

**THE KIDPRENEUR FILES**

Meet some amazing kids who started their own businesses!

# THE STEM BROTHERS



**NAME:** Sidharth Srinivasan  
**AGE:** 18  
**NAME:** Rohit Srinivasan  
**AGE:** 20  
**BUSINESS:** Trashbots

## STARTING A BUSINESS

Back in 2013, brothers Rohit and Sidharth Srinivasan visited an orphanage in India. They wanted to share their love of science and engineering with the kids, but there weren't any low-cost tools to help their mission. "We saw the education gap, and we wanted to fill it," says Rohit. So the brothers created Trashbots, a programming platform and kit. Kids use the \$100 kits to make robots with materials they have lying around their homes—from Popsicle sticks to used markers. Then they get to program it! Each kit contains a motor, accessories, software to control the robot, and educational materials to use Trashbots in the classroom.

### COOLEST MOMENT

After spending years working with experts to launch their business, they finally began mass-producing Trashbots.

*"When someone we had never met before bought a Trashbot and wrote a positive review, that was really memorable."*

## ON THE JOB

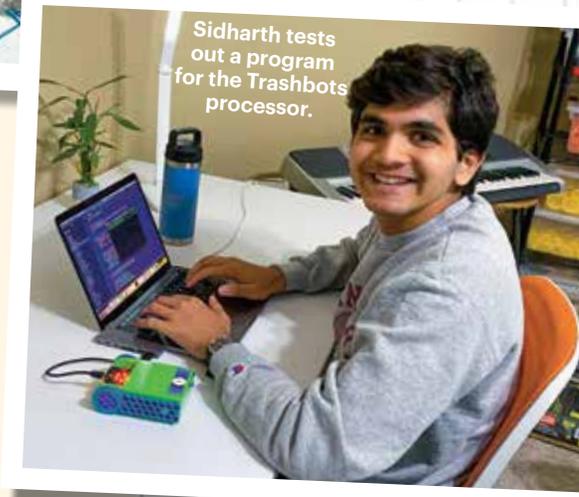
The Brothers usually start their week by discussing what was accomplished the week before and what they hope to accomplish next. "Once the goals have been set and we know what we need to do, we work together to get it done," says Rohit.

Like most entrepreneurs, the brothers never stop improving their product. Since a key part of the kit is the programmable robot, there is always room to improve its code. "We are always making bug fixes and enhancements with the consumer in mind," explains Sidharth.

## WHAT WE'VE LEARNED

Since they first had the idea for Trashbots seven years ago, Rohit and Sidharth have learned a lot. "We had to learn how to develop products that customers actually want," explains Rohit. "The original version of Trashbots was not really usable by a student." So they updated the kit to include the programming language Python as well as block-based languages that allow users to drag-and-drop a series of established commands. They also now provide a curriculum for K-12 students. The brothers make decisions to add features like these to the Trashbots based on customer feedback.

Kids build a robot with a Trashbots kit.



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## MATH BEHIND THE BUSINESS

### Key Math Idea: SUPPLY COST & UNIT RATE

Rohit and Sidharth's main operating costs come from purchasing the supplies for Trashbots kits. Each kit contains more than 30 parts, like custom motherboards, processors, plastic gears, and more. To save money, Rohit and Sidharth try to order supplies in bulk. But they have to make sure they don't order more supplies than they need!

SHUTTERSTOCK.COM (BACKGROUND); COURTESY OF TRASHBOTS (ALL OTHER IMAGES)

PART	COST PER 10	COST PER 1,000	COST PER 10,000
Motherboard	\$100	\$8,730	\$70,350
Processor	\$50	\$1,250	\$6,250
Popsicle sticks	\$1	\$86.50	\$725.20
Motor	\$45	\$180	\$360
Sensor	\$63	\$4,536	\$31,752
Small gear	\$10	\$800	\$7,000

Here's how the brothers do it:

- How much does a single Popsicle stick cost if the brothers purchase 10,000?
- What does a single motherboard cost if they purchase 1,000? How much less is this per unit than purchasing 10?
- Which part saves the most money per unit when they buy 10,000?

**WIN A TRASHBOTS KIT!** We have 3 Trashbots kits to give away! Visit [trashbots.co/platform](http://trashbots.co/platform) to see what comes in the kit. Then draw a design of your own robot—be sure to include objects from around your home—and send it to us! Visit [math.scholastic.com/contest](http://math.scholastic.com/contest) for contest rules and entry form!

