Priyanka is the daughter of a painter and a housewife. She has always liked school and enjoyed learning. “While I have always liked school, I never realized that learning could be so much fun. Since the Agastya van has been coming to our school I feel that I am understanding what I’m learning with so much more ease.” Priyanka says that she used to have to read what they were teaching her at school multiple times before she fully understood it. “There were times I would just memorize things because I knew I had to know it but I wouldn’t understand it. All that changed once the Agastya van started visiting our school.”

Of all the experiments that Priyanka has been exposed to, she says her favorite has been the experiments involving the use of litmus paper. “I have learnt about acids and bases but I didn’t know there was such a fun way to test them and tell them apart.” Priyanka likes that with the Agastya classes she gets to be involved in the process of teaching and learning. “The instructors come and encourage us to participate. They give us the materials and ask us to touch and explore. This is very motivating and encourages us to go home and try out things on our own.” Priyanka has successfully been able to make her own litmus paper. “I crushed and rubbed the dasavara flower on regular white paper. Once the paper turned red, absorbing the red colour from the flower, I left it out to dry. The next day I touched the paper to a piece of cut lime and I saw it turn blue before my eyes! It was so exciting to see the results. It was even more exciting because I did it all on my own.”

Priyanka really appreciates how the Agastya classes have impacted her regular classes. “Because our teachers see how we are interacting and learning materials, getting hands on exposure, I think they also feel inspired to change the way our regular class functions. They have started bringing in materials, they encourage group discussions and even let us make models in class.”

Priyanka wants to grow up to be a mechanical engineer. “I really enjoy taking things apart and putting it back together. I have even helped my brother take apart his bike and clean all the parts and put it together again.” The Agastya classes, Priyanka feels helps her develop these skills and interest further.
Name: Suma. S.
School: G. H. P. S. Nagarbhavi
Age: 13 years, 7th Standard

Suma, the eldest of 3 siblings. “My father works as a coolie and my mother is a housewife. I understand that, economically it is very difficult for my parents to afford things like books and toys for me and my siblings. We have always learnt to make do with what we have.” Suma says that from the time she was younger she has always been encouraged to repurpose whatever they had at home. “Before we threw anything away, my father would always ask us to see if we could find some use for it.” Because of this practice, Suma says she found it very easy to adapt to Agastya way of doing things.

Suma’s favourite thing about the Agastya classes is the fact that she is allowed to engage with the materials on her own. “The instructors let us try everything out on our own. They demonstrate it once and then they let us take over. I think this gives us a sense of responsibility and ownership. We actually learn more when they let us do it on our own.” Suma also likes the fact that she is encouraged to ask questions during the Agastya classes. “We learn certain concepts in our regular classes, then the Agastya instructors come and teach us the same concepts in a more hands on way. We have the opportunity to think and ask questions that we cannot ask in our regular classes.” Suma really likes the fact that she gets to revise everything she learns at school. For example, she says “We learnt about the human torso in school. Our teacher explained the body parts, all the organs and its functions. When the Agastya van came to our school they brought a model of the human torso. We all got to actually see where all the organs were. The instructors explained to what its functions were. It was like a refresher class.” Suma feels that this method of learning is more permanent.

Since her exposure to the Agastya classes, Suma says she notices several changes in herself. “I find myself wanting to participate more in class. I think more and I ask more questions.” Suma likes that she is encouraged to discuss all she is learns with her friends. “It gives a chance to discuss concepts and ideas with each other. This way, we can all hear each other ideas and sometimes we I hear my friends ask questions that I haven’t even thought of yet.”

Suma wants to be an engineer someday. She says that it has been a shared dream of hers and her father that she should go to college and become a successful engineer. She hopes that her love for learning and her dedication to school will help her achieve her dreams. “After I become an engineer I hope to come back to my school and build a lab here. I want other children to have better opportunities than I had so that even they can all reach their potential.”
Name: Jahnavi. S.  
School: G. H. P. S. Marenhalli  
Age: 14 years, 8th standard

“I have always wanted to see a microscope. We read about its uses and how scientists use it to identify different diseases, find unidentified parts of cells and make so many other amazing discoveries. I have read about it since I was in 4th standard. All I have seen are pictures in our textbooks. I would sit around and imagine what things might look like under a microscope lens. When the Agastya van pulled up outside my school, I stopped imaging and go to see first-hand what cells look like. The Agastya instructors put a few drops on red dye on a slice of onion and placed it on a slide. When they asked us who wanted to see, I ran to the front of the class. I couldn’t wait to look through the eye piece.” Jahnavi says that that day she got to experience what she had only dreamed of experiencing. Her experience of looking into the microscope gave her a new found love for science.

Since her first experience with the Agastya van, Jahnavi says there is nothing she looks forward to more. “I wish the van would come every day. I know it’s not possible but I still wish. We get to make some many fun things when the van comes. I have made a pin hole camera, we made our own litmus paper and we have also made our own slides for the microscope.” Jahnavi says that the Agastya classes have made her feel like a scientist. “We do experiments just like how scientist do them on TV. We get to make observations and discuss our findings. What better way is there to learn?”

Of all the experiments she has gotten to participate in, Jahnavi says that making a rocket out of PVC pipes and an old plastic bottle has been her favorite experiment. “I didn’t know it was so easy to make a rocket out of things we have lying around in our house.” Jahnavi says that she was very excited to go home and show her brother what she had learnt. “My younger brother is always makes paper rockets; I was excited to show him this rocket. We spent all afternoon seeing who’s rocket went the highest.” Jahnavi says that this experience has brought her closer ot her brother.

Jahnavi says that the Agastaya classes have transformed the way she looks at science. She understands now that learning science can be fun. She hopes that she can do more and more experiments so that she understands concepts more clearly. Jahnavi wants to grow up to be a doctor. “We don’t have any doctors in our family. It has always been my dream to become a doctor and treat children whose parents can’t afford good medical care. When I’m not treating children, I want to do my own medical research. I want to be able to find cures to diseases that don’t have cures yet. Then I will make those cures available to everyone for free.”
Name: Jigyashree  
School: G. H. P. S. Marenhalli  
Age: 14 years, 7th standard

Jigyashree, a daughter of a bus driver and a dhobi, says that she has never been interested in school until she was exposed to the Agastya classes. “I didn’t like school, I found everything very difficult to understand and I mostly was just not interested. The first time the Agastya van pulled up at my school was the first time I was actually curious about what they were going to teach us.”

Jigyashree says when she saw the materials, she could not wait to touch it and experience it for herself. “usually when teachers bring things in for us to learn, they never let us touch anything. They handle the equipment and we only observe. The Agastya instructors are not like that. They let us interact with all the materials. In fact, they encourage us to come up to the front of the class and touch everything and they also encourage us to ask questions and discuss what we are learning with our friends. We don’t get to do that in our regular classes,” says Jigyashree with a smile.

Over the past year, Jigyashree says she has got to be a part of several experiments and engage with numerous models. “My favourite experiment was the one in which we got to make our own litmus paper. We have always been under the impression that we need to have materials to do experiments. The Agastya instructors have taught us that we can use anything we have around us. Now we all feel like scientists!” Jigyashree has also done several experiments at home. She enjoys showing her parents and her siblings all that she learns at school and at the Agastya classes.

“T went home and built a simple circuit. I connected wires to a bulb and a battery. When the circuit was completed, I flipped the switch and the light came on. My mother was so excited that I had made this circuit all by myself.” Jigyashree also says that her parents are extremely supportive of her. “When my parents or my brother go out they always bring back things they think I can use at home to make my models.”

Jigyashree says that before attending these classes she had not given much thought to what she would do when she grew up. “Now that I know I can do so much, I have started thinking about what I can study in college, I think I want to study computer science. I want to be a programmer and I want to develop software.” Jigyashree hopes that the work she does in the future will contribute to the advance of our society.
“The first time the Agastya van came to my school, I remember being very scared and nervous. I didn’t know what they were going to teach us and I didn’t know if they would be strict. The second they stepped into my class I knew I had nothing to be afraid of. They were the friendliest teachers I had ever seen. They treated us like we were their friends.” Ruksar recalls her first ever experience with Agastya International Foundation. “On that first day they showed us an experiment involving a potato. They put the potato into a flack and then added acids to it. The potato released gasses. I had never seen anything like it before.”

Ruksar says that she was extremely fascinated that they instructors were using everyday items to show them such exciting experiments.

Her favourite aspect of the Agastya classes is that she gets to actively participate. “There isn’t a single Agastya class in which I don’t engage with some material or the other.” She says that this inspires her to go home and try her hand at experiments using what she finds around her. Ruksar’s younger sister also get exposed to the Agastay classes. “We both are always very excited to discuss what they taught us and try doing our own experiments. We feel like scientists.” She says with a smile.

Ruksar wasn’t to grow up to be a scientist. “I love doing experiments so much, I want to make it my career. I think it’s very important to do something you enjoy doing.” She says that Agastya Foundation had a big part to play in helping her realize this.
Name: Mahesh  
School: G. M. P. S., Jantha Colony  
Age: 11 years, 5th standard

Mahesh is the son of a street sweeper and a housekeeper. He says that he is aware that children like him do not have a lot of opportunities offered to them. “We don’t have a lot of money. I know it will be very difficult for my parents to afford to send me to college. So I want to work hard and get a scholarship so I don’t have to give my parents anything to worry about.” Mahesh says that organizations like Agastya International Foundation make that dream a possibility for him.

“They expose us to so many experiment and models. We get to see and do things we would never have gotten to otherwise. I also like that they do things at our level. They bring some fancy equipment but they also keep telling us that ‘science is all around us’ and I truly believe that it is.”

Mahesh has gotten good at doing his own experiments at home. “I am always fiddling with something or the other.” He says his favourite experiment to do is the one that explains the expansion or air. “I take a bottle and fill it with water. To the mouth of the bottle, I tie a deflated balloon. When I heat the bottle the balloon slowly starts to fill with air. This happens because as the water boils, it also heats up the air inside the bottle and that air begins to rise as it expands. This air fills up the bottle.” Mahesh has shown everyone in his neighborhood this experiment. “I love showing people this. I feel like a real scientist when I explain this phenomenon to people.”

Mahesh also enjoys learning about computers and he is especially fascinated by the internet. “I want to learn all that I can about computers. I want to use the computer to spread awareness about issues in our community. I will make posters about pollution, diseases and sanitation using the computer and print it out for everyone to see.”
Name: Arthi. S  
School: G. M. P. S., Jantha Colony  
Age: 11 years, 6th standard

Arthi says that there were a lot of concepts that she learnt in science class at school that she never fully understood. “We learnt about how the earth rotates around the sun, how seasons are formed and what causes eclipses. I have also always wanted to know why it was nighttime here when it was daytime in America. We never learnt any of that at school. Moreover, I could never imagine these things. Once the Agastya van started coming to my school, all that changed.” Arthi says that she has never been more interested in science as she is today. “And my interests and curiosity keeps increasing with every visit.”

“My favourite experiment was learning how to separate liquids. We mixed water and oil in a glass bottle and learnt about why they don’t mix and how to separate them using funnels and filter paper.” Arthi says she recognizes the importance of doing experiments in order to learn. “When we do experiments with our own hands we learn so much more.” She says that even her teachers have been inspired by the way the Agastya instructors conduct their classes. “Our teachers sit in on all the Agastya classes and they act like students, listening intently and being as fascinated as we are. My teachers have even started trying to do small experiments in class now. One day our science teacher brought a magnet to class and we all went outside to check and see if there were any iron particles in the sand.” Arthi says that her entire schooling experience has been enriched because of Agastya International Foundation.

“There is also so much connect between what we learn at school and what the Agastya instructors teach us. It’s like we are learning everything twice. We get so much more clarity and I feel like, because of the experiments we do, I will never forget anything I am learning.”

In her free time, Arthi enjoys playing chess and carom. “I like games that involve strategy and planning. I like thinking about the best moves and making other people also think.” She says that her role model is Dr. A.P. J. Abdul Kalam. “He was a scientist and has done so much for our country in terms of scientific advancement. He is such an inspiration and I want to be just like him.” Arthi says that she wants to be able to inspire children to learn and pursue science the way she has been inspired. “I especially want to ensure that girls study science. There is nothing boys do that girls can’t. In fact, I think girls are better at Science than boys!” she says with a smile.
Lulavathi says that she was enamored with Agastya Foundation’s first visit. “I have never experienced a class like that in the past. I didn’t think teaching and learning in this fashion was even a possibility.” She says that they teachers walked in with a number of models and stood in the center of the class and within seconds they had the whole class paying attention to what they had to say. “I have never seen the students in my class participate the way they did that day. Every single student was participating.” Lulavathi says she has thoroughly enjoyed every one of the Agastya classes and looks forward to them all the time.

Lulavathi and her classmates have got to conduct many experiments. The difference between the Agastya classes and her regular classes, she says, lies in the fact that she and her classmates are encouraged to discuss what they are learning and get up and engage with the materials. “When our teacher brings materials into the classroom, we are usually not allowed to touch anything. We play the role of observers. When the Agastya instructors come to our class, I feel like they put us in charge. They give us the material, the ask us questions and encourage us to think outside the box.”

Lulavathi has enjoyed experimenting with litmus paper, looking into the microscope and she has especially enjoyed learning about the plant world. “Gardening is my passion. I take care of all the plants we have at home, watering them every day and making sure they get ample sunlight. I enjoyed learning about the plant world from a scientific point of view. We learnt the difference between monocotyledons and dicotyledonous plants. I have even created charts to see how many different plants we have at home.”

Lulavathi wants to grow up to be a doctor. “My mother passed away because we could not afford good doctors and we did not have access to well-equipped hospitals. I want to become a doctor and serve other families like mine. I want to help people who cant afford medicines. This way fewer people will suffer the way my mother did.”

Agastya International Foundation, Lulavathi believes can really help her in accomplishing her goals.
Name: Rajamma  
School: G. H. P. S., Chikkakallasandra  
Age: 14 years, 7th standard

A daughter of a two construction workers, Rajamma has always enjoyed learning about the world around her. “Science has always been fascinating to me. When the Agastya instructors started taking classes for us, I was overjoyed. I think I was one of the first people to make my way to the front of the class to investigate what materials they had brought with them. I remember them asking for a volunteer and my hand shot up in the air.” Rajamma says that she has enjoyed every minute of the Agastya experience.

Among the many things that she has learnt through the Agastya classes, Rajamma says that she has specifically enjoyed learning about renewable energy. “We have abundance of solar energy and hydro energy. We should use it so that we don’t deplete our non-renewable resources. We don’t learn about these things at school.” Rajamma says that she also recognizes how communities like hers can benefit from learning about these alternate forms of energy. “We don’t have much by means of money and access to resources. If we tap into these other forms of energy, we will be better off.” She says hopefully.

Rajamma’s favourite experiment has been the one in which she learnt about electrostatic force. “When it gets cold, I have noticed that we sometimes get a shock. It has always fascinated me. The Agastya instructors explained to us how this energy is generated and we each got to do an experiment that demonstrated how electrostatic force is formed.” Rajamma says that these classes have also helped her develop a relationship with her family. “I go home and show my siblings and parents what I have leant. They are so excited to see me do these experiments.”

