

Q&A with Être Girls and 3M Chief Science Advocate Dr. Jayshree Seth

About Être Girls:

Être is a curated resource site where world-changing girls can find the tools they need. Whether they're looking for teen-oriented news sites, pep talks from collegiate female athletes, ways to connect with mentors or volunteer opportunities, Être has answers. We think girls are their most authentic selves right now and we strive to help them stay true to that. Être means "to be." We help girls realize who exactly they want to be.

Ê: Sometimes people are surprised when middle school girls love science or can't wait to enter their school's science fair. But a girl exactly our age just won the 3M Discovery Ed Young Scientist Challenge! Were people ever shocked that you wanted to take hard science classes or pursue chemical engineering and, if so, how did you handle that?

JS: First of all, it's always exciting to hear about girls who are fascinated by science and interested in getting involved in their schools' science fairs. I think it's very important that we move away from any negative media portrayals and gender stereotypes about who should be interested in science and pursue science careers.

As for me, I grew up in India, in a University town with a premier engineering institute, surrounded by male scientists and engineers. However local parents encouraged their daughters to get into the field of engineering as well, primarily so they would stay close to home! As a result, almost all my friends and I ended up pursuing science and engineering.

For those of you who get these questions, stay true to yourself and continue to pursue your interests. Science isn't just for men and/or geniuses – it's time to break down these misconceptions.

Ê: We read that you hold *60 patents* for your innovations! How old were you when your first invention received a patent, and what was it for? We know that girls our age are already inventing amazing products - why is it so important even if you are young to protect your ideas with patents?

JS: I didn't know much about patents until I joined 3M. So my first patent was actually at the age of 25. It was for an improved tape to help keep diapers closed! Students today have so much more access, knowledge and opportunity and there are many young inventors out there.

Protecting your ideas with patents is important at any age – your ideas are your ideas. You should determine how they are used. When you are young, protecting your ideas with patents can help lead to entrepreneurship and future opportunities that you might not even be thinking of today.

Going through the process of patenting is also great because you learn a lot. I helped my daughter file for her first patent at the age of 14. The U.S. Patent and Trademark Office is very helpful, so if you have an idea you want to patent, I suggest exploring your options to see what's out there!

Ê: We have read about and interviewed some amazing women in STEM fields (engineers from the *Dream Big* movie, women in tech from the *She Started It* movie, the Mars Generation founder, etc), and many of them stressed the same thing - that science exists to solve problems. We might only be in middle school, but we know there are big problems to be solved - do you agree that science is the best way to solve them? What is one of the biggest problems today that you think will get solved soon through scientific innovation?

JS: By 2050, the population of Earth is estimated to hit nine billion! Some of the most imminent challenges we'll need to solve are linked to our basic needs such as clean air, potable water and food security.

Science will definitely play a very crucial role in solving these challenges. I do think cross-functional collaboration and multi-disciplinary approaches will be key to providing different insights into how to address certain problems.

Ê: Were you ever nervous or embarrassed to raise your hand in class and, if you were, how did you get over that? Sometimes we feel like we have SO many questions - what would you say to girls who feel weird raising their hand too often?

JS: I've always been a big believer in asking questions and raising your hand. Usually if you have a question, someone else is probably thinking the same thing. No question is a bad question and as scientists, we should always be questioning.

However, if you are nervous or uncomfortable about asking too many questions, don't be afraid to ask the teacher after class. They will likely appreciate your initiative and interest in the subject. You can also consider setting up discussion groups with your friends to gain additional insights. I found that peer discussions always helped me.

Ê: You are now the Chief Science Advocate for 3M...which sounds like the coolest job ever! What will be your first steps to encourage students around the world to explore their interests in science...and how can we help?

JS: Thank you – I am very excited about this opportunity! I'm going to be advocating for science in many different ways. I am very interested in fostering a conversation about barriers. I love taking these types of questions and engaging with the science community. I want to hear from you as to what are some of the barriers to science appreciation that you're seeing.

Among other events I'll be participating in the Discovery Education 3M Young Scientist Challenge, which I would encourage all of you to apply for. I'll also be participating in roundtables and panel discussions across the country and globe.

There is so much you can do to help. First of all keep doing what you're doing! Your enthusiasm for science is contagious and allows you to be advocates for science. Openly show how excited you are about science. Surround yourself with people who share your excitement so you can sustain your enthusiasm even during the hard times.

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Jayshree Seth, Corporate Scientist/Chief Science Advocate

As Corporate Scientist and Chief Science Advocate for 3M, Dr. Jayshree Seth focuses on using her scientific knowledge, technical expertise and professional experience to advance science both inside and outside of 3M.

Dr. Seth joined the Personal Care Division at 3M in 1993 where she worked on components for disposable products such as diapers. In 2006, she moved to the Industrial Adhesives and Tapes Division (IATD), the largest industrial business at 3M, where she currently focuses on identifying new growth opportunities, new technology development and commercialization for sustainable Industrial Products within various markets.

She holds 60 patents for a variety of innovations. In 2013, she earned the distinguished title of Corporate Scientist—the highest position within the technical ranks at 3M.

As 3M's first-ever Chief Science Advocate, Dr. Seth will foster a conversation with various audiences around the world on the importance and benefits of science in everyday life. A focus area will be making science more accessible and fostering a new generation of science advocates.

Raised surrounded by Engineers in the University town of Roorkee, India, she attended the National Institute of Technology, Tiruchirappalli where she received a Bachelor's in Chemical Engineering and later went on to receive her MS, PhD in Chemical Engineering from Clarkson University, NY.