

NOT THE SCIENCE TYPE



YOUR POTENTIAL IS EXPONENTIAL



3M AND GENEROUS FILMS PRESENT "NOT THE SCIENCE TYPE" DIRECTED BY JULIO PALACIO PRODUCED BY CHRISTINE ARENA EXECUTIVE PRODUCER ROBERT BRITAIN
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Not the Science Type: *Dr. Jayshree Seth* (pronounced: S-eight)

Discussion Guide

Goal: Students will understand the science in the everyday. How does science impact daily life?

I currently hold two roles at 3M that allow me to combine my technical expertise and creativity with my love of science. As a Corporate Scientist, I work with other engineers and scientists to break down complex problems and find solutions that stick! As the company's Chief Science Advocate, I hope to help people of all ages around the world learn to appreciate science in their daily lives!



I started my career in 1993, I worked on components for disposable soft goods such as diapers. As of 2006, I now lead technology development for sustainable products for our Industrial market. With decades of support from 3M, I've had the opportunity to work in multi-functional teams, develop technology building blocks, receive a number of U.S. patents and commercialize a wide range of products. The process of observation, imagination and experimentation has taught me how to balance logic and creativity.

I'm a big believer in bringing your "whole self" to any task. I try to spread this wisdom through mentoring and I enjoy speaking to groups all over the world about topics such as intellectual property, innovation, leadership and career development.

"Not the Science Type" is a [docuseries](#) featuring four female scientists as they rise to prominence in fields ranging from biology to engineering, to science and technology-based applications and innovations, challenging stereotypes and confronting gender, racial, and age discrimination along the way. While each has taken a different path to pursuing scientific excellence, they are bound by the common experience of feeling outcast or "not the type" in traditionally homogenous scientific fields.

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Before the Video

- Engage with students around science in the everyday. How does science really impact their lives?
- Engage students in an activity to Stop and Jot at least three responses to ...”I see science in _____ when I _____.” Have students share ideas about how science is a part of their daily life. Push their thinking. Can they do this exercise to include their phone, their Instagram account, their way of getting to school?
- Examples to elicit answers outside of the realm of technology:
 - I see science in the kitchen when I am boiling water.
 - I see science in the sky when I see the clouds moving.
 - I hear science in music when I hear different instruments at the same time.
 - I see science at the gym when I see levers and pulleys moving weights.
 - I see science in clothes when I see velcro.
- **Think.Pair.Share:** Have students work with a partner to go deeper into science in the everyday.
 - Student A: “I see science in _____”
 - Student B: “when/because _____”.
 - Example: A: I see science in ice cream. B: because the milk or cream changes phase. Students can then swap roles.
- If time permits, have each student share one unique way they see science each day.

During the Film

- Stop and discuss the perception the general public has around the usefulness of science.
- **Pause at 5:47.** Dr. Seth says, “4 out of 10 says that if science didn’t exist, their lives would be no different”.
- **Think.Pair.Share.** Going back to your list of how you see science, discuss how science has solved a problem or made tasks easier for different instances - a couple years ago, a year ago, this month, yesterday.
- 40% of people think science doesn’t affect them, what or when is science most understandable for you? How do you make science more accessible to everyone to understand?

After the Video

- Engage in students in discussion about passion and setbacks as they relate to career exploration.
- **Think.Pair.Share:** Dr. Seth's journey was not a linear path and there were moments of failure, but she was able to learn and adjust to find her true passion. What can we learn about ourselves through our setbacks? How are setbacks a natural part of the scientific process? What's a setback you learned from?

Go Further!

Research

- Learn more about Dr. Seth:
 - [Science at Home with Dr. Seth](#)
 - [Intro to Beyond the Beaker](#)
- Dr. Seth is the recipient of several patents. She works with teams of other scientists to solve everyday problems collaboratively.
 - Research one of Dr. Seth's patents found on patents.justia.com. From the description of the patent, reverse the process and find that question the patent solved.
 - Research a Fortune 100 company and imagine you are the Chief Science Advocate (like Dr. Seth). What would you advocate for on behalf of the company? What policies would you like to be implemented to make that advocacy turn into action?

Activity

- Suggestions for exploring concepts of teamwork, collaboration and problem solving.
 - As a class, come up with a list of common classroom problems. Create teams of students to create solutions to the problem using only what they can find in the classroom.
 - Think like a manufacturing engineer: [How can you improve on the way a product was made?](#)
 - NMSI LTF Chemistry activity: [How does it Rate?](#)
 - NMSI Chemistry: [Designing a Hand Warmer](#)
- Make connections between Dr. Seth's story of her work at 3M solving problems with her colleagues and what it was like to work as a team to solve a problem in the classroom.

Careers

Dr. Seth combines her passions for science and doing experiments to help people by doing research as an inventor. Describe your dream career in a few words ... and get suggestions from the Nepris Career Explorer at <https://www.nepris.com/app/career-explorer/career/17-2112.00>

Agriculture Engineers



advance farming
technology.

Environmental Engineers



protect our natural
resources.

Aerospace Engineers



build safe aircraft and
spaceships to advance
the world.

Biomedical Engineers



design devices to improve
patients' experiences.

What do
different
types of
engineers
do?

Electrical Engineers



power on and off.

Nuclear Engineers



put nuclear energy and
radiation to good use.

Petroleum Engineers



enhance technologies to
utilize natural gas.

Naval Engineers



design safe ships,
submarines, and tankers.

Meet...

Meet other inventors and scientists like Dr. Seth at the IF/THEN Collection:

- **Allison Fundis:** [Deep Sea Explorer](#) [Problem Solving in the Deep Sea](#)
- **Paula Garcia Todd:** [Pharmaceutical Scientist](#) [How to make polymer worms](#)
- **Xyla Foxlin:** [Mechatronics Engineer](#)
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