The Agastya experience, Rajamma says, has been very rewarding. “I have developed so much more confidence in myself. I don’t hesitate to participate. I find that I am so much more curious about the things I see around me. Before these classes I never used to do any of my homework. I didn’t take much interest in school work. I find the teachers to be extremely motivating and encouraging.” Rajamma says that it is nice to have someone who believes in her potential.

“When I grow up, I hope that I can make a significant contribution to the field of scientific research and development. I’m not sure yet what I will do, but I have definitely started thinking about it.” Rajamma says hopefully.
Name: Rahul. K  
School: G. H. P. S. Koramangala  
Age: 13 years, 7th standard

“I am thoroughly fascinated by electricity. I think it’s very interesting how just a few connections here and there can light up a whole house.” Rahul says he has always loved science and that his particular love for physics has increased since he has been exposed to Agastya Foundation’s programs. “The instructors have a such a unique way of teaching. They are all so passionate and they make sure you understand everything. We don’t hesitate to ask them any questions and we also learn more than we ever can from our textbooks.”

Rahul says that he has had many questions about how electricity is generated and conducted. “We use lights, fans and other electricity powered gadgets on an everyday basis. I have wanted to know how this is possible. What conducts electricity? How is it stored? How can we control its intensity?” He says that all these questions were answered once he got to see and participate in the experiments that the Agastya instructors have taught him. In fact, Rahul likes electricity so much that he walks around a small circuit in his pocket. The circuit consists of a wire, attached to a bulb and a battery. “I carry this around with me because I am so passionate about this area of physics. I can take it out, make the connecting and watch the bulb glow anytime I want. It’s almost like magic to me.” Rahul says excitedly.

He has used his knowledge of basic electrical connections to build a model of a motor boat and he says that he can fix any electrical problem at home. “If there is any lose contact or if lights need to be changed, I get it done very quickly.” He says that anytime he finds bits of wires, lights or switches at home he collects them and stores them safely. “You will never know how you can reuse or repurpose something.” This philosophy, he says he learnt from the instructors at Agastya Foundation.

Rahul says that these classes have also brought him closer to his friends. He says that they now sit together and make blueprints for models they want to build together.
**Student Case Stories**  
**BPCL- Kudur**

**Name:** Radha  
**School:** S. M. H. S. Kudur  
**Age:** 15 years, 9th Standard

Radha has been going to the Science Centre in Kudur for the past 2 years. With over 40 exposures, she says she has learnt more than she ever could have at school. “I have learnt about the properties of light, how lenses work, about air and water pressure. These are concepts I had not yet learnt in school. It was all new and exciting.” Radha is the daughter of a farmer and a housewife. She says that coming from a low income household, she is aware that they are not a lot of opportunities she is does not have the privilege to be exposed to. She says that the Agastya experience has been extremely enjoyable and eye-opening. “I have always wanted to do well and be able to financially support my parents. I didn’t think I could do it.

After being exposed to the Agastya classes I feel like I can achieve anything if I just try. Even over the past 2 years I have made and done so many things I didn’t think were possible.” Radha says that the Agastya instructors have given her the confidence to work towards her goals.

After learning about how to make models using low cost materials, Radha says she could not wait to go home and try her hand at making her own model. With the Agastya instructors help, Radha successfully made a solar powered cooker. “This is my favourite part of science. Not only do we learn many different things, but we also learn how to apply them to our lives. To make our lives better.” Radha says she was extremely proud of herself. “I dint think I could make something like this. I had never even dreamed of it.” Radha says she notices a peak in her confidence over the past 2 years. “The more I go to the science centre the more I want to learn, and the more I want to try and do things myself.”

Radha has even taken part in science fairs and competitions. “I was given the opportunity to explain the model of the human torso to my peers and even my teachers. I have never explained anything to anyone before. It was a very rewarding experience.”

In her free time Radha enjoys playing volleyball, listening to music and reading novels. She hopes to grow up and become a pilot. “I understand that I have to work hard to achieve this goal. Being exposed to the Agastya classes, I truly believe I can do it.”
Name: Ramya  
School: S. M. H. S. Kudur  
Age: 12 years, 8th Standard

Ramya is the daughter of a mechanic and a housewife. She is the youngest of 3 siblings. “My 2 older brothers and my parents are very supportive of me. They constantly encourage me to study hard, and they even help me with my homework.” Ramya also mentions that he parents are supportive of her extracurricular activities. “I really enjoy dancing and reading. My parents encourage me to pursue these interests. They even bring me books to read when they go out.”

Ramya has been to the Science Centre in Kudur over 30 times in the past 2 years. She has got to experience a variety of experiments and interact with numerous models. She says that the instructors have been very informative in the way they conduct the classes, but at the same time they make the classes very enjoyable.

Of all the models she has seen and experiments she has done, Ramya says that the model of the human body was her favourite. “I had never seen a model like that before. It was life size! I had only seen pictures of it in my textbook. I didn’t know how all the organs were connected and arranged in the body. That model was my favourite.” Besides learning about these models, Ramya says that she has also learnt a lot about why certain day to day occur. “I learnt about why oil and water didn’t mix. We also did an experiment to separate liquids that don’t mix.” The Agastya experience, she says, has helped her recognize how science plays a vital role in our life. “Science teaches us about everything that’s around us. We need to learn about it in order to make our lives better. Without science we will have no advancement.”

Ramya hopes to someday be selected as a Young Instructor Leader, a program initiated by Agastya International Foundation aimed at identifying and grooming future leaders. As a YIL she hopes to spread awareness about the open drains in her community. “I will make posters and spread awareness about the diseases that spread because of open drains. I will also file a complaint with the Gram Panchayat and hopefully they will take some action.”

Ramya says that her teachers have been her role-models. She feels that her learning will be enhanced if all teachers taught the way the Agastya instructors did. “I wish all subject could be taught in a hands on way. We could all really enjoy coming to school and learning would be fun.”
Name: Sahanesh R
School: S.M.E.H.S, Kudur
Age: 15 years, 10th standard

Sahanesh says his favourite subject is Physics. He enjoys learning about how light travels, how magnets work, the function of pressure, and even about electromagnetism. “I learn about most of these things in school, but I have never seen any of these things in real life. We learn about how electrical energy is transmitted through wires. We learn about how batteries work; but somehow we didn’t get a chance to see any of these things and experience them for ourselves. Once my class started visiting the science centre at Kudur, all that changed. We got to experience these experiments and so many more.”

Sahanesh says that he never fully understood how light travelled. “We read that it travels in a straight line. I have never been able to understand this. I always thought light was all around us. When I went to the science centre, the instructors did an experiment to demonstrate this phenomenon to me and it made so much more sense.” Sahanesh says that he was excited to go home and demonstrate this experiment to his younger brother.

Sahanesh has also participated in a science fair organized by Agastya Foundation. “I was given the opportunity to stand up in front of my friends and explain how to separate immiscible liquids. It was a very rewarding experience. If it wasn’t for Agastya, I don’t think I would have ever got the chance to explain any concept to my peers on such a platform.”

Sahanesh hopes that his association with Agastya Foundation will continue to grow. “I want to become a young instructor leader. I want to spread awareness about the importance of health and sanitation. People are not even aware of the importance of boiling water before drinking it. They just drink it straight from the tap. I want to tell people about the germs in water and the ill effects it can have on our health.”

“When I grow up, I want to be a software engineer. I like computers and feel like I will be good at it. I also want to make money so I can financially support my parents.” Sahanesh feels that if he continues to get the experiences he has got since he has been associated with Agastya Foundation, he will be able to achieve his goals. “The instructors are supportive and very helpful. I think with their help and guidance; I can accomplish anything I set my mind to.”
Name: Sadhir Irfan  
School: G. H. S., Kudur  
Age: 14 years, 9\textsuperscript{th} standard

Sadhir has been going to the science centre at Kudur for three years now. He has had over 50 exposures to the Agastya classes. He describes his experiences as “fantastic and extremely useful.” Sadhir says that his favourite thing about the Agastya classes has been learning how to make low cost models. “I didn’t not know that there was so much use for things that we throw away. I have learnt how to repurpose so many things that we simply throw away without thinking twice. Not only do I find a use for it, but I also learn something from the way I use it.”

Sadhir has become very good at making his own models. His skills also enabled him to participate in a science fair where he explained the concept of electromagnetism. He has also been able to make his own model to demonstrate levitation that occurs because of electromagnetism. “I am constantly making models these days. Whenever I get any free time, I see what scrap materials I have at home and I start making something.”

Besides his passion for science. Sadhir is also passionate about the environment. He hopes to spread awareness about the importance of planting more trees. “Trees give us oxygen and its necessary for our survival. Trees also help us combat pollution,” says Sadhir. He is also cognizant of certain issues regarding safety in his community. “We do not have enough street lights. It gets very dark at in the evening time and it’s unsafe for anyone to walk.” In order to overcome this problem, Sadhir says that he will file a complaint with the electricity officer in who is in charge in his community.

Sadhir says that he hopes to become a teacher when he grows up. He says that the Agastya teachers have inspired him and he hopes to become a teacher just like them. “They are so dedicated and teach us in a way that we not only learn the concepts well but they also make sure that we have fun as we are learning.” Sadhir wants to also be a teacher who ensures that his students enjoy learning.
**Student Case Stories**
**Brillio - Bangalore**

**Name:** S. Shiva Shankar  
**School:** G. M. P. S., Marathalli  
**Age:** 13 years, 7th standard

Shiva says his favourite subject has always been science. He has enjoyed attending science classes in his school and his science teacher is one of his favourite teachers. “Science has always been interesting to me. We learn about so many things that we didn’t even think to question. Why is the sky blue? Why does the water look blue but is actually colourless? Why do we get stomach aches? There are so many questions that only science can answer for us.” Shiva says that while he has always enjoyed learning science concepts, he has only ever read them from his textbook. “Once the Agastya van started coming to my school, I realized that I could learn science from anything and everything around me.”

Shiva says his favourite aspect of the Agastya classes has been that he gets to use his hands to create things. “We don’t just see the models that the instructors bring in. We always have the chance to make our own as well. I have come to really enjoy making models. I also think I have really learnt to make good models.” Shiva says that his family is also very supportive. “They are every ready to help me source materials to make model at home. My father is a plumber, anytime he finds extra pipes, nuts, or bolts at work, he always brings it home for me. I managed to make a periscope using bits of an old pipe and an incense box. After I made it, I explained its working to my mother and she was really impressed that I was learning so much.” He goes on to say that this was his favourite model. “It’s such a useful invention. It helps soldiers and they can make necessary preparations when they see the enemies approaching.”

Shiva also shares what he learns at the Agastya classes with his younger sister and brother as well. “Both of them are in 2nd standard, they don’t really understand much of the content so I just do the experiments that are fun. I showed them how to make a horn using a straw. We then put the horn into a cardboard tube and amplified the noise. My brother and sister were so excited.”

The difference between the Agastya classes and his regular school classes, Shiva says is that he can’t actively participate the way he does in the Agastya classes. “The Agastya instructors always encourage us to ask questions. They ask us to make models, the ask us what we didn’t understand and they also ask us to discuss what we are learning with our friends. In our regular classroom this isn’t fully possible. I think participating in class is what enables us to learn better.”
Name: Sangeetha  
School: G. M. P. S., Marathalli  
Age: 12 years, 7th standard

“We need to learn science for the advancement of our community. We can’t make progress as a nation if we are not dedicated to learning science.” Sangeetha, a daughter of a gardener and a housekeeper, says that she never used to enjoy science the way she does now. “I used to just learn things because I thought I had to. I never wanted to learn it. However, the Agastya instructors have changed the way I feel about science and school on the whole. They have made the experience of learning fun and engaging. I look forward to their visits all the time.”

Sangeetha says that of all the experiments that she has been exposed to, the experiment in which she made her own litmus paper was her favourite. “We think that all these things are only available in the labs and in the shops. The instructors have taught us that we can make do with what is available to us. We have so much material around us that we can use to experiment and learn with.” Sangeetha says that she was very excited to go home and try her hand at making her own litmus paper. “I was successful. I showed the children in my neighbourhood how the litmus paper changes colour when it comes in contact with different materials. They though it was like magic.”

Besides doing the small experiments, Sangeetha has also been putting her science knowledge to use by trying to see how what she knows can improve her life. “We learn about solar energy and how we can harness the sun’s energy to generate electricity. I found this very fascinating. I took the help of the Agastya instructors, my teachers and my father to make my own solar light. We charge it out in the sun every day and if we have a power outage, I turn on the solar lamp.” Sangeetha says that her solar light has been the talk of the town. She has had neighbours and friends come home to examine her light. “A lot of neighbours have even asked me to make one for them,” she says with a smile.

Sangeetha wants to grow up to be a doctor. “I want to become a doctor so that I can help people. I want to treat people who can’t afford medical care.” She says that her family is supportive of her dreams. Sangeetha says that with support from organizations like Agastya, children like her who don’t have much by ways of money and facilities, have a greater chance of making something of themselves.
Name: Basamma  
School: G. M. P. S., Marathalli  
Age: 13 years, 6th standard

“I like science because we can actually experiment. We can see things happen before our eyes. We can do things with our own hands. When we study history or English or Social Studies, there are no experiments for us to do. We only have to learn facts.” Basamma, an enthusiastic 13-year-old, credits Agastya for helping her realize that learning can be fun.

Agastya International Foundation, Basamma says, has opened her up to a world of possibilities. “I did not think I could do so many experiments on my own. The Agastya instructors are so supportive and encouraging, they make us feel like we can do and make anything.”

Basamma has been exposed to a variety of experiments. Of all the experiments she has been exposed to, the experiment where she learnt how to filter water was her favourite. “This experiment is a game changer, not only for my community, but for so many low income families. If we can find a way to create this low-cost model on a larger scale, so many people will benefit from it!” Basamma says she was never able to think in this manner before. She says that since she has been engaged in the Agastya classes, she finds herself think about how she can use science to solve problems she encounters on an everyday basis. Basamma says she has also noticed that her ability to question what she’s learning has improved. “I never used to ask any questions, I would just listen to what the teacher is saying and nod. The Agastya instructors have taught me how to question. They have made me ask ‘why’ for everything. By doing this, I realize that I am learning so much more. And I will never forget what I am learning.”

Inspired by the experiments she does at school, Basamma now does experiment at home to show her younger sister. “I showed her the experiment of changing states of matter. I heated salt water and showed her how the salt dissolves. Then on cooling the water, the salt reappeared.” Basamma says that her sister was very excited to see the experiment and has also taken the initiative to show her friends the same experiment.

Basamma is also a concerned member of the community. She is aware of all the problems that exist in her community and is ever ready to take action. “we have a lot of people who throw garbage in our neighborhood. I have made posters and put them up to make people aware of the ill effects of throwing garbage.”
**Name:** Suhas. N. M.  
**School:** G. M. P. S. Naranyapura  
**Age:** 12 years, 7th standard

Suhas says that he was never really interested in Science until he was exposed to the Agastya classes. “The instructors have a special way of teaching. It never feels boring and we never feel like we are ‘studying’ or ‘learning’. When our teachers come to class they only talk about exams and tests, we never learn for the fun of leaning. However, we get to do that in the Agastya Classes. I really enjoy them.”

