Annesley Junior School

Spotlight on Scientists in the Annesley Community

Ori is Aravah and Naveh's Dad. They interviewed him about his life as a scientist.

Aravah: Who is your favourite scientist and why?

Ori: I admire both Marie Curie and Carl Sagan.

Curie, a radioactivity research pioneer, achieved great things by sheer determination and resilience at a time women were not allowed to be in academia in most countries.

Sagan, a brilliant astronomer and a unique science communicator, brought the wonders of the universe into homes worldwide with his *Cosmos* TV series.

Naveh: How is science part of your daily life?

Ori: I am fortunate enough to work as a laser scientist. This means that I play with lasers and get paid for it! I read scientific journals on lasers to come up with and design new kinds of lasers. I perform simulation to understand how they will work and then I can test my hypotheses using experiments in the lab.

Aravah: How does it feel to be a scientist?

Ori: Exciting! I love tinkering, especially when it leads to new scientific discoveries. I find that contributing to expending the human knowledge about lasers deeply satisfying. It is important to realise, however, that many trials are usually necessary before an experiment succeeds, so I need to be persistent and patient to achieve my goals.

Shona is Finn's mum. Finn interviewed her about her life as a scientist.

Finn: Tell me something cool about your science work / research?

Shona: The science I do at work allows me to assess whether there are too many harmful chemicals in our soil, water and air that could make us or other animals sick. It also helps to build cool things like wind farms, hospitals and the new big tunnel being built in Adelaide.

Finn: Is there a famous scientist that I respect (inspires)?

Shona: An American scientist called Rachel Carson studied the numbers (population) of birds and found that many birds were dying. Her scientific studies found that chemicals (pesticides) that were being used to get rid of ants were also killing the birds even though the people making the chemicals said that they were safe. She wrote a very famous book about it called Silent Spring

Finn: How is science a part of your daily life?

Shona: Even though I'm a scientist, it is actually a huge part of both of our lives. Science allows us to keep our food and drink safe by giving us refrigerators to keep bacteria away from things like the milk that we have on our cereal and it has given us the ability to stream podcasts from the internet that we listen to on our drive to school.

Kerri is Freiya's mum. Freiya interviewed her about her life as a scientist.

Freiya: What is your earliest scientific discovery?

Kerri: When I was about 4 I discovered gravity! I realised that when I held the crystal vase by the vase the flowers stayed in the vase, but when I held the flowers that were in the vase the vase fell, and unfortunately shattered on the floor. I also learnt that things were fragile

Freiya: Do you get to do science investigations and experiments in your job? Can you tell me about them.

Kerri: We largely do experiments with known outcomes. We use these to help people by finding out what their medication levels are to make sure they are at a safe level. We do a lot of mixing using different chemicals to purify samples to find the drug of interest.

Freiya: How is science a part of your daily life?

Kerri: Work mainly, but it also helps me better understand and apply what I know to everyday life. It helps me with things like using household chemicals, washing, and especially cooking. It helps me understand the potential dangers involved with these things too, especially cleaning chemicals, and understanding what we could use that is safer but still effective.

Hayley is Sophie's mum. Sophie interviewed her about her life as a scientist.

Sophie: How is science a part of your daily life?

Hayley: My career has always been in the medical system looking at and assessing bodies. Each day you learn something new about the body and how amazing it is at adapting and always working to maintain homeostasis.

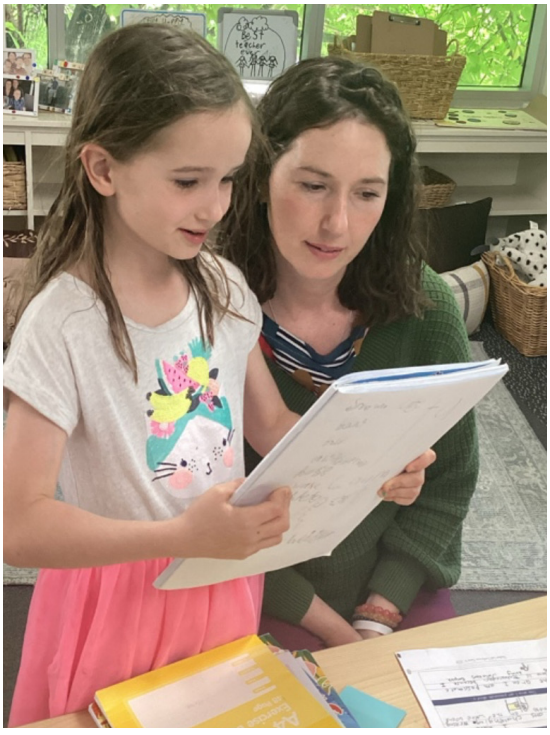
Sophie: Who inspired you to be a scientist?

Hayley: I was always fascinated by the human body and how it worked.

I completed a degree in Physiology and Biochemistry and worked out my passion was combining science with helping people so moving into medical imaging- doing heart ultrasounds was very fulfilling.

Sophie: Did you ever get hurt during a science experiment?

Hayley: Yes- during an Organic Chemistry practical we were meant to be purifying a product and towards the end I spilt mine all over the bench and I used my hands to get it back into the beaker before the supervisor saw and ended up with a mild skin burn on my hand.



Trevor and Francine are Amara and Elden's parents.
They interviewed their parents about their lives as scientists.

Amara: Do you get to do science investigations and experiments in your job? Can you tell me about them.

Trevor: There is a lot of experimentation and investigation when new medicines are being discovered. But when a new medicine is approved and being manufactured for treating patients, we are not allowed to experiment with it. We must make the medicine the same way every time, so that we know it will be exactly what the patient expects.

Elden: Are scientists rich? (define rich in the answer)

Trevor: Scientists and engineers learn a lot about how the world works. They also learn to think about what they observe. So even in everyday life, scientists and engineers can find something interesting to ponder, or some example of their scientific knowledge. Because scientific people can find interesting details that other people might overlook, even mundane experiences are enriched.

Amara: What do you see as the most important scientific discovery in human history?

Trevor: It could be said that our next scientific discovery is always the most important! Almost all of our scientific knowledge is a result of incrementally adding new knowledge to established knowledge, like stacking bricks to build a house. By continuing this human trait of being inquisitive and seeking knowledge, we (in theory) gradually build an ever-better world.

Elden: Tell me something cool about your science work/research?

Francine: As a Chemical Engineer, I studied fermentation. This amazing process helps make foods like yogurt, and drinks like kombucha, as well as important medicines. My research focused on finding ways to grow more cells during fermentation while using less energy and cutting costs.

Amara: What is significant about your scientific research?

Francine: My research was important because making medicines can be very expensive. I showed that fermentation processes can be run at lower temperatures, saving energy and money. I shared my findings at a big science conference in Melbourne in 2002! Scientists are still exploring ways to improve fermentation today.

Elden: How is science a part of your daily life?

Amara: I am an Innovation Consultant. I work with scientists and engineers, who do exciting research, creating everything from computer software to medical breakthroughs and even solar power! One of my clients is developing new fermentation methods to make cultivated meat, which is an eco-friendlier protein choice than regular meat.