

Sarah C. Simmons

Biography and Goals

I am Sarah Simmons. I am a 12th grader, homeschooled by my parents, who both hold PhDs. Over the past year, I have also been taking classes at the university where my father teaches. While I was asked to write about "Who I Am," I would actually rather focus on *why* I am who I am. To me, that is a much more meaningful question, and one that gives a truer sense of my identity.

I am who I am first and foremost because of my parents. They are the two most amazing people I have ever known. They are smart, kind, dedicated, disciplined, and wise. More than anything, they are my role models. They have devoted so much time and effort to my upbringing and my education. During my elementary and middle school years, I attended a private school. It gave me a great foundation; I learned not only about history, literature, math, and science, but also about the importance of community, helping others, and collaboration.

For high school, however, our options were limited. We live in a small, rural town in southern Pennsylvania, and the local high school lacks up-to-date facilities, offers very few AP courses, and does not have a strong science program. Since I have been passionate about science from an early age, my parents gave my twin sister and me the option to transition to homeschooling. That was the path we chose, and it has been an incredible fit for me. It is not that homeschooling has simply "shaped" me. It has allowed me to discover my own academic and personal goals and to begin pursuing them in unique and interesting ways. Because I was homeschooled, I have been able to take a number of college-level courses that have been both engaging and challenging.

Overall, homeschooling has enabled me to explore many STEM-focused activities (see my resume for these), devote meaningful time to public service, and pursue my musical and artistic interests. I expand on all of these below.

Rather than reiterating my resume and transcripts, which I hope you will also review, I want to use space to write about what's important to me: Science, Public Service, and the Arts.

SCIENCE IS IMPORTANT TO ME

I've loved science for as long as I can remember. I have also always loved animals. When I was in about 4th grade, I realized that I could combine these passions into **veterinary medicine**. Since that epiphany, I've been focused on becoming a veterinarian. It's a profession that combines scientific research, critical

thinking, compassion, and service. I am inspired by the opportunity to improve the lives of animals while providing reassurance and guidance to the people who care for them.

I have already started down the path toward becoming a veterinarian. Over the past couple of years, I have had the opportunity to shadow veterinarians and now work part-time in a veterinary office.

Working as a veterinary assistant has given me hands-on experience caring for animals while also showing me what happens behind the scenes in a veterinary practice. I have observed examinations, diagnostic testing, surgeries, dental procedures, wound care, and post-operative monitoring, while helping with routine animal care and maintaining clinical areas. Just as importantly, I have learned that veterinary medicine involves much more than treating animals. It requires teamwork, communication with worried pet owners, careful attention to detail, problem-solving, and an understanding of how to operate a successful practice.

My interest in veterinary medicine, however, began long before I started working in a clinic. It has grown from my experiences with my own animals and others I have spent time caring for. Animals face many different medical problems, but I have become especially interested in what happens when an animal needs treatment but getting that treatment is difficult. I first began thinking seriously about this problem while riding a **horse with asthma**. If a horse experiences an asthma attack on a trail or in the field, returning quickly to the barn may not be possible. Traditional equine asthma medications often require the horse to be stabled and fitted with a mask, which presents an obvious problem when the horse is miles away. Rather than simply accepting that limitation, I partnered with another equestrian to ask a different question: could we bring the treatment to the horse? Together, we developed a working **prototype designed to make it possible to administer asthma medication in the field** (I'm working on a **patent** for this prototype).

That experience led to another question. Because owners and trainers cannot be with their horses around the clock, how can they know what is happening with a horse's respiratory condition when no one is there to observe it? I helped develop a **biomedical engineering prototype designed to remotely monitor a horse's respiration** and provide more accurate information about its respiratory condition over time. Developing these prototypes introduced me to another side of veterinary medicine that I find exciting—the opportunity to combine biology, research, engineering, and creativity to solve practical problems affecting animal health. It taught me that when I encounter a problem, I do not necessarily have to accept the existing solution. I can ask whether there might be a better one.

These experiences have also made me think more broadly about access to veterinary care. Equine veterinarians already understand that veterinary medicine does not always happen inside a clinic; often, the veterinarian travels to the horse. I would like to extend that idea to companion animals and the people who care for them. Working in a veterinary office has shown me that some people deeply love

their animals but have difficulty getting them to a clinic. An elderly or disabled person may struggle to transport a sick dog or cat, while someone without reliable transportation may have no practical way to reach a veterinarian. Some animals themselves are difficult to transport. I have African Dwarf Frogs and about 20 small fish in aquaria, and if one becomes sick, I cannot simply put it in a carrier and take it to an appointment.

For these reasons, one of my long-term goals is to establish a **mobile veterinary clinic** that can bring medical care directly to animals and people who might otherwise have difficulty accessing it. In many ways, I see this as an extension of the same idea that inspired my equine projects: sometimes the solution is not figuring out how to get the animal to the care but figuring out how to bring the care to the animal. Whether I am treating patients in a traditional veterinary practice, bringing a mobile clinic to someone's home, conducting research, or developing new veterinary technologies, I want to keep asking questions, solving problems, and finding better ways to care for animals. Most of all, I want my career to make a meaningful difference not only for animals, but also for the people who love and depend on them.