Suhas says he enjoys the fact that he gets to use his hands to learn. “I had never done an experiment. I didn’t think it was something just anyone could do.” Suhas says that he hasn’t stopped doing experiments since he has been exposed to the Agastya way. “Everytime I learn a new concept, I go home and see if there is a simple experiment I can do or a model I can make to understand it better.” He says that he recognizes the role hands on activities play in helping him retain what he has learnt. “When we read things from the text book, I never remember it. However, when I do an experiment, I always remember it very well. I am even able to explain it to my friends.”

One of Suhas’s favourite experiments to do has been making a model to explain the working of a water turbine. “I took a straw and pierced a pencil half way through it. Then I folded up the extending sides of the straw to make a small triangle. The pencil is immersed into a glass of water, then we have to rotate the pencil in a churning motion. The water spins around fast and that’s how water turbines work.”

Suhas says that he has noticed a lot of changes in himself since he has started attending the Agastya classes. He says that he feels more confident, more engaged and looks forward to participating in class. Suhas hopes to grow up and become an engineer. “I hope that everything that I have learnt over the past year will make me a better engineer. I hope that I will be able to do more complex experiment and also help people around me understand things in a better way.”
Name: Renuka H.
School: G. M. P. S. Narayanapura
Age: 12 years, 7th Standard

The first time the Agastya van came to Renuka’s school she says she was a little nervous. “I didn’t know what they were going to teach us. I was afraid I would not understand.” These fears, Renuka says, soon disappeared. “I really like how the Agastya instructors explain things to us. They make everything sound so simple and easy. They make us feel like we can all learn anything.”

Renuka has been extremely fascinated by all the experiments she has been able to do through the Agastya program. “I really enjoy doing experiments involving acids and chemical reactions. It’s so much fun to see what happens when we add different acids to water just to observe what happens. That was my favourite experiment. Now I know how different acids react on contact with water. Some foam, some form a residue and some change the color and viscosity of the water completely.”

Renuka says that she likes learning science because she recognizes how important it is for her future. “If I don’t take science seriously now, I will not be able to understand anything in higher classes. Even if I don’t pursue a science field, I would like to know the basics so I can teach my own children.”

The Agastya experience, Renuka says, has brought her closer to her family and friends. “I do experiments at home and explain them to my siblings, neighbors and parents. My favourite experiment to do is the one where we investigate if air has weight. I take two balloons, fill one with little air and the other one with more air. Then I take a horizontal rod and tie each balloon at either end. Then I ask people to guess what’s going to happen. A lot of them say the rod will be balanced. But they are surprised to see the results. The rod dips on the side of the bigger balloon, because air does have weight.

Renuka wants to grow up and become a scientist. She wants to do as many experiments as she can. “The more we experiment, the more we will learn. I want to discover or invent something that will contribute to the advancement of science.”
Name: T. Karthik Vishal  
School: G. H. S. [Boys]  
Age: 14 years, 9th standard

Karthik spends his free time playing cricket and reading. He says of all the subjects he learns in school, science has always been his favourite. “I think science is interesting because we get to learn about the world we live in. We find an explanation for everything we see and experience around us.” Karthik says that he especially likes Physics. I like learning about electrical connections, how electricity is conducted, how magnets work, and how light travels. “I didn’t know that we could learn all these concepts by doing our own experiments. I was always under the impression that the textbook was our only source of information. I like the Agastya classes because they have taught us to question and think beyond the textbook. Over the past few years I have learnt more than I ever thought possible.”

His love for Physics, combined with his fascination with electricity, has led Karthik to start experimenting with things he finds lying around his house. He has managed to make a circuit that lit up a light bulb powered by lemons. “I took a lemon, cut in half, then I connected a copper wire to one half of the lemon and a zinc wire to the other half of the lime. Both the wires were then connected to a bulb. The acids in the bulb and the properties of the wires, help conduct electricity and in turn light up the bulb.” Karthik says that he didn’t think he could do these kinds of experiments on his own. “not only have I learnt so much, but I have also gained a sense of confidence that enables me to do these experiments on my own at home.”

Karthik wants to grow up to become a scientist. “I want to become an inventor. I want to be able to make robots that will help people. The robots I invent can be used in war times so that we don’t have to lose people. I also hope to invent a robot that’ll help people out in their homes – a domestic help robot so that people can concentrate on doing more important things with their time.”

Karthik hopes to keep working on his physics so that one day he will be able to achieve this goals. “I hope that with the support I get from the Agastya instructors I will be able to make more complicated connections and eventually be able to make a fully functioning robot!”
Name: Akram Basha  
School: G. H. S. [Boys], Kuppam  
Age: 14 years, 9th standard

Akram’s father is an auto driver and his mother is a housewife. He’s the eldest of 3 siblings. “I have enjoyed every single Agastya class. We are constantly encouraged to think for ourselves, to question what we are learning, and to use our hands in learning.” Akram says that his favourite part of the Agastya class is that he can participate in doing all the experiments. “The instructors encourage us to get our hands dirty. They always give us the materials and tell us that we can do it ourselves. I like that encouragement and I feel like it gives me the confidence that I can do anything if I just give it a try.”

Akram was selected as a young instructor leader early in the program. He says that as a YIL he developed many leadership skills and feels like those skills have translated well in the classroom as well. “I have so much more confidence now. I feel like I can explain things to my peers and they will understand what I am saying.” Akram even participated in an Agastya organized Science Fair. “If I had not been a YIL, I may have not had the confidence to participate in the Science Fair. I had to explain a model that demonstrated how the center of gravity works. I was a little nervous at first, but then I remembered what I had learnt in my YIL program and I was able to explain well.” Akram says he looks forward to more opportunities like this in the future as well.

Akram enjoys making his own models and doing experiments on this own at home. With the help of the Agastya instructors, Akram managed to make his own seismograph. “I used a cardboard, sketch pens, and graph paper to make the seismograph. When a sound is made, the seismograph captures the magnitude of the sound on the graph paper.” Akram says he was very excited when he made this model and was even more excited when he got to explain it to his classmates. “They were all very eager to learn how it functioned and how we can use devices like this to detect earthquakes.”

Akram wants to grow up to be a doctor. “I want to be able to help people who cannot afford quality medical care. I feel like having access to medication and even good physicians is a privilege, and I want to make it more accessible to those who are who are less fortunate.” Akram recognizes that he has a long road ahead of him, however he is optimistic and hopes he can achieve his goals provided he is given more opportunities like the ones he has received from Agastya International Foundation.
Name: Vishwa G.  
School: G. H. S. [Boys], Kuppam  
Age: 15 years, 9th Standard

Vishwa lives in a small 3 room house with his grandmother. “My grandmother works as an iron lady; she does what she can to ensure I get a good education. She is thrilled that I have the opportunity to learn from the Agastya Instructors.”

Vishwa is extremely fond of mathematics. He says that he used to find it difficult until he was exposed to the Agastya way of learning. “I used to spend a lot of time trying to solve the homework problems. It takes much less time to solve them now that the Agastya instructors have taught us a fun way of doing math.”

Besides Math, Vishwa also enjoys physics and Chemistry. “We have been exposed to so many fun and interesting experiments. We have learnt how to question what we are taught and also how to link one idea to another.” Since he has been actively participating in the Agastya classes, Vishwa now also spends his free time at home doing experiments and building models. He recently made a working model of an irrigation system.

“I used an old water bottle, some pipes and other plastic containers to develop my own water sprinkler and drip irrigation system. I had a lot of support from the Agastya instructors in developing this model. They even coached me in describing its working to my peers. I have learnt a lot through the course of this project.” Vishwa says that he hopes he can develop more models like this in the future. He says he is specifically interested in making his own robot.

Besides this project, Vishwa has also made his own low cost microscope using an old magnifying glass and a geometry box. “I even made my own slides of pollen grains and observed them under the magnifying glass.”

Vishwa has won an Inspire award for some of his models. “My model of a rain gauge, that I made using an old water bottle won me an award last year,” he said proudly. He says he looks forward to making more models and winning more prestigious awards under the guidance of Agastya Foundation.
Name: Faiza Afrin  
School: Z. P. H. S. Kuppam  
Age: 13 years, 9th Standard

Faiza’s father runs a small hotel and her mother is a housewife. She says that she wasn’t really interested in Science until she started attending the Agastya Classes. “I didn’t think school could be fun. I always associated school with boring classes, and teachers who teach right out of the textbook.” Faiza had never done an experiment on her own and was excited by the hands-on approach adopted by the Agastya instructors. “I didn’t know we could use things we had at home to do our own experiments. I always thought we needed a lab and proper equipment. The fact that we get to do so many experiments is my favourite thing about the Agastya classes.” Faiza says that now she spends a lot of her free time, trying to do her own experiments and make her own models.

Recently, after learning about electricity, building a simple circuit and how motors function, Faiza made her own automatic sharpener. “I attached wires to a battery, which in turn I attached to a simple motor. I then attached a plastic sharpener to this connection. When the circuit is closed, the current reaches the motor and in turn makes the sharpener rotate.”

Faiza says that as she was working on this invention, she learnt a lot not only about the subject matter, but also about herself. “I didn’t realize I was so determined to get things right; I didn’t know that I could invent something all on my own. This whole experience has motivated me to keep working hard and take school seriously.”

Faiza wants to grow up to become an IAS officer. She hopes to develop and work on programs that give children from low income population the opportunity to interact with more programs similar to Agastya’s. “I have learnt so much from this opportunity, I want other children who come from the same background that I come from to learn as much as they can, so that they too can be successful.”
Hemashree. V
Z. H. P. S., Kuppam
13 years, 8th standard

Hemashree says she has always loved science. “I like it because we can learn about everything we see around us. We can learn about why the sky is blue, why water quenches our thirst, why we feel hot or cold. Everything!” While she has always liked science, Hemashree says she has never thought about learning science concepts by conducting her own experiments.

“The Agastya instructors have opened up a whole new world of learning for me. I never thought I would get a chance to do so many experiments and see so many models.” Hemashree says that she really appreciates how her association with the program has encouraged her to take an ownership for her learning. “The instructors keep telling us that we have to ask questions to learn, that we have to look for answer and that we should not accept anything we are told, without first experimenting.” She also says that she really likes the fact that she gets to actively participate in all the classes. “Our teachers do experiments in class sometimes as well; but they do not allow us to touch the materials, the just do a demonstration and take the materials away. What I really like about the Agastya classes is that we get to use our hands and actually do the experiment for ourselves. I feel like I am a part of the class and we are all learning together.”

Like many of her classmates, Hemashree has also started doing her own experiments at home. “I made my own speaker and experimented not sound waves can make particles move. I took a tumbler and placed a cell phone inside. I then covered the tumbler with a plastic membrane and secured it tightly with a rubber band. On top of the plastic membrane, I sprinkled some sugar. When I called the cell phone, the vibrations of the phone would make the sugar particles on top of the plastic membrane jump.” Hemashree says that she has enjoyed demonstrating this experiment to her friends and family. “I like explaining how this works, its exciting when someone understands something because I explained it to them.”

Hemashree hopes to grow up to become a teacher. “I want to teach children the way the Agastya instructors have taught me. I want to be inspiring and provide them with all the experiences I have been lucky enough to get.” Hemashree hopes that with more Agastya exposures and more interaction with the Agastya teachers, she will be able to achieve her goals.
Name: Shobha  
School: G. H. P. S. Yelahanka (B.E.O.)  
Age: 15 years, 10th standard

Shobha enjoys science because you can learn about so many different things. “We learn about plants, animals, nature, machines and even ourselves! There is nothing we can’t find an answer to in science.” Shobha is a daughter of a factory supervisor and a housewife. She is the youngest of three siblings. She says that her family is very supportive of her and believe in giving her all the opportunities she needs in order to succeed. “There is nothing my parents tell me I can’t do. They make sure I come to school, do my homework and even participate in competitions. They even let me play cricket and kabaddi with the boys in my neighborhood.” Shobha feels that Agastya Foundation also has a similar outlook. “They constantly encourage us to ask questions and try out experiments that we haven’t done before.” She says that the visits from the Agastya van have opened up a new world of possibilities and opportunities for her.

After her first exposure, Shobha says that she ran home to try out everything that they had showed her during the class. “I went home and quickly used whatever I could find around the house to demonstrate to my parents what the Agastya instructors had showed us. They were so excited to see that I could do all these experiments and demonstration on my own.” Shobha enjoys explaining what she has learnt to her friends as well. She likes clearing doubts and watching people understand concepts once she explains them. Shobha recently made a chart to demonstrate an experiment that explains the expansion of metals. “A lot of my classmates have said that they understood that concept clearly after looking at my chart.”

Shobha’s enthusiasm and inborn ability to be a leader, got her into Agastya’s Young Instructor Leader program. As a YIL, she has enjoyed explaining science concepts to her friends and hopes to spread awareness about issues such as cultivating healthy eating habits and the importance of sanitation. “I think it’s very important for us to eat healthy and keep our surroundings clean. We can’t hope to make progress as a community if we don’t take care of ourselves and our surroundings.”
**Name:** Vijayalakshmi  
**School:** G. H. P. S. Yelahanka (B.E.O.)  
**Age:** 14 years, 8th standard

Vijayalakshmi says she likes science because through science she learns about why and how things around her happen. “Science is not like other subjects; we are still discovering things about science. In other subjects, facts are facts; but in science everyday people are discovering and inventing new things. I find that very exciting.” She says that the Agastya experience has not only made her love what she learns but also and appreciate science more and more.

“The first time the instructors came to our class, they brought with them a microscope. I had never seen a microscope before. They then showed us how to make a slide. We all got to make our own slides of the onion skin. We then dyed the onion skin so that we could examine its different parts.” Vijayalakshmi says she was very excited to learn that just like our skin, the onion skin was also made up of complex structures. “We eat onion almost every day, yet we never think about things like this. I really like that through these classes we are made think about everyday activities and phenomena.”

Vijayalakshmi is passionate about environmental causes. “While I agree that we need to work towards scientific advancement, I also think it’s important to make sure we don’t destroy our environment in the process. We have made so many useful machines but we are depleting natural resources and ruining what we have. For example, the refrigerator is a very useful invention but it releases chlorofluorocarbons into the atmosphere and that leads to global warming.” Vijayalakshmi wants to spread awareness about these issues and help make her community more environmentally aware.

In her free time, Vijayalakshmi enjoys making scrapbooks and decorating the house. “I am always cutting out nice pictures from magazines and newspapers. I collect them and stick them in a notebook. I have so many different notebooks with different themes. I have many books with articles and pictures about the environment.” Agastya, Vijayalakshmi says, has activities that also support her hobbies. “During the science fair, besides doing experiments, the instructors engaged us in many arts and crafts projects. We made art with broken bangles and we also learnt the art of paper-folding”, she said excitedly.

