adults in their lives didn't have when they were kids. For me, when I was a kid, Legos were still a pretty new invention at that time. At least

in the United States where I was growing up. My parents didn't play with Legos when they were kids because they didn't have them yet. When my parents were kids, that was the first time that things like Mr. Potato Head had been invented—making a face using plastic parts you insert into an actual potato. That was new to them. Their parents didn't have that as kids. Other new toy inventions of that time included mushy squishy materials like Play-Doh, and something called Silly Putty. These were really popular when my parents were kids. Now some of these toys, they're still around, you might have played with some new versions of these older toys yourself. But so many of the toys you might know and have played with are actually new kinds of toys. They didn't exist before. Someone had to invent them. How do new toys get invented in the first place? Who comes up with them and how do they do it?

VIDEO 2

Well, there are so many different inventors and so many different toys. I'd love to answer this question instead, by telling you a story—a true story about one of these inventors. This guy, his name is Lonnie Johnson. While Lonnie is an inventor, he hasn't always been a toy inventor. This is part of Lonnie's story that's so interesting. You see, Lonnie started out as an engineer working for places like the US Air Force and NASA. The inventions he made were things used by scientists, not kids. One day though, Lonnie was busy working on a new part for a water pump. Something that was being used inside of a new kind of refrigerator that he'd been asked to work on. While he was busy testing out his new idea, in his bathroom no less, he'd made a mistake and suddenly a powerful jet of water shot out. It got water everywhere. That's when Lonnie got inspired. Noticing how powerful the jet of water was, he got the idea to make a toy that he thought his daughter might love. A new kind of toy water blaster. He went down to his basement and started working on what inventors call a “prototype”. A very simple first version of his idea.

Once he finished the prototype, his daughter and all her neighborhood friends tried it out. They thought it was awesome. Eventually, Lonnie found a toy company to be his partner to help make a more finished version of his prototype and to help make lots of these. After trying out different names for it, they finally settled on the name Super Soaker. It became one of the most popular toys of the 1990s. Now, the idea of a toy where kids can spray each other with water for fun wasn't a new idea. Toy water blasters had been around for a while, but Lonnie Johnson's invention was different. This was a water blaster that used the power of water pressure blasting out of a nozzle, all thanks to Lonnie being inspired by a mistake he made while working on a different project. Now, this is just one story of how one toy got invented. But there are important things we can learn from it which are true of most inventions. One thing especially worth noticing is what Lonnie chose to do after that moment he made a mistake, that moment when water blasted everywhere. It would be totally normal to get frustrated by that. To think, oh man what a mess. Maybe Lonnie wasn't excited about having to clean all of that up. But as an inventor, Lonnie chose a different way of looking at a situation like this. Instead of focusing on his frustration, or disappointment at his mistake, after that water blasted everywhere, Lonnie thought to himself, "Wow, that was surprising. I didn't expect that. Huh, what could I do with this new thing I learned?" As you can tell from this story, Lonnie did a lot. With all the money he made from the Super Soaker, he even went on to build his own laboratory where he and his team have continued to make new inventions to this day. Inventions both for children and for adults. That's all for this week's question. Thanks, Daniela, for asking it!