PUBLIC SERVICE IS IMPORTANT TO ME

I have come to understand public service not simply as volunteering, but as a responsibility to use my time, abilities, and interests to make a meaningful difference in the lives of others. What I value most about service is its extraordinary range. It can mean proposing an idea that makes a community safer, ensuring that an older adult knows someone is thinking of them, bringing neighbors together through music, or preserving a centuries-old document so its story remains accessible to future generations. These experiences have taught me that meaningful change often begins with something surprisingly simple: recognizing where you can contribute and choosing to act.

For the past year, I have served as a **Junior Member of my city council** in Carroll Valley, PA. This has been one of my most meaningful experiences. I have learned firsthand how profoundly local government affects everyday life, while also discovering that young people can contribute valuable ideas to their communities. After recognizing the challenges faced by new drivers in finding safe places to practice, I researched and proposed an initiative to establish a local area where young drivers can develop essential skills, including parallel parking.

My commitment to service extends well beyond local government. Through the **American Association of Retired Persons (AARP) Cupid Crew** program, I designed, handmade, and sent more than 400 personalized Valentine's Day cards to older adults across the country so they would feel remembered and appreciated.

I have also discovered that public service can connect my own curiosity with the needs of others. My interest in Pennsylvania history led me to volunteer as a **Citizen Archivist** with the **National Archives**, where I transcribe and digitize historical records, so they are more accessible to researchers and the public. In the process, I have been able to explore the history of my home state and country while helping preserve it for others.

Whether I am participating in local government, reaching out to older adults, performing for my community, or preserving historical records, I have learned that service takes many forms but shares a common purpose: leaving something better, stronger, or more accessible than I found it. Public service has become more than a collection of activities for me; it has shaped how I understand my responsibility to others and the kind of person I hope to be wherever my future takes me.

THE ARTS ARE IMPORTANT TO ME

A biography about me would not be complete without mentioning the Arts. **I love to sing** and I love singing with my twin sister (we're both first sopranos). We began singing together when we were just six or seven. I remember as a young child standing up in front of our church congregation with my sister singing and I remember how much I enjoyed it. More than a decade later, my twin and I are still singing duets together. And while we continue to sing for our church, we also now sing with a **community chorus**. We are, by far, the youngest ones in the chorus, but this lovely group of people have welcomed us as equals. We sing and laugh and bring beautifully eclectic music to our local community. In addition to duets I've had opportunities to sing solos and with the chorus' "Octet." One of my favorite pieces with this small group was "O Magnum Mysterium," which we sang in Latin (that was great fun). I think this is one of the things that has enamored me with music all these years, how it can draw so many diverse people together who, at least for a little while, put aside all their differences to enjoy and celebrate the beauty of music.

Over the past couple of years I have expanded my artistic interests to include **musical theater**. I've been in supporting roles in several productions. My favorites include musical versions of Dickens' "A Christmas Carol", Roger and Hammerstein "Carousel", and an interesting adaptation of Grimm's "Hansel and Gretel." I love musical theater because it brings together music, storytelling, creativity, and performance in a way that can make an audience laugh, think, and feel something all at once. I especially enjoy how performing allows me to step outside of myself, connect with other performers, and help tell a story through music. Whether I am singing in an ensemble, a duet, or a solo, I love the energy of performing and the sense of connection that develops between the performers and the audience.

In addition to music, I also enjoy drawing. I draw by hand with both graphite and a digital pencil. I love the precision and detail that graphite allows, while digital drawing gives me the freedom to experiment with different techniques, pencil ‘brushes,’ and layerings. Over the years, I have been fortunate to have my work recognized in juried art competitions. My interest in drawing has also become an unexpected asset in my scientific and engineering work. The ability to translate an idea into a clear visual representation has allowed me to hand-draw schematics and technical illustrations for my prototypes, including drawings used in the provisional patent application my twin sister and I prepared for one of our biomedical inventions. I particularly enjoy this intersection of art and science because it allows me to combine creativity, observation, and technical precision—skills that are valuable in both fields.

SUMMARY

My experiences in science, public service, and the arts have shaped both who I am and who I hope to become. Homeschooling and university dual enrollment have given me the freedom to pursue my interests in meaningful ways, from veterinary medicine, biomedical research, and engineering to community leadership, service, music, theater, and art. My experiences working in veterinary medicine and developing biomedical prototypes have strengthened my goal of becoming a veterinarian who combines compassionate care with research, innovation, and improved access to veterinary services. At the same time, public service has taught me the importance of using my abilities to benefit others, while music and art have given me opportunities for creativity, collaboration, and self-expression. Although these interests may seem diverse, they are connected by what matters most to me: curiosity, creativity, service, and a desire to use what I learn to solve problems and make a meaningful difference in the lives of animals and people.