Vijayalakshmi says that the Agastya classes have made her more confident and now she finds that she is questioning things as she learns about them. “The instructors are right, the more you question, the more you learn.”
Name: Bhavya. V.
School: G. H. P. S. Yelahanka (B.E.O.)
Age: 12 years, 8th standard

A daughter of a supervisor and a housewife, Bhavya says she has always liked science. “I like learning about why things happen and finding explanations for what we see around us.” While she has liked science, Bhavya says that she has never really thought about doing her own experiments or making models to thoroughly understand what she is learning. “The Agastya instructors have opened my eyes to a completely new way of learning. I had no idea we could learn science this way. They have made learning so much fun for us.”

Bhavya especially likes the way the Agastya instructors conduct the classes. “They don’t treat us like students, they treat us like friends. They have created such a safe and friendly classroom environment that we don’t feel scared to ask them any questions. In fact, they keep encouraging us to talk to them, to discuss what we are learning with our friends and most importantly to ask questions.” Bhavya says that she has learnt more in her Agastya classes than she has learnt at school.

Of the many things that Bhavya has learnt at the Agastya classes, she says that one thing that she’s really happy to have learnt is that almost everything we have around us can be made use of for something or the other. “The Agastya instructors have taught us to really use our brains and find a use for all things that we find around us. We learnt how to make a model that explained the working of the submarine just using a water bottle and an ink filler.” Bhavya has taken this practice to her house as well. “I have told my parents and my siblings about how we can reuse almost everything we have at home.” Bhavya also learnt about the benefits of composting during one of the Agastya classes. “I went home and my father helped me dig a composting pit. Now we compost all the wet waste from our kitchen.” Bhavya hopes to spread awareness about how we can all be less wasteful as human beings. “I have encouraged all my neighbors to also make composting pits, we have all also started recycling newspapers and plastic bottles and boxes.”

Bhavya wants to grow up to be a teacher. “The Agastya instructors have inspired me. I also want to become a teacher who make her students think. I want to encourage my students to ask questions, to be mindful about what they waste and throw away. I hope that my students will also be inspired the way I have been and that they will go on to either become scientists and engineers or that they also become teachers. We need more people inspiring students and helping them realize that learning can be fun and innovative.”
Name: Shruthi. R.
School: G. H. P. S. Yelahanka Bangla
Age: 13 years, 7th standard

Shruthi was a little hesitant when the Agastya van pulled up at her school. “I was not sure what they were going to teach us. I didn’t know how the teachers were going to be. It was new and a little scary.” Shruthi says that once the class started, all her fears went away. “the instructors spoke to us in such a friendly way. They encouraged us to come forward, ask questions and to even touch all the equipment that they brought with them.” She says that during the very first class, the instructors demonstrated experiments involving chemical reactions. “They had gloves and test tubes. They even allowed us to do the experiments with our own hands. We all felt like real scientists. The experience was unforgettable.” Shruthi says that since that first experience she has always looked forward to visits from the Agastya van.

Another aspect of the Agastya class that Shruthi really enjoys, she says is that the instructors are really passionate when they are teaching. “They teach because they want us to learn. They don’t just teach us for the sake of teaching or to complete portions.” She says that the teachers’ attitude is very motivating and she often finds herself explaining what she has learnt at school to her friends and family with the same level of enthusiasm as the Agastya instructors. “I do my best to question them the way that the Agastya instructors question us. I hope that they also become curious and confident to ask questions.”

Shruthi enjoys going home and redoing experiments that she has done at school with the Agastya instructors. “I have done the experiment that demonstrates refraction and I have also made my own litmus paper.” Shruthi also has an artistic side, she enjoys drawing and making charts. “After we learnt about the human body, I came home and made several charts that explain the respiratory and the digestive system. I hung them up at home so that my family could see it every day and learn from it.”

After attending the Agastya classes, Shruthi says that she finds that she has become more curious about what she sees around her. She says that she makes a note about things that she wants explained to her just so she can ask the Agastya instructors. “They are so patient. They are happy to explain things again and again until we all understand.

Shruthi wants to grow up to be a lawyer. She says that it really upsets her when people are not treated fairly. “I want to fight for people that can’t fight for themselves. It’s not fair when the poor get treated unfairly because they can’t afford lawyers.”
Name: Sowmya. S  
School: G. H. P. S. Yelahanka (B.E.O.)  
Age: 12 years, 7th standard

Sowmya says that she was excited the first time she saw the Agastya van. “I was curious as to what they were going to teach us. They had so many materials and when they came into our class they were so friendly. They made us all feel so comfortable. I knew immediately that is was going to be something that I would enjoy.” Sowmya says that she has enjoyed every single Agastya exposure and that she definitely feels that it has changed the way she looks at not only science, but school in general.”

“there were so many things I didn’t even know I didn’t know. Our teachers would explain things to us and I would only understand a gist of it. Once the Agastya van started coming to our school I realized that there was so much I didn’t know. For example, in school we learnt about Newton’s laws of motion. I never fully understood what ‘to every action there’s an equal and opposite reaction’ meant. The Agastya instructors showed us an experiment that made this completely clear for me. We took a piece of cardboard, attached 4 wheels to it like a car using toothpicks. Then we attached a straw in the middle and attached a balloon to one end. When we blew into the straw the balloon filled up with air. Then we covered the straw, placed the model on the ground and let go of the straw. As soon as we did that, the cardboard moved forward because the air was coming out in the opposite direction. And the best part was we all got to do it on our own!” Sowmya explained excitedly.

Sowmya said that she went home and demonstrated it to her parents and that they were very excited that she was learning in such a fun way at school.

Sowmya loves how the instructors make even complicated concepts sound so easy. “Nothing is scary when the Agastya instructors teach it to us. We want to ask questions and we want to know more.” Sowmya says that she recognizes the importance of learning by doing. “The hands on learning experience really ensures that we never forget what we learn. When we do things with our own hands we not only understand it better but we will remember it long after our exams are over. We’re not learning only for exams.” Sowmya says that she notices that her basics are getting stronger and that she now able to quickly link one topic she learns to another.
Name: Shahista Riyaz
Age: 13 years, 10th standard
School: Featherlite Government School, Bangalore

Shahista has always had a keen interest in Science. Agastya, she says, gave her the opportunity to cultivate those interests. “I’ve always liked science”, she said enthusiastically. “But I’ve never had the chance to show anyone my talents, whether it be making models, or explaining concepts. Now, with Agastya, I have been given that chance on multiple occasions and I am grateful for that”, she adds. The things she remembers most fondly about her first visit to Agastya was the friendliness of the staff. “The instructors didn’t treat us like students, they treated us like friends. They were so welcoming. Children with a background like ours tend to be hesitant when meeting new people, we’re shy; but the Agastya instructors made us feel comfortable enough to interact with them.”

Shahista is the eldest of 4 children. She has two younger sisters and one younger brother. She reports that she enjoys helping them with their math homework and teaching them new and exciting things she learns at Agastya. Being the inquisitive, eager to learn, 13-year-old that she is, Shahista was selected as a Young Instructor Leader on her first visit to the Agastya campus. As a YIL, she says she derives a lot of joy in explaining science concepts to her peers. “I like solving problems” she said. “When I come across a math problem I can’t solve; I can’t sleep until I solve it” she laughed. Shahista’s zest for learning combined with her curiosity has led her to participate in, and win several competitions. Her model of a security system, that she built using cardboard, to which she attached batteries, electrical wiring, a light and a siren, won her an INSPIRE Award, at a competition for innovation in science conducted by the Government of India’s department of Science and Technology. “I love making models” says Shahista. “I spend all my free time researching ideas of models I want to create”, she reported. She built a model helicopter using an empty plastic bottle, ice cream sticks, a motor, and batteries. When learning about electricity, she built a model of a house with a functioning light and fan inside. Shahista’s interests in science are varied. Besides her love and aptitude for Physics, Electronics and Math, she also enjoys Biology. In 8th grade she planted monocotyledinous and dicotyledonous plants, observed them and recorded changes every day to compare and contrast growing styles of both types of plants. While learning about the urinary system in school, Shahista and her friends created a working model of kidneys using sponges, clay, pipes and water.

In addition to being an exceptional student, Shahista is also a concerned, caring member of the society. Her passion for science has led her to improve living conditions in her neighbourhood. “I noticed that there was a lot of organic waste near my house”, she said. “My neighbours would
just throw out old fruits and vegetable. I remembered learning about composting, so I helped make a compost pit in our community and now everyone uses it!” she reported excitedly.

Shahista has big plans for her future. “I want to get a Ph.D. and invent something. I want to be a scientist!” she exclaimed. After attending classes at Agastya, she says she feels more confident in trying new things. “Before Agastya, I used to learn things just for the sake of learning. If there was a competition in school, I would make models and learn new concepts just for that. Now I’ve become more curious and I don’t hesitate to try new things on my own. I have an urge to try it at least once. Even before the teacher covers the lesson in class, I read it and try to make things on my own” she said. Her love for learning is manifested in her remarks about education. She stresses that the world will be a better place if everyone was educated. “I think everyone should take education seriously. If we’re not educated we can’t make any changes”, she opined.

What Shahista likes most about Agastya is their hands on approach. “When you read from a book, you learn only some of the concepts. When you observe other people demonstrating experiments, your learning is at about 50%. However, if you want to achieve 100% learning and understanding, you have to be allowed to touch, do, and experience things for yourself. Agastya encourages us to do that” she added.
**Name:** Chethan Raj C  
**Age:** 11 years, 9th Standard  
**School:** Featherlite Government School, Bangalore

Chethan is a born handyman with a knack for explaining complicated contraptions in a simple fashion. “I love fixing and inventing things”, he said, when asked how he spends his time. Chethan’s appreciation for simple explanations is reflected in his recollection of his first visit to Agastya. “The first time I went to Agastya, they demonstrated the experiments and then asked us to do it. They explained everything in such a simple manner. When we see all those materials we get nervous but when they explain it, it’s so clear” he said fondly.

Chethan is great at taking what he learns at Agastya and using it to transform everyday life for the better. He gave his bicycle a drastic makeover by attaching a dynamo to the bicycle chain with a rubber band. The dynamo powers a speedometer and headlights when the cyclist is pedalling. “The faster you pedal, the brighter the light shines” he excitedly reported. At a later time, Chethan took this makeover one step further, he added functioning break lights and indicators as well. “During one of our visits to Agastya they showed us how these devices work, I was curious to try it out. I attached two indicator lights to a single switch in the front of my cycle. Then I attached a light at the back, which I connected to a switch and then to my breaks. It works well” he explained delightedly. Chethan is extremely crafty and has the capacity to identify people’s needs when he’s creating his models. His favourite thing to do, he says, is to take apart old electronic gadgets and toys, and repurpose them. In an effort to help out at home, Chethan fashioned a self-sweeping broom by attaching a motor, batteries, and a round broom to a toy car. “You can sit back and let the broom sweep on its own” he laughed. Besides creating new things, he prides himself on being the ‘fix-it’ man at home. When anything breaks, Chethan is ready to put it back together. “One day our iron box stopped working, so I took it apart, found the disconnected wire and fixed it”, he smiled proudly. Amongst other things, Chethan has also fixed a mobile phone after it fell in water. “I opened it up, dried the motherboard, and put everything out in the sun for a few days. Then I made all the connections and the phone worked just fine after I put it back together”, he reported. He hopes to use his innate skills and the knowledge he’s gained at Agastya to become a mechanical engineer.

Like most young children who attend Agastya’s programs, Chethan hopes that he can contribute to the betterment of the society as well. When asked what’s one thing he wishes he could change he said, “When I get older I want to curb the abuse of drugs and alcohol in my community. People under the influence don’t seem to have any civic sense. It’s unsafe for everyone when they drink and throw bottles around and bribe the police. I want to spread awareness about this issue”, he concluded.
Student Case Stories  
Mind Tree - Kanakpura

Name: Rakshitha. P  
School: G. H. P. S. Acchalu  
Age: 12 years, 7th std.

Rakshitha lives in a one-bedroom house with her uncle, aunt and grandmother. “I really enjoy living with my uncle and aunt. They encourage me to get a good education and are extremely supportive of me getting the best of all the opportunities that come my way. When I first told them about the Agastya classes, my uncle and aunt were very happy for me. They even wanted me to teach them all that I was learning in the class.” Rakshitha says that her school experience has been enriched by Agastya International Foundation.

Of all the different experiments that Rakshitha has got to experience and be a part of, she says her favourite one was the one with the smoke box. “The instructors taught us how to investigate if light travels in a straight line. The lit a stick on incense in a closed box. The box had two holes in two opposite sides. Once it was filled with smoke they shined a laser light through the box. We could clearly see the path in which light travelled.” Rakshitha says that she doesn’t think that she would have understood this concept more clearly if it had not been for the experiment demonstrating the phenomena. “When teachers don’t do experiments, we have to imagine it. Sometimes we can be right and sometimes we could be picturing it wrong. When we are made to see the experiment, there is no chance of getting it wrong. We are guaranteed that we are learning it correctly.”

Another experiment that Rakshitha really enjoys doing is the one involving a mall container of water with a string handle attached to it. “They showed us how inertia of rest and air pressure work. If you take a container of water and swing it really fast in circular motions, the water will not spill. It’s almost like magic,” Rakshitha said with a smile.

The Agastya classes have really changed Rakshitha’s outlook on school. “I know now that learning can be fun. We can experiment, get our hands dirty and learn by seeing and doing as opposed to just reading books. I have really started enjoying school and now I look forward to learning new exciting things.”

Rakshitha wants to grow up to be a software engineer. “I think with the help of Agastya Foundation; I will become a successful software engineer.”
Name: Nethra B.
School: G. H. P. S. Acchalu
Age: 12 years, 7th Std

Nethra loves science and has always enjoyed school. “Science teaches us about the advancement in technology, medicine and even outer space. If we don’t keep ourselves up to date with the latest advancements in science, we will never make any progress as a nation.” Nethra’s favourite class was when she got to use models to learn about the rotation and revolution of earth. “We live on this planet and I think it is very important to learn why all the things we see and feel happen.” Nethra said she feels that she has understood these concepts clearly now only because she got to see the models and engage with the materials herself.

“I think the Agastya classes act as a great supplement for our regular classes. We get the opportunity to learn everything twice. That way, if something was not clear when our teachers taught it to us, we can always look forward to learning it again through experimentation and engaging with models when the Agastya instructors come to our classes.” Nathra says that she really looks forward to visits from the Agastya van as they make school really fun for her.

“The instructors are so friendly. They are always ready to answer all our questions and they constantly encourage us to question everything we learn.” Another aspect of the Agastya classes that Nethra really appreciates is the fact that they encourage group discussions. “They keep telling us to discuss what we are learning with our friends. Other teachers don’t allow this. I like it because when we discuss what we are learning with our friends, we can think of questions that we would not have otherwise taught about.”

Nethra says that since she has been exposed to low cost models and experimentation, she now spends all her free time dreaming up ideas of all the things she can make at home and in school with what she has available to her. “I recently made a sound producing device out of ice cream sticks and rubber bands. I showed it to my brother and his friends and he was very impressed.” Nethra also notices that she now takes the initiative to learn things on her own, this is something she hasn’t done before she points out. “I also recognize that I am more interested in the things that I am learning. I want to learn more about so many different things that I come across. I feel that the Agastya instructors really make our learning experience very fulfilling.”

“I want to grow up to be a doctor. I notice that a lot of people do not have access to affordable health care. I want to make their lives better by serving them.” Nethra feels that with the support of her family and dedicated teachers she will become a successful doctor.
**Name:** Nethra B.  
**School:** G. H. P. S. Acchalu  
**Age:** 12 years 7th std.  

Kavya is extremely passionate about gardening, “For as long as I have known, I have been fascinated by plants. I have been planting and caring for plants since I was in first standard. I didn’t know my hobby was so closely linked with science.” During one of the Agastya classes, Kavya learnt about recycling and reusing things around the house. “that day I went home and looked at my garden to see how I could incorporate what I had learnt into my hobby.”

Kavya has since then managed to make her garden more eco friendly than it was before. She makes her own pesticides using crushed neem plants and she has also managed to develop her own self watering irrigating system. “I noticed that people often throw away their old used plastic bottle without really thinking of a new way to use them. I collected 8 such bottles and used them to develop a self-watering system in my garden. I pierced a hole on the caps of all the bottles and carefully suspended them over the pots. This way water slowly drips into the pots throughout the day and we don’t have to worry about watering the plants.” Kavya says that her system has gained a lot of popularity among her neighbors and that she now collects bottles to make this facility for all her neighbors.

Besides botany, Kavya is also passionate about physics and chemistry. “I enjoyed learning about the litmus paper test. I really liked how the instructors used everyday food to demonstrate how the colour of the litmus paper changes on contact with acids and bases. I never knew that the food we eat everyday are acidic.”

Kavya says that she is the only girl in her family to get a formal education. “My mother and my aunts have not gone to school. But I am happy that they send me to school so that I can have a more promising future.” Kavya says that her attitude towards education has also drastically changed over the past couple of months. “I never thought of myself as a confident person. I never thought I could ask questions and participate in the science fair. But I have started actively participating more in class now, and I am really looking forward to the science fair. I hope that I will be able to explain the concepts clearly to my peers.”

Kavya wants to grow up to be an English teacher. “I think all children should know English. I think it’ll be easier to make it far in this world if we know English. I have always believed that good communication skills will open doors for you, I want to give children that opportunity, to be able to make the most of what id offered to them.”
Name: Gangadhar.
School: G. H. P. S. Acchalu
Age: 12 years 7th Std.

Gangadhar is the son of a construction worker and a housekeeper. He’s the elder of two siblings. “I know that we don’t have a lot of money so I try and study hard so that I can learn well and get a good job in the future. I really appreciate programs like those offered to us by Agastya International Foundation because it gives us opportunities that we otherwise would not have had.” Gangadha says that he considers himself to be a hard worker and feels like he really learn a lot from the Agastya classes.

“There’s so many things I didn’t know that I learn in the Agastya classes. I had never seen a microscope in my life. I have read about it in my textbook but I have always had a hard time picturing what cells and slides look like.” Gangadhar says he will never forget the experience of learning to make is own slide and observing it under the microscope lens. “We were taught how to make a slide using the skin of an onion. They showed us how to take a cross section and mount it on to the glass. We also used a dye to colour certain parts of the skin so that we could easily study it under the microscope.”

Another experiment that Gangadhar really enjoys was the creation of optically illusions that occur on account of motion. He has models on display around the classroom. “When I spin this around really fast it looks completely different than it does now,” he explained showing one of his models. Gangadhar has also enjoyed making models of rockets. “We attened the science camp organized by Agastya over the summer. The instructors taught us how to make a rocket and launch it using nothing but an empty bottle and a pipe. Now my friends and I have competitions to see who can launch their rocket the highest.”

Like many of his classmates, Gangadhar notices that he has become more confident and takes an initiative to learn things that are not taught to him directly at school. “If I don’t know something, or if I come across something new that I want to learn about, I always make sure I ask someone to explain it to me. I never used to do this before. I think that this is a skill I have developed since I started coming to the Agastya classes.”
**Name:** Raqeeb Pasha  
**School:** G. H. P. S. Acchlu  
**Age:** 12 years, 7th std.

Raqeeb says that he enjoys learning about science because he wants to grow up to be a scientist. “I have always liked science. I like experimenting and I like to make things with my hands. Science gives you the opportunity to do both these things. We can’t do this with other subjects.”

Raqeeb specifically loves chemistry. “Chemistry is my favourite subject. I like how dramatic some chemical reactions are. The instructors showed us a number of chemical reaction and each one was more interesting than the other. I has so many questions about why certain things happened and why different chemicals reacted differently on contact with the same substance. The instructors were so patient with me and they explained everything. I really like that they not only allow us to ask questions but they also encourage us to.” Raqeeb says that he has learnt more than he thought possible over the past several months and the best part he says “I didn’t even feel like I was studying. The instructors made everything so much fun, we don’t even feel like we are in school.”

In his free time Raqeeb plays football, cricket and also really enjoys cycling. He says that he see how science plays into all aspects of his life. “We need to learn about things like pressure, force and accelerations even when we play. I really like that science is all around us. This was something I did not realize before the Agastya instructors pointed it out to us.”

Raqeeb points out the role Agastya Foundation has played in enhancing his home life as well. “I am the eldest of 3 siblings. I feel like these science classes have brought me closer to my family. I am able to now help my siblings with their homework and even teach them things when they don’t understand it fully. I did not have the confidence to do this before. My father is a shopkeeper and my mother is a housewife. I feel like it is up to me to make sure that my siblings make the best of what they have. I do my part in trying to make sure they remain motivated and dedicated to learning.”
Student Case Stories
Sapient - Nelamangala

Name: Chandrika N
School: G. J. C. Nelamangala
Age: 14 years, 9th Standard

Chandrika has been exposed to the Agastya classes since June of 2016. She says that she recently moved to the school she attends right now and that she feels very fortunate to have the opportunity to attend the science classes at the Agastya Science Center in Nelamangala. “At my old school we didn’t have this opportunity. I was actually very sad when I was told that I would have to leave my old school, but then I got to come to this science center and I was so happy. I realized that if I had not changed school, I would have never had the opportunity to learn differently, like I am right now.”

Chandrika says that she enjoys learning about science because she likes to learn about the world around her. She says that she enjoys being well informed about advancements in science. “I really love science. It’s my favourite subject in school. I think it’s interesting because we can make discoveries, inventions and find an explanation for literally everything we see and experience.”

Of the many experiments that Chandrika has engaged in, she says that the ones that involve chemical reactions are her favourite. “I like chemistry. We get to experiment with chemicals and I get to see the changes that occur first hand.” Chandrika tries her bets to replicate these experiments outside of the Agastya class as well. She lives in an all-girls hostel and does not have access to a lot of the materials required to experiment and make models. “My main source of materials is the kitchen. I try to use leftover vegetables and oils I find in there. The other day, I used an old potato and showed my friends how we could check it for starch. Another experiment I really enjoy doing is the litmus paper test. I use the red and blue litmus paper on different things in the kitchen to test for alkalinity and acidity of the food we eat.”

Chandrika wants to grow up to be a doctor. “I have enjoyed learning about the human body. I think getting to see the life size model of the human torso was a really rewarding learning experience for me.” Chandrika says that she wants to become a doctor to help people who, like her, are financially underprivileged. “I believe that I can become a good doctor if I continue to get the support and the opportunities that Agastya Foundation has given me.” She says with a smile.
Name: Jnanamurthy. R.
School: G. J. C. Nelamangala
Age: 14 years, 9\textsuperscript{th} Standard

“I enjoy attending the Agastya classes because the instructors make the class really fun,” says Jnanamurthy. “I think the way they teach us is very creative. They don’t just teach us what is in the textbook, in every class we learn beyond the scope of our books and school syllabus. They encourage us to be curious and question everything we read and they also encourage us to use our hands and learn through experience as opposed to learning through reading and memorizing.”

Jnanamurthy says that these methods of teaching and learning have made this school year very exciting and enjoyable for him.

Jnanamurthy enjoys studying science because he says that it makes him think. “I like solving problems. I like science because we can find answers and solutions to problems we face every day.” Jnanamurthy says, “My favourite field within science is physics. I specifically enjoy learning about machines.” He loves machines and leaning about how the function. “I think it’s very fascinating how they improve the efficiency with which we work. I want to grow up to be a mechanical engineer so I am trying to learn as much about the basics of how machines work now, so that when I reach college it will be easier for me.”

For a science competition Jnanamurthy participated in, he built his own water level indicator. “I made the design, I managed to source all materials and I also constructed it myself. My father is a factory worker and knows a lot about machines, he helped my make my device.” Jnanamurthy’s invention arose from a need he saw in his community. “Water scarcity is always a problem in my community. Tanks overflow and people unintentionally waste a lot of water. I made a device that will alert us when the tank is full. I also installed different lights to indicate different levels of water.”

Jnanamurthy recognizes that his love for school and learning have vastly increased since he has been attending the Agastya classes. He says that he notices that his attention and interest in what he is learning has also improved. “I never thought I would look forward to going to school. But now I do. I can’t wait to see what else I learn.”
**Name:** Jeevan S.  
**School:** G. H. P. S. Subash Nagar  
**Age:** 12 years, 6th Standard

Jeevan lives in a single parent household. His mother works in a government garment factory and his older sister studies in I PUC. “We don’t have a lot by means of money. We make do with what we have. I am fortunate to have a mother who recognizes the importance of education. She does everything to ensure that my sister and I get a good education.” Jeevan says that he really appreciates programs like the ones offered by Agastya International Foundation because it gives him opportunities that he would otherwise not have had.

“My favourite thing about the Agastya classes is that they teach us to make use of what we have. To learn from our surroundings and that we can learn anything if we are creative.” Jeevan has enjoyed the Agastya classes. He has especially enjoyed learning about concepts such as solar energy, electricity and how matter changes form. “The instructors don’t just teach us what they know, they actually show us how and why things happen. I like that we can actively participate in class.”

Jeevan says that he has become more curious about things he never used to notice or question before. “We learnt about electricity in our school classes. The Agastya instructors also came and taught us about electricity. They showed us how to make a simple circuit, how current is conducted and what role batteries and switches play in the conduction of electricity. These experiences made me so much more curious about the topic. I wanted to see what I could learn on my own.” On returning home, Jeevan picked up a light bulb to investigate how light is produced in the bulb on turning on the switch. “I would have never thought about investigating this if it hadn’t been for the Agastya Instructors. They always encourage us to investigate and question all that we can.”

Jeevan says that the Agastya classes have also brought him closer to his family. “I go home and share everything I have learnt in school. My mother is always fascinated and asks me a lot of questions about the things I have learnt. I like that we get to talk about these things.”

Jeevan says that he recognizes that his self-confidence has greatly improved on being exposed to the Agastya classes. “I find myself taking the initiative to do a lot of things that I never did before. Like doing experiments on my own or even explaining concepts to my friends.” Jeevan wants to grow up to be a science teacher. “I want to go to schools and teach children to question what they are learning. I want help them understand that learning can be fun.”
Name: Divyashree. B  
School: G. H. P. S. Subash Nagar  
Age: 12 years, 6th Standard

Divyashree has been attending the Agastya classes since she was in the 1st standard. “My favourite thing about the classes are the instructors. They make everything so much fun. I never knew school could be fun. In fact, science was my least favourite subject. I used to find everything difficult and complicated to study. I never took an interest until now.” Divyashree says that she wishes all her classes could be this fun.

“I like science now because we learn a lot about nature. I love plans and animals. I want to learn everything there is to learn about our environment.” Science is full of surprises, says Divyashree. “We make so many accidental discoveries and inventions. We will never know what problem we can solve until we try. I like that we get to do experiments. I think it’s the best way to learn. I haven’t forgotten a single experiment that I have done.”

Of the many things that Divyashree has learnt at the Agastya Science Center, she says that the class in which they learnt about hydroelectricity was the class she had the most fun in. She recalled doing an experiment to see how hydroelectricity is generated and stored. “We are constantly worried about how the resources on our planet are depleting. I enjoyed learning about alternate forms of energy because I truly think it’s implementable. I hope to spread awareness about these alternate forms of energy so that more and more people become environmentally conscious.”

Divyashree’s parents work in a handloom factory. “I feel lucky that they take an interest in my education. They encourage me to make use of every opportunity that comes my way. Neither of my parents have completed high school, but I’m happy that they still make sure that me and my siblings get to go to school.” Divyashree says that she wants to start doing experiments at home so that she can teach her parents what she’s learning at school.

“I participate more in class. I want to ask questions and I want to do more experiments. I’m glad that I am enjoying school now. I hope that my confidence in myself continues to grow so that I can grow up to be successful.”

Divyashree says that with the support of the Agastya instructors she feels like she can achieve her goals.
Name: Chaitra. J.
School: G. H. P. S. Basavanahalli
Age: 14 years, 8th Standard

Like many of her classmates, Chaitra comes from a single parent household. Her mother is a housewife and her brother owns a metal cutting shop. “We rely on my brother for our livelihood. He did not complete school and never did my mother. I realize the importance of a good education so I am extremely grateful to Agastya for giving an opportunity to be more well informed about the world around me. I’ve come to learn that school can be enjoyable and that we can learn from whatever we have around us.”

“I had never seen a microscope in my life. I had read about it in my textbooks and my teacher had explained it to us but I had never seen one in real life. I remember the day the Agastya instructors brought a microscope to our school. The taught us how to make a slide using the skin of an onion. I was the first person in line to see the slide under the microscope.” Chaitra says that she loves getting to engage with the material first hand. “When our teachers bring models to class they don’t let us touch anything. We have to see it from afar and we don’t get that firsthand experience we get in the Agastya classes.”

Chaitra says that her confidence to participate in class has vastly improved over the past few years. “The Agastya instructors encourage us to ask questions. If we don’t understand something, they are ready to explain it even a hundred times. They teach with the intent to make us understand and remember what we are learning. We don’t learn just for the sake of learning.”

Having an artistic inclination, Chaitra has managed to incorporate her love of art into her school work. “Whenever we learn a new topic, I go home and make a chart for it. I put the charts up at my house and in my classroom so that everyone can look at them and learn something.” Besides art, in her free time, Chaitra likes to read, watch TV and play with her friends. “Now when I play with my friends, we try and see if we can invent something together,” says Chaitra when asked how she spends her time with her friends.

Being inspired by the Agastya instructors, Chaitra hopes to become a teacher when she grows up. “I want to inspire children the way I have been inspired,” she says smiling.
Student Case Stories
Bank of America - Chennai

Name: Nivetha
School: Panchayat Union Middle School – Parivakkam
Age: 11 years, 6th standard

Nivetha enjoys school and says she has a hard time picking a favourite subject because she finds that there is something interesting and uninteresting about every subject she learns in school. She says that she usually enjoys learning anything as long as the person teaching is making the class engaging and interesting. It’s no surprise that she was attracted to the Agastya classes.

