mystery science

Grades K-5
Mini-Lesson: “How were LEGO bricks invented?”

VIDEO TRANSCRIPT

VIDEO 1

Hi, it's Doug! The other day, I saw something pretty amazing. Let me show you. Check out this race car. Isn't it cool? I love the circles all over the hood and the door. Now, what's really amazing about this car is that it's made entirely of LEGO Technic pieces. It took over one million pieces to make, and the builders didn't use any glue or special tape to stick it together. It's all LEGO, even the engine. And check this out. It even drives. Someone named Hendry has a question about LEGO. Let's give Hendry a call now.

[Video Call]

- Hi, Doug!

- Hi, Hendry!

- I have a question for you. How were LEGO blocks invented?

- That's a great question, and I know the perfect person to answer it.

His name is Jay Flores, and he knows a lot about LEGO. In fact, he's even been to the place where LEGO bricks are made, but I'll let him tell you more about that. Let's give Jay a call now.

- Hi, Doug!

- Hi, Jay!
- I hear you have a question for me.
- I do, and it's a good one. Hendry wants to know: How were LEGO invented?
- Ooh. This is a fun question.

What might be even more surprising to you is not just how LEGO was invented, but why LEGO was invented. LEGO is a type of block or toy brick, but LEGO bricks are not the only kind of building toys there are. In fact, children have been playing with different kinds of building toys for hundreds of years. Before LEGO bricks were ever invented, when a child wanted to build something, they would have to build with these wooden blocks, and they can be a lot of fun, but there's a problem. If you make a tower or a castle out of them, especially some creation where you put all this time into it, your cat or little sibling can come by, and, crash, it's all over! It's so frustrating when that happens. So toy inventors began to focus on this problem, the problem of how to make building toys stay together. But before I tell you anything more about what solutions they came up with, I'm curious, what kinds of solutions can you come up with? Imagine if LEGO hadn't been invented. What kinds of things would you do to make the block creations stick together?

VIDEO 2

Now, I don't know how you answered, but you may have said glue. That's definitely an idea, and that makes sense. Glue sticks things together, like these toy airplane models. That's how these creations stay together. But there is, of course, a downside to glue. Once you glue a model together, you can't take it apart again. And if you want to build something else, you have to buy a whole new set. So toy makers wanted to figure out other ways to make building toys

stick. Like the inventor of these. These are Tinkertoys. They were some of the first building toys that stuck together without glue. See those round pieces with holes? You stick Tinkertoys together by sticking sticks into them. The inventor of Tinkertoys came up with the idea by watching kids outside playing with sticks and spools of thread. They're pretty fun to build with. Oh, and have you seen these? These are Lincoln Logs, another early building toy. The logs stay together because of each little notch on them. See that? The shape of the toy logs are just like real logs they used to use to build real log cabins hundreds of years ago. See how the logs fit together? It's just like the toy. Now, most of these early building toys had one thing in common. They were made of wood. In fact, most toys were made of wood back then, including LEGO toys. The LEGO Company was started by a carpenter, someone who works with wood, who made wooden toys with his 12-year-old child. They made wooden blocks and cars, yo-yos, and trains, like this one. The toys were pretty cool, but not a lot of people were buying them. In fact, some people started telling the carpenter that he should quit making toys altogether. The carpenter almost listened to them, but then he saw this. It may not look like much, but this thing called a plastic injection molding machine changed the way toys were made forever. Now, instead of using wood to make toys, toy makers could mold melted plastic into any shape they wanted. They could make animals and dolls. And these. You're looking at the first ever plastic toy bricks. These weren't made by LEGO. These were different. They were called Kiddicraft bricks. The problem was, even though these bricks clicked together, they still didn't stay together very well. They do have four round bumps on the top, like LEGO, but on the bottoms, they have open empty space. The LEGO Company liked the idea of these bricks, but they thought: “We can make them even better!” They bought a plastic injection machine and got to work inventing a new kind of plastic brick. And after years of work, they came up with this. LEGO bricks have bumps on the top of them too, just like the Kiddicraft

bricks. But look at the bottoms. See the tubes underneath on the LEGO bricks? When you clicked the bumps on top of the bricks into the tubes they stayed together better than any of the other plastic or wooden building toys at the time. Now a brick like this would be really hard to make with wood, but with plastic, it was a lot easier. And with plastic, they could make a lot of bricks really cheaply. These new LEGO bricks worked really well. Now kids could build anything at all and their creations would stick together. They could build castles and Star Wars ships. They could even build a tower over 10 stories tall like these teachers did in Tel Aviv, Israel. And when they wanted to build something else, they could just take them apart and start all over. Kids loved these new click-together bricks, and LEGO became one of the most popular toys on the planet. In fact, if you lined up all the LEGO pieces sold in one year, they would wrap around the earth more than five times. That's a lot of bricks! When I was a kid, I loved LEGO. One of my favorite things to do was dump all my LEGO bricks on the floor and build whatever popped into my imagination. I built spaceships and pirate ships and cars, whatever I felt like. And if I didn't like what I built, I would just take it apart and build something else. And even though I'm grown up now, I still love LEGO. In fact, one of my favorite trips ever was to Billund, Denmark where LEGO bricks are made. That's me on the roof of the LEGO House. The birthplace of the LEGO brick. It was so much fun seeing all the creations you could make out of LEGO. So I guess you can say LEGO bricks were invented to solve a problem. The problem of making building toys stick together without them coming apart. So that's all for today's question. Thank you, Henry, for asking it!