“My favourite thing about the Agastya van coming to my school is not that we get to see models and experiments, but it’s the way that the instructors use the models and keep us engaged from the moment they walk in, to the moment they leave.”

Nivetha says that in her regular classes, teachers often struggle to get all the children’s attention. “Some of my classmates, especially the boys, get very easily distracted. They don’t listen and the teacher has to repeatedly ask them to pay attention. That does not happen when we have the Agastya classes. Everyone is totally engaged. We all listen and want to know what they are saying and teaching us.”

Nivetha also says that she recognizes how the Agastya classes compliment her regular school classes. “We learn something at school, the teacher only has access to the text book and the black board. A few weeks later, the Agastya instructors come to our school and they teach us what we have already learnt in school, but they do it with models. It’s like we learn everything twice and whatever doubts we had about a specific topic becomes clear when the instructors teach it to us.”

Nivetha points out that she also likes that the instructors encourage them to ask questions. “That way we can clarify anything that we hadn’t fully understood.”

Nivetha’s father is a lorry driver and her mother is housewife. She is the elder of two siblings. “I have a younger sister and I often help her with her homework and teach her whatever I am learning at school.” She also understands that they are not very well off and will have to work very hard so that her parents do not have to worry about her. “We do not have a lot a money, and I know my parents work very hard to support our family and give me and my sister an education.” She says that she does not yet know what she will be when she grows up but she says, “I know that I will study hard and get good grades so that I can get a well-paying job. I want my father to be at home more and retire soon, so I will do whatever it takes to help them out.”
Shankaran says that he likes science because it makes him think. “In all other subjects we just learn what the book says. For example, in history we only learn facts and things that have already happened, but in science we learn things that make us wonder and think and investigate.” He says that he also likes the fact that he can actively participate and make use of his hands. “I really like the Agastya classes because they allow us to do experiments and we can build things using our knowledge and our hands.”

Shankaran’s favourite experiments are the ones involving electricity and the ones involving magnets. He says that the day he learnt about electricity he could not wait to go home and try out an electrical wiring for himself. “I went home and took my pocket money to the near-by electrical shop. I bought a wire, an HW battery, a switch and a small bulb. I came home and recalled everything I was taught about how to make an electrical connection, then I made the connections. When I turned on the switch, the blub glowed brightly.” Shankaran says he was very excited to show his parents what he had made. “My father was very fascinated. He works as a lorry driver so I think he did not know that I could learn so much at school. He did not study beyond 6th standard.”

With more practice, Shankaran says he got pretty good at making electrical connections. “I starting experimenting and making more and more complicated connections.” With more and more practice, Shankaran was finally able to make a boat which moved on water. “I made a simple boat with cardboard and plastic, to which I attached a motor. I connected the motor to a HW battery and then I connected that to a switch. When I turned it on, the motor would start and make the boat move.”

When asked how he was able to build this boat on his own, Shankarn said that he made many mistakes but was able to learn from them and keep trying different combinations until he finally succeed. Shankaran says that one day he will make his own motor.

Shankaran wants to grow up to be an engineer. “When I become an engineer, I will build bigger and better things”, he says.
**Name:** Manikantan. P  
**School:** Panchayat Union Middle School – Parivakkam  
**Age:** 11 years, 6th standard

Manikantan’s father is a lorry driver and his mother works as a factory worker in a garment export company. He is the eldest of 3 siblings. His younger sister is in 3rd standard and his younger brother is in UKG. “For as long as I can remember, I have loved making things. I have always found little objects around the house, like broken toys, batteries, old remote controls and loose wires, and tried to repurpose them.” Manikantan says that this hobby, which he had been cultivating for a few years now, was given some direction when the Agastya van showed up at his school. “Even though I enjoyed making so many things, I never really had the knowledge to link that to my school work, The Agastya instructors helped me realize that I could enjoy school as much as I enjoyed my hobbies.”

Of the many models Manikantan has been exposed to, his favourite has been the model of the solar system. “I didn’t know how eclipses were formed. Where I come from we only hear about eclipses in the form of superstitions and bad omens. I was never encouraged to ask questions about it. With science we can learn the reason behind almost everything. Now I know that it’s just a natural phenomenon that occurs once in a while because of how the earth and moon rotate and revolve.” Manikantan says he really likes that they Agastya instructors help dispel superstitions, “I know that we are not supposed to look directly at the eclipse because the rays are bad for our eyes, not because of bad omens.”

Manikantan has continued to make models like he used to. However, now he says that he tries to link his models to concepts he studies at school. He recently participated in a local science competition for which he made a battery powered model of a fan using bits of old toys, an empty coconut oil bottle and basic electrical wiring. “I was so proud of myself when I made this model. I did not think I would win but that was a nice additional surprise. This has given me the confidence to keep doing what I’m doing”, he said with a smile.

When asked where he gets his ideas and inspiration from, Manikantan said, “I watch things that people make on TV and then I think, how can I make that and then I just go out and collect things and try it out.” Manikantan says that the Agastya instructors have been very supportive and he hopes that with their help he might be able to soon make more complex models.
Charumathi lives with her mother in an extended family. Her father is no longer a part of their family and her mother raises her with the help of her siblings and grandparents. Charumathi says she enjoys school and has loved learning about new and exciting things. “We encounter so many new things on an everyday basis, we don’t think to question these things. But when we do, we learn so much.” She says that she likes studying science because it helps her find answers to the simple as well as complicated questions she has.

Charumathi loves learning science in hands on way. “I like that they allow us to interact with the materials. They let us explore it without rushing us and we get to examine and touch everything they bring to class.” Charumathi says that this is possibly the biggest difference between the Agastya classes and her regular school classes. “Our teachers also bring in materials, but we rarely get to touch it. I think we learn more and better when we have firsthand experience.”

Of the many experiments that she has got to witness and participate in at the Agastya classes, she says that the experiments involving acids and examining how they react with each other have been her favourite experiments. “Our school has very minimal facilities. We don’t get to see acids and do experiments with real chemicals at all. It’s nice when the instructors bring these materials; it feels like a special learning experience.”

When asked if she has attempted doing any experiments on her own, Charumathi said “not yet. I am slowly building up the confidence to make a model. The Agastya instructors are very encouraging and I feel like I will be successful. I would like to make a model of a house and make real electrical connections. I want to fit the house with a working bulb and maybe even a fan.” Charumathhi hope that she will one day be able to take part in a science fair.

In her free time, Charumathi babysits her cousins. “I really enjoy caring for my younger cousins. I especially like taking care of babies. When I grow up I want to become a pediatric nurse.” Charumathi says that everyone wants to become a doctor, but she feels that the role of the nurse is more important. “Doctors can’t even operate without nurses. I also feel like nurses have the opportunity to get closer to the patients. I like forming a connection with people I am caring for.”

Charumathi says that she feels that the Agastya experience, coupled with the encouragement she gets from the Agastya instructors, will bring her closer to accomplishing her goals. “I truly believe that I can accomplish anything I put my mind to,” she smiled.
Name: Gukesh. D  
School: P.U. M. S. Parivakkam  
Age: 14 years, 8th standard  

Gukesh, a son of a gardener and a factory worker, says he likes science because he learns about interesting things that he wouldn’t have known otherwise. “Science explains everyday occurrences. There’s nothing we encounter in life that science can’t explain.” He says he recognizes the role science education plays in alleviating superstitions, and moving the nation forward in terms of technological advancement. “I think if more people studied science and learnt about its uses, we as a nation might someday be on the same level as super powers such as China and America. Gukesh says that his interactions with the Agastya team has made him confident that he too could someday make a significant contribution to the field of science and technology.

“In our regular school classes we don’t do experiments, we don’t make models, and we can’t learn anything in a hands on way. Our teachers explain what is in the textbook and we only utilize the chalkboard. The Agastya classes are completely different. I don’t think I have ever seen the teachers use the blackboard. They bring in fun materials for us to learn with and the best part is that give us the opportunity to interact with not only the materials they bring in but also with our peers. We are encouraged to discuss what we are learning. I think this is a great way to identify what questions we have.” Gukesh says that he has learnt more from the Agastya classes than he ever thought possible.

“My favourite experiment was the one we did to investigate the heat energy we get from the sun. We tied a test tube of oil to a tree outside and made sure it got direct sunlight. We then used a thermometer to record the original temperature of the oil. We all came back out after a few hours and we took another reading of the thermometer. We saw that there was an increase in the reading. This was because the sun had heated the oil on contact.” Gukesh says that he find experiments like these informative and he says that he feels like he will never forget what he learns.

He says that on the whole the Agastya experience has been very rewarding and that he hopes the van keeps visiting his school so he can learn more and come closer to achieving his goals of becoming an engineer.
Name: Soniya G.  
School: Government Higher Secondary School, Kulathupalayam  
Age: 12 years, 8th standard

Soniya is the elder of two siblings. Her father runs a metal workshop and her mother is a housewife. “My parents have always been very supportive of my education. They are very involved in my school. Every day, when I come home from school my mother asks me what I learnt. I feel lucky because a lot of my friends’ parents don’t do that.” Even though Soniya is encouraged at home, just like other 12-year-olds, Soniya has her favourite subjects and ones she doesn’t like as much. Science, Soniya says, was not one of her favourite subjects.

“I find a lot of the topics confusing. For example, concepts like the eclipse and how they occur, electrostatic force, and, the respiratory system were all very difficult for me to understand.” Soniya says that she would just memorize what she read in her textbook without fully understanding it. “I have tried to imagine these phenomena. For example, I have closed my eyes and tried to imagine how an eclipse occurs. But somehow I could never do it.” The Agastya instructors solved this problem for her. “The first time they came they brought with them a model of the solar system and demonstrated the solar eclipse to us. Just like that everything made so much more sense. They allowed us to touch the model and experience it for ourselves. I will never forget that day.” After that experience, Soniya realized that she could ask the Agastya instructors anything that she did not understand at school. Since then, Soniya says she has never stopped asking them questions.

One of Soniya’s favourite experiments to do are the ones that demonstrate electrostatic force. “You take two straws and put a nail through the middle of one of them. Then you place it horizontally on top of the other straw to make a letter T. Then take a third straw, and rub it on your clothes. This action generates electrostatic energy on the straw. Now if you take this straw and bring it near the horizontal straw it will make the straw rotate.” Soniya says that she couldn’t wait to go home and show her parents this experiment. “I really enjoyed teaching it to my brother as well” Soniya added.

In her free time Soniya enjoys playing with her friends, and taking part in cultural activities either singing or dancing.
**Name:** Mythilikannan  
**School:** Government Higher Secondary School, Kulathupalayam  
**Age:** 12 years, 7th standard

Mythilikannan is an enthusiastic and fun-loving 12-year-old. He spends his free time watching cartoons and especially loves Jackie Chan movies. His teachers report that he is extremely active in class and does not hesitate to participate in any class or school activities or programs. His gregarious personality was perfect for the Agastya class.

When asked what his favourite experiment was, Mythilikannan though for a few minutes and said “I don’t think I can pick a favourite. They were all fun and interesting.” One experiment Mythilikannan remembers specifically was the experiment involving wires and electrical connections. He says that he really enjoyed watching first-hand how electricity is conducted. He says that he could not wait to go home and try it out for himself. He wanted to experiment how electrical energy could be converted to heat energy and to see how copper wires conduct electricity. “I took a copper wire, wound it around a nail. Then I connected that nail to two batteries and a switch using wires. Once the connection was completed, and the switch was turned on, the nail would heat up.” Mythilikannan says that he was excited to do this experiment at home and show his family what he had learnt.

Mythilikannan says that he especially enjoys teaching his younger brother. “I never had anyone teaching me things like this when I was his age. So I do my best to teach him everything I learn.” He also helps his brother with his school projects. “The other day the two of us built a house out of ice cream sticks. My brother first tried to do it on his own but the sticks kept falling down. I taught him how to make a strong foundation. We used shorter sticks and stacked them closer together for the base.” Mythilikannan says that he enjoys solving problems similar to these. “I like to keep trying until I figure it out on my own.

Mythilikannan wants to grow up to be a police officer. He wants to do what he can to serve his community. When asked what he would concentrate on as a police officer Mythilikannan said “I want to catch thieves and people who harm others. I will never take a bribe and I will spread awareness about how we can all be good citizens so that our country can also progress.”

**Name:** Keerthana
Age: 10 years, 6th standard

Keerthana lives in a three room house with her father and two sisters. Her mother passed away when Keerthana was a baby. Her father works as a security guard at a housing complex. “I know it’s difficult for my father to take care of three girls all by himself so my sisters and I help him out as much as we can. We all study well so my father doesn’t have to worry about our future.”

Keerthana says that of all the subjects she learns at school, mathematics is her favourite. “I understand math very easily. It makes a lot of sense to me. And I especially like it because there are no big words and no definitions to memorize.” When asked how she feels about science Keerthana said “I never used to like science, but since the Agastya van has been coming to our school, I have started enjoying it more and more.” Keerthana points out that when the Agastya instructors take class, it doesn’t feel like school. It’s fun and enjoyable. “The instructors are so fun and friendly. They don’t make us feel scared and like we are learning. We just play games, talk to our friends about the models they bring and do experiments. But we don’t realize that in the process we are learning so much.” She says that she never realized the importance of science in her life until she had exposure to the Agastya classes. “We need science in our life because without science we will not know how things work. We will not know what makes machines run or how our body works. If we don’t know how things work, we will not know how to fix them when they break. Science helps us to fix broken things.”

Keerthana’s elder sister is in 9th standard and also gets exposure to the Agastya classes. “She is older and therefore learns more difficult things. But she patiently teaches it all to me. We try and do a lot of experiments together.” Keerthana also enjoys helping her younger sister out with her school projects. “If she has to learn something or make something, I always help her out. The other day, the two of us made a model of a train using match boxes and used bottle caps.” Someday, Keerthana says she hopes she will be able to make a model train that can move on its own. “I’m still too young now. But if I keep studying and the Agastya instructors help me, I’m sure I will be able to do it.”

Keerthana is a very hardworking girl. She has her heart set on becoming a civil engineer. “I want to build big buildings that give families like mine a nice home. There are so many poor people with bad houses. I want to give them all a beautiful and clean place to live,” she said excitedly.
"Science is actually one of my favourite subjects. I find every single topic we learn about very interesting, and I’m always trying to find reading material about scientist and their scientific discoveries." Satya says that while she has enjoyed learning about science concepts, she never thought about the innovative ways in which she could experiment and learn in a hands on way. “The only resource I had was my textbook and a few books and magazine my friends and family gave me.” Agastya Foundation, Satya says, gave her what she couldn’t even imagine having. Satya says that she has thoroughly enjoyed having the chance to interact with all the materials and models that they Agastya instructors bring to her classroom. “I was always under the impression that books were the only place we could learn from, but, over the past few years I feel like I have been learning so much more than I could have learnt from a textbook.” Satya says.

Of all the experiments that Satya has done, her favourite has been the experiment that explains how light travels. “The instructors set up the experiment using a laser pointer, a beaker of chalk water and a board. When the laser light was shown into the beaker it travelled straight through and we could see a spot form on the board”, Satya described. She said she was excited to go home and try out this experiment for herself. However, she did not replicate this exact experiment. She wanted to do it a little differently. “I took a cardboard box, punched two holes on two sides. I had to make sure that the holes were levelled. Then I lit a candle and placed it at one end. When I looked through the other end, I could see the candle light.” Satya says that now as far as possible, every time she learns about a new concept in science she tries to do an experiment on her own. “Some concepts are easier to experiment with than others, but I still always try”, she said excitedly.

Satya wants to grow up to be a teacher. “I also want to teach children in innovative ways just like how I have been learning. There are so many children who don’t have the same opportunities that I have been given. I want to do my part and be the best teacher I can. If I am a teacher I will also have to be up to date with all the latest concepts and technologies that are developed. I look forward to learning about all those things as well.”
**Name:** Sibila A  
**School:** Government Higher Secondary School, Kulathupalayam.  
**Age:** 13 years, 8th standard

Sibila wants to grow up to be a scientist. She spends all her free time reading books about A.P.J. Abdul Kalam. “He was a scientist and I find stories about his life to be very inspiring. I also was to be like him, inspiring young children to follow their dreams. Just like me and a lot of my friends, Mr. Kalam came from a very poor family. If he can make it big in the world, I feel like I can too. I want to make discoveries and invent something that will change the face of technology and innovation,” Sibila said enthusiastically. She adds that in order to be a scientist, she recognizes that she needs to start experimenting and developing models, “only if I start doing this now, it will be easier for me when I grow up. I will understand things better.” She says that she didn’t know how to do this before. “I would try to create experiments I read in my book. But I did not have those materials.” Once the Agastya van started coming to Sibila’s school she says that the entire experience has been very eye-opening.  

“They taught us that we don’t need fancy equipment to experiment with. They taught us how to use things that we can find around the house. This idea had never occurred to me. Now I find that I have gotten more creative in how I find and use things that I find either at school or at home.” Sibila says that she was excited to go home and make her own periscope. “I found some old used pipes near my house. I took my father’s help in cutting them and attaching them. Then I took pieces of mirror form a bigger broken mirror that someone had thrown away. I followed all the instructions that the Agastya instructors had given s and I made my very own periscope.” Sibila says that since she’s made the periscope a lot of her neighbours and friends have wanted to know how it works.

Sibila says that she really enjoys explaining things to her friends. “I feel very happy when they understand something because I have explained it to them. A lot of the time, my classmates will come to me and ask me to explain things to them. I try to do what the Agastya instructors do. I ask them questions and encourage them to ask questions. This way I hope that they will understand it the way I do and that they will remember it for longer.” Sibila says that she really appreciates that she can ask the Agastya instructors questions. “The Agastya instructors have more patience that our school teachers. They encourage us to keep questioning. I truly believe this is the best way to learn.”
**Student Case Stories**
**AMD - Hyderabad**

**Name:** Lavanya. B.
**School:** Z. H. P. S. Serilingampally
**Age:** 16 years, 9th standard

Lavanya’s father works in construction and her mother is a housekeeper. She says that she is grateful for the Agastya experience as it’s made school more interesting and she finds that she is now taking an interest in her education. “I like the Agastya programs because they are designed in such a way that it makes everything very easy for us to understand. I like the fact that we get to use our hands and actually experience the experiments first hand.” Lavanya says that she looks forward to visits to the science center as they have now become her favourite thing about school.

“I think every single model in here teaches us something new and is very relevant to young children. It keeps us engaged and makes us want to learn more and more about all the different concepts we come across in our text books.” Lavanya says that it’s difficult for her to pick a favourite model or experiment because she has enjoyed learning from them all. “One model I remember fondly is the model of the solar system. There are so many superstitions surrounding eclipses. My grandmother would tell me not to go out during an eclipse because it was bad for girl children. I have never been able to wrap my head around this logic. I asked the Agastya instructors and they clearly explained it to me. They showed us what happens and how it happens. All my questions were answered. I was even able to go home and explain it to my grandmother.” Lavanya says that it feels nice to be able to educated older people in her village. “They are always so fascinated when I offer them a scientific explanation to everyday life experiences. I like contributing to their knowledge.” Lavanay credits Agastya for her ability to now contribute to dispensing superstitions.

“I used blindly believe everything I was told and everything I read in books, the Agastya instructors have taught us how to question what we are learning and what we are told. Now I can’t stop asking ‘why?’ to every new thing I learn.” Lavanya says that by questioning she has learnt so much more now and even remembers things better because she knows exactly why things happen a certain way.

Lavanya wants to grow up to be a software engineer. “I really like computer and I want to learn how to write programs. I want to design learning software so that underprivileged children like me can benefit from it. I want to be able to give children to opportunity to learn things that are beyond the scope of their textbook and help them discover the wonders of the world the way I have with the help of Agastya Foundation.”
Name: Bhargavi. P.
School: Z. H. P. S. Serilingampally
Age: 16 years, 10\textsuperscript{th} Standard

Bhargavi lives in a small community in Hyderabad city’s low income housing. “Not many children where I live go to school. Especially girls, it is rare to see girls educated beyond a certain age. I think I am very fortunate to be able to go to school and get an education. I feel even more fortunate to have the added advantage of getting to attend the Agastya classes as well.” she adds. Bhargavi says that she feels like she had learnt more over the past year that she thought was possible. “I really look forward to visits from the Agastya Van. Every time the van visits we get to learn something that is new and exciting.”

Bhargavi says that she really likes the fact that each Agastya instructor has his own area of expertise. “We have one person to teach us math, and one for science. I find that each instructor is very knowledgeable about his area and they are constantly encouraging us to ask questions, encouraging us to learn.” Bhargavi says that in her opinion she feels like government teachers are not as dedicated as they should be. “I find that the passion the Agastya instructors teach with to be especially inspiring.”

Bhargavi is the older of two siblings, “I have a younger brother, I usually try to help him with his homework. Since I have started attending the Agastya classes I feel like I have gotten better at trying to help him. I find myself mirroring the way the Agastya instructors teach us. I ask my brother questions and encourage him to think for himself.” Bhargavi also points out that this little exercise she does with her brother has also helped her in solidifying her understanding of basic concepts.

Of all the models and experiments that Bhargavi has had the opportunity to learn from, she likes the model the human torso the best. “I really like the fact that it’s life size. It really gives us a nice realistic understanding of what we are learning.” Bhargavi says that the Agastya classes really help her in understanding the text book concepts better. “The text book really does not give us much. They just describe things and I think this also hinders our teachers from teaching us well. The Agastya classes give us the chance to learn all these textbook concepts in a hands on way. I think this also ensures that we will not forget what we learn easily.”

Bhargavi wants to grow up to be an Agastya instructor, “I want to be able to give back to the community. I especially want to ensure that girl children have the opportunity to stay in school and learn. I hope that I can actually achieve this and be an inspiration to other girls that come from communities like mine.”
Husna Sultana
School: Z. H. P. S. Serilingampally
Age: 12 years, 7th standard

Husna is the daughter of a taxi driver and a housekeeper. She is the eldest of 4 siblings and is very determined to lead by example. “I am the eldest, I don’t know if my brothers and sisters look up to me, but I want to be the best possible example I can be. I want to be able to inspire them and help them succeed the way Agastya Foundation has inspired me.” Husna says that she was never really interested in school before attending these classes. She says that she liked school but thought her learning was limited to what was there in her textbook. “I find myself seeking answers when I am not satisfied with what I read in our textbooks. I find that I am constantly asking why things happen. I have definitely become more curious and interested in learning about the world around us.”

Husna says that she has had many unique learning experiences that she previously never thought she would get a chance to experience, “On the very first class we got to use a microscope and learn how to make a slide. We observed what the stomata of the Aloe Vera plant looked like. It was such a learning experience. I never thought I would ever get the opportunity to use a microscope, let alone get the chance to make my own slide.” She says that she now tries to capitalize on these experiences so that she can go home and explain what she’s learning to her siblings.

Husna says that she has noticed a lot of changes in her attitude since she has been attending the Agastya classes. “Not only have I started taking school more seriously, but I also find that I have started taking an interest in things like leadership and taking initiative.” Husna was selected to be part of Agastya’s Young Instructor Leader program. As a YIL, Husna gets to inspire other children, “I love that other children look to me for answers, to be able to encourage children is a very inspiring feeling.”

Agastya Foundation has also helped Husna take an interest in community welfare projects. She has taken the initiative to start a ‘reduce plastic’ campaign at her school. “I have tried to spread awareness about the ill effects of plastic and a lot of my friends have helped me in my endeavors. We have made posters and given lectures on the different ways in which we can reduce, reuse and recycle plastic.”

In her free time, Husna enjoys playing badminton and carom. She wants to grow up to be a lawyer because she wants to give people who are less fortunate than her a chance at justice.
Name: Syeda Alfiya Banu  
School: Z. P. H. S. Lalgadi Maklpet  
Age: 16 years, 9th Standard

A daughter of a driver and a housewife, Syeda is extremely passionate about science. “Through science we learn about the world around us. If it wasn’t for science, we would not be able to make any progress as a nation. I think it is very important that we encourage children to develop an interest for science from a young age itself.” She feels that Agastya foundation does a great job at inspiring children and showing them that science can be fun. “They show us so many experiments, they allow us to get our hands dirty and actually participate, and they even let us discuss what we are learning with our friends. I think all this contributes to developing a positive attitude towards science education.”

Syeda says her favourite class was when she learnt about the circulatory system. “I have read about it in our textbooks. While I found it interesting, I was having a very hard time picturing what they were explaining. It was very helpful to see the model of the human torso and the videos that the Agastya Instructors showed us. I understood exactly how the mechanism works.” What Syeda also likes about the Agastya classes, she says is the extra information she gets. “they don’t just limit their teaching to what is in our books. They are always encouraging us to question them and learn more.” Syeda says that she has enjoyed developing this habit of questioning and now even practices it at home.

“I tell my parents everything we learn in school. I have explained to them about blood groups and even many concepts in physics, like friction and gravity. They are always excited to hear what I have to say, they are extremely encouraging and supportive.” Syeda says that she likes that this experience has brought her close to her family.

Syeda is extremely passionate about the importance of educating girl children. She thinks it unfair that society has different expectations of boys and girls. “I want to become a successful doctor and use my free time to spread awareness about educating girl children. I think girls can do anything boys can, the problem is that we are not treated like we can.”
Divya Shree .B.
School: Z. P. H. S. Lalgadi Maklpet
Age: 15 years, 9th Standard

Divya says that the world of science has always been very confusing to her. “There are so many things I just didn’t understand. I would get confused by the concepts in our textbooks. I disliked doing my homework because it would take me a long time to even figure out what the questions meant.” The Agastya classes, Divya says, changed the way she felt about science. “I just needed a new way to learn what I was being taught. I didn’t know that there was such a thing as being able to do experiments on our own and making models to understand different concepts.” Divya says that she has always been confused by topics such as reflection, illusions and basic body functions. “When I got to learn these topics by actually doing experiments on my own, I not only understood it better but I was actually interested to know what was happening.”

Divya says that she finds the attitude of the instructors to be especially motivational. “They never make us feel like we are in school. Everything is always so much fun when they come. I sometimes feel like learning is a byproduct of enjoying ourselves as opposed to the other way around.” She also points out that the instructors and extremely patient when it comes to explaining things to them. “We can ask them a thousand questions and they will answer all our questions with a smile. They never yell at us or make us feel like we can’t ask them something.” Divya says that she feels like she has become more confident and takes the initiative to participate in class more.

Divya wants to grow up to be a teacher. “I feel like the Agastya instructors have really inspired me. I never thought I would ever be interest in science, let alone good at it. I have seen a steady increase in my grades as well. If the Agastya instructors could inspire me like this, then I would really like to do the same for other children. I want them to feel the way I do about not only science, but education on the whole.”
Name: Samatha V  
School: Z. P. H. S. Lalgadi Maklpet  
Age: 15 years, 9th Standard

The first time the Agastya Mobile Science Van went to Samatha’s school in Hyderabad, she was completely enthralled. She said she couldn’t believe that her “text book had come to life”. Having always loved biology, Samatha said her favorite model was that of the human body. “I always wondered how the organs looked inside the body, how they all stayed in place. I was concerned that the stomach would crush the kidneys” she said with a look of wonder in her eyes. All these questions that plagued her were answered the second the Agastya van visited her school. She said that the Agastya instructor did an amazing job answering all her questions about biology, specifically the human body.

Besides biology, Samatha also has a keen interest in physics. “I have always been fascinated by sound and how its produced and travels. The instructors showed us different experiments that demonstrated how sound travels in water and in air. WE also got to do a fun experiment in which we cut a straw and used it to produce sound. I even went home and showed this experiment to my mother and siblings. They are always interested to know what I learn in the Agastya classes.” Samatha says that her mother, being a single parent, takes an extra interest in her child’s education.

Samatha says that the mix of the Agastya classes and her regular classes have really helped her succeed in school. “The teachers are always encouraging us to try things on our own. They always find a way to involve us and keep us engaged.” She also appreciates how they are constantly told to question what they are learning. “The instructors keep telling us that we learn only as much as we ask, so we need to keep asking questions so we can learn more and more.”

Samatha wants to grow up to be an IPS officer. “I want to help solve community issues. I want to help teachers so that they are not over worked and have the energy to inspire and motivate the children they teach. I think successful students are a result of passionate teaching. I think our schools lack passionate teachers and I want to help everyone feel inspired again.”
Name: Sadhika. R  
School: Govt. Girls High School, Bollaram  
Age: 14 years, 9th Standard

Sadhika’s father works as a security guard and her mother is a housekeeper. “We’re a family of 4, I know my parents work hard to make sure that we are well provided for. They also make it their priority to ensure that my sister and I get a good education. Before the Agastya classes I never took an interest in school. I would avoid doing my homework, I would skip lessons and leave all my studying for one day before the exam.”  
Sadhika says that she especially disliked math and always found it very difficult to grasp the concepts. “The Agastya instructors have made me discover a new found love for Math, something I never thought I could develop.”

Sadhika says that one of the concepts that she learnt at the Agastya class that she will never be able to forget was the concept of probability. “The instructors explained it to us so well. They used very relatable examples and were ready to explain it as many times as it took for all of us to understand it.”  
Sadhika says that even her school teachers were impressed with how well children in her class had understood the concept “When my teacher was teaching us the same concept in school, I was able to answer all the questions before she even had a chance to teach us.”  
Sadhika says that she has noticed a steady improvement in her grades with each additional exposure to the Agastya classes.

Besides Math, Sadhika has also had the chance to learn Physics. “We learnt about the prism and how light travels through it. The Instructors demonstrated this to us. If we couldn’t see it first-hand I think it would have been hard to understand properly. Now that I have seen it, I feel like I will never forget it.”

Sadhika says that what she likes the most about the Agastya classes is the fact that the instructors don’t treat them like students. “we never feel like we are in school and ‘studying’. The instructors make all the classes very engaging and fun. WE call them ‘bhiya’ and they are extremely friendly towards us.”  
Sadhika says that this environment that the instructors create make her and her peers learn better and learn to remember.
Name: Shravya M
School: Govt. Girls High School, Bollaram
Age: 13 years, 8th Standard

Shravya comes from a single parent household. “My mother works in construction in order to provide for my sister and me.” She says she recognizes the social disparities that exist in our society today. “I know children from government schools have far fewer opportunities than children from private school. I know that our chances at succeeding is harder, if not impossible. I think I want to work in the field of social work and community welfare and provide children like myself a real chance at succeeding. I want to help them the way Agastya international foundation has helped me.” Shravya says that she has greatly benefited from the classes and that she never expected to understand certain concepts the way she has now understood them.

Shravya says that it’s important to learn about science. “We learn about the world around us when we learn about science. We have to learn how to question things we see around us so that we can understand why certain things happen and so that we might be able to make improvements on things that we already have.” Shravya says that she has thoroughly enjoyed doing experiments in class. “I do experiments at home as well now. I tried to make my own magic reflecting box using two mirrors. I find that I have gotten more determinant over the past few months. If I don’t get the experiment right at the first try, I keep trying until I get it right.”

Shravya says that she also recognizes that the Agastya classes have brought her closer to her family. “In class, the instructors sometimes dispel certain myths; for example, they told us why we put a rangoli outside our house. We now know that it’s to keep microorganism out of the house. I like to go home and tell my mother and sister about these things I learn. I feel like it has brought us closer together. My mother says that she wishes she could come to class with me.” Shravya says with a smile.

Shravya enjoys the Agastya classes so much that she often finds herself sneaking into other classes that the Agastya instructors teach in. “They teach 6th, 7th and 8th grade classes. Sometimes they would have come to take class for the 6th grade children, I sometimes sneak in and sit at the back and listen in on the lecture.”

Shravya says she also notices that she has gotten more confident since she has been attending the science classes. “I used to be afraid to ask questions. Now I’m not afraid. I hope that these skills that I have learnt, will help me achieve my goals.”
Student Case Stories
Oracle - Hyderabad

Name: Naveen. K
School: Z. P. H. S. Mailardevpally
Age: 15 years, 10th Standard

Naveen says that his favourite subjects are mathematics and biology. “I think in order to like a subject you have to like the way it is being taught to you. We have a very good science teacher who explains biology concepts very well to us. Moreover, the Agastya classes provide us with all the materials we need in order to really understand what we are learning in school. This combination of materials and good teaching has made me appreciate what I am learning.” Naveen says that this understanding of what he’s being taught has vastly improved with his ability to interact with hand on materials.

Besides been given the opportunity to interact with materials, Naveen says that Agastya Foundation has also allowed him to explore other avenues that he would not have had the chance to explore otherwise. “I got the chance to participate in a science fair. I never thought I would be able to get up in front of people and explain things. The instructors are very supportive and ensure that we know our materials well.” Naveen says that though he was nervous at first, once he started explaining he got more and more confident. He says that he looks forward to more experiences like this in the future.

Some of his favourite experiments are physics experiments. “I like experiments involving light and illusions. It’s exciting to see how when we change the set-up of the experiment, we can change the outcomes as well. One of my all-time favourites are the experiments with mirrors and reflections. We got to experiment with concave and convex mirrors as well.”

In his free time, Naveen enjoys playing cricket and videogames. He is also a caring member of the community. “I try and spread awareness about issues like domestic violence, pollution and sanitation whenever I can. I try and educate the younger children in my neighborhood. I think it is important to develop certain habits as a child itself, so I try and tell the young children about these issues so that they might also be able to contribute to a safe and community.”

Naveen wants to grow up to be a police officer. He hopes that he can continue to help solve these issues that he cares so deeply about.
Surendar’s father is a watchman and his mother is a cook. He is the youngest of 3 siblings. “My elder brother is in college and my elder sister is married. She was not allowed to complete her schooling. I know that by being a boy I have certain privileges and I work hard so that I don’t squander them.” Surendar says that he feels extremely lucky to have the opportunity to participate in the Agastya classes. “I never knew learning by making model and doing experiments was something we could all do on our home and in school.” Surendar says that since he has been exposed to this method of teaching and learning, he now finds school enjoyable and he is also able to retain everything he learns better.

Surendar’s favourite subject is Biology. “I think it is very important for us to learn about our bodies. I think it’ll help us to identify when something goes wrong in how our body is supposed to function. We can go to the doctor before it becomes worse.” He says that he has enjoyed learning about the digestive system and the respiratory system. “It’s hard to imagine these things when we read about it in the textbook. It helps to actually see it in the models the instructors bring to class.”

Surendar says he has enjoyed learning from the model of the human torso. “Because it is life-size, it gives us a realistic understanding of our body. The textbook can only explain so much to us, I think being able to actually see and touch it gives us more information and also puts what we are learning in a good context.” Surendar says that having the combination of learning from the textbook in school and from the models and experiments in the Agastya classes has really helped him understand and retain concepts better. “I didn’t think school could be fun, but the Agastya instructors have showed us that learning anything can be fun if you do it with the right attitude.”

Being true to his love for biology, Surendar wants to grow up and be a doctor. “I want to help people who don’t have much money. I also want to contribute to the discovery of new medications and treatments that can save lives.” Surendar says that he made his decision to become a doctor when his mother fell ill, “Doctors, are not as compassionate as they should be, I want to be able to treat my patients with more care”, he says.

Surendar hopes that with the guidance and support of the Agastya instructors he will be able to achieve his goals.
**Name:** Kumaraswamy  
**School:** Z. P. H. S. Kondapur  
**Age:** 15 years, 10th Standard

Kumaraswamy spends his free time writing stories and reading mystery novels. He wants to grow up to be an IPS Office so that he can solve problems like kidnapping and social abuse of girl children. He says that he likes to learn about science because it allows him to learn new things. “Through science we can learn about the world around us. We can learn about why things are the way they are; we can find an explanation for almost everything we see.” He says that Agastya Foundation has opened up a world of science he never thought he could experience. “They allows us to participate in our own learning. It’s like we are taking ownership for what and how we learn.” He says, since he has been attending the Agastya classes he has started taking school and his academics more seriously.

Kumaraswamy’s father works as a security guard and his mother works as a housekeeper. He is the only boy among 4 siblings. He says that none of his sister are educated. “All my sisters work as housekeepers. I feel bad that I’m the only one who got to go to school. I do my best to come home and teach them whatever I have learnt. Since I have now learnt how to make low cost models, it has become so much easier to show them easy and fun experiments. It makes me feel good that I am able to help them learn at least a little bit.”

Kumaraswamy has gotten very good at improvising at home. He has managed to made several models and conduct a number of experiments at home using scrap material and other household products. “I made a workable fan using a motor form an old toy car and an old cardboard box.” Kumaraswamy says that he now also spends his free time opening up electrical devises at home just to see how the electrical connections are made and what makes them work.

Agastya classes, Kumaraswamy says, have helped him discover things about himself he otherwise might have never found out. “I didn’t know that I could made models on my own. I ahev also found that I am not more interest in my studies, I want to investigate things on my own and I want to ask questions.”

Kumaraswamy says that he looks forward to learning more from the Agastya instructors and he also hopes that he will be able to achieve his goals with their guidance.
Student Case Stories
Synopsys - Hyderabad

Name: Saniya Begum
School: Z. H. P. S. Shivarampally
Age: 13 years, 9th standard
Program of Interest: Synopsys

Saniya spends her free time playing with her friends, watching TV and reading. She says that her favorite subject is physics. “I really enjoy learning about electricity, magnets and how reflections are formed.” Saniya says that she did not think she could do experiments to test out some of these concepts on her own. “It never occurred to me that I could do an experiment to learn and understand these concepts. All these materials are readily available to us and the Agastya instructors have taught us how we can use what is available to learn better.”

Saniya feels like the science education program offered by Agastya International Foundation has given her opportunities that she may have never gotten otherwise. “These opportunities have given me a chance to change and grow. I feel like I have become more confident, I have started taking an ownership for what I am learning.” Saniya also points out that she never used to ask questions in class before. “I would just listen to the teachers, take notes and that was it. I like that the Agastya instructors have taught us how to question as well as link what we are learning to the world at large and what we see around us on an everyday basis.”

Saniya participated in the science fair organized by Agastya Foundation. “I got to explain the model of the skeleton. It felt nice that someone was learning something because of me. I was contributing to someone’s knowledge. It was a little overwhelming to be explaining things to teachers who attended the event but I found them to be supportive as well.” Saniya says she looks forward to more opportunities like theses as they have given her a greater sense of self confidence.

“I want to grow up to be a police inspector,” Saniya says with a smile. “I want to be of service to people. I especially want to focus on protecting women in our society. I feel like no one takes this issue seriously.”

Saniya is already taking an initiative to make her community a better living space. She has made several posters to spread awareness about the ill effects of pollution, the importance of clean drinking water and sanitation on the whole. “I have volunteered on several Swacch Bharath campaigns. I think if everyone was aware and did something to make our environment cleaner, we could all collectively make a big difference.”
Name: Ayesha Sultana  
School: Z. H. P. S., Shivarampally.  
Age: 12 years, 7th standard

Ayesha’s father runs a small electrical shop and spends his time fixing TVs, radios, mixers and other small household electrical appliances. “For as long as I can remember, I have always enjoyed helping my father in his shop. I don’t do much but I know what the basic connections are.” Ayesha says she did not know that she could use what was available in her father’s shop to better understand what she learns at school. “Agastya Foundation,” she says “gave me a better understanding into how I can take my learning into my own hands and use all the materials available around me to learn better.”

Of all the experiments that Ayesha has done, she says that she has thoroughly enjoyed learning about electricity. “I didn’t know we could make our own simple electrical connections. Since the Agastya instructors have shown us how to do it, I went home and have made some simple light connections. I made myself a study lamp all on my own. I found scrap parts at my father’s shop he helped me make a few connections when I got them wrong.” Ayesha says that this experience has also brought her closer to her father.

Besides her love for all things electrical, Ayesha also enjoys studying about plants and animals. “I really like gardening, I have planted my own potato plant and mint plant. I like watering them every day and tracking their growth.” She says that she has Agastya Foundation to thank for helping her realize she has varied interests.

Ayesha wants to grow up to be a doctor. “I want to be able to help those who are less fortunate than me. I want to also do research and find cures for diseases that no one has found cures for yet.” She feels like she can achieve her goals with support from the Agastya instructors.

“The difference between our regular classes and the Agastya classes”, Ayesha points out “Is than we get to actually participate in class when the Agastya instructors. We interact not only with the instructors but we are also encouraged to interact with each other. The ask us to discuss what we are learning; I think this really helps us remember at we are learning.”
Name: Mamatha. K.
School: Z. H. P. S. Shivampally
Age: 15 years, 9th standard

“The whole Agastya experience has been extremely rewarding. We have been exposed to a completely new world and style of learning. I have never done a single experiment in my life, I always thought that was something we needed fancy equipment to do. We have learnt over the past few months that we can learn anything anywhere. The Agastya instructors have taught us to take an interest in school and they have also taught us to question everything we are learning.” Mamatha says that she has learnt so many different concepts that are not covered in her textbook. “they have exposed us to so many different topics and have also opened up a new world of knowledge that we would have never gotten from out text books.”

Mamatha has has the opportunity to conduct and participate in the many experiments that the Agastya instructors demonstrate in the classroom. “My favorite experiment has been the ones in which we learn about optical illusions.” Mamatha says that she was extremely fascinated by the concept. She asked if she could demonstrate the optical illusion during the science fair. “I really enjoyed explaining the phenomena od optical illusions. When I explained it to the younger children, they were very excited and asked me if it was like magic.” She reports that the experience was extremely rewarding and that she looks forward to participating in similar activities in the future.

Mamatha has also started taking the initiative to do her own at home. “I managed to make a fan out of an old plastic bottle and some cardboard that I found at home.” Mamatha is also the oldest of 4 siblings, she says that the Agastya experience has managed to bring her closer to her family. “I am now able to help my younger sister and brothers with their homework. I try to help them think the way the Agastya instructors encourage us to think. I ask them questions as well as encourage them to ask questions.” Mamatha says that she feels like her siblings have also started taking an interest in school now. “The sometimes are me to do experiments with them.”

Mamatha feels like the Agastya classes are preparing her for college. “They teach us in such a way that our basics are strong. They don’t encourage us to just memorize what we read in our books. I think developing a habit to question and learn by active participation will help us understand the more difficult concepts we are introduced to in college.”
Name: Karan S. Shettigar
School: Powai Municipal English Secondary School
Age: 15 years, 10th standard

Karan has never been a big fan of science. He especially dislikes chemistry. The first time the Agastya van pulled up at his school, Karan admits he was dreading it. “We were told that they were here to teach us science. I already didn’t look forward to the science classes we had at school. I didn’t want to attend extra science classes as well.” However, when he saw the instructors get out of the van carrying different materials, Karan says he was a little intrigued. “I was curious as to how they were going to teach us using all those things they were carrying with them.”

The instructors set up all their materials and told the children to gather around the materials. As the first Agastya class commenced, Karan says that he found himself making his way to the front of the class. “I have never been interested in school, but on that day I couldn’t help myself. I wanted to know what they had brought.” The instructors had brought with them a smoke box and lasers to explain the properties of light. Karan says he had never seen anything like it before. The instructors set up the materials, and demonstrated how light travels in a straight line. They could see the laser light travel through the smoke and Karan says he was hooked. “I know this concept, my teacher has drawn it on the board and explained it to us. But my imagination did not do this experiment justice. I now clearly understand how light travels.” After that day, Karan says he would look forward to more visit from the Agastya Van.

Karan has since then tried to take more of an interest not only in science but also school on the whole. “If you can make one class so interesting then I don’t see why all classes can’t be that interesting.” With more and more exposures to the Agastya mobile van, Karan says he has started trying his hand at creating his own models. He recreated the smoke box experiment and explained it to his neighbors. He also recreated the model of the coupled pendulum using marbles and a frame he built using scrap pieces of wood he found at the local carpenter store.

While Karan says that he doesn’t see a lot of science in his future, as he wants to be a Chartered Accountant he does recognizes that his interest and attitude towards learning science has vastly changed over the past 5 Agastya visits. He says that his changed attitude has enabled him to take an interest in his younger brother’s studies. “I can now help him with his homework and teach him new ways to learn. I find myself encouraging him to ask questions and think for himself. We also spend a lot of our free time flipping through his science book trying to see if there is any
experiment we can demonstrate with a model.” Karan hopes to continue to inspire young children to question what they learn the way he has been inspired by the Agastya instructors.
Abhishek Shrivastav
Powai Municipal English Secondary School
15 years, 10th standard

Abhishek has always loved science but has not been exposed to innovative ways of learning. “Our teachers just lecture. They explain the concepts in the book and provide us with examples. I never questioned this method of teaching because I didn’t know you could teach any other way.” After his first exposure to the Agastya class, Abhishek says his view of school and learning changed.

Abhishek is enthusiastic about school and has an innate love for learning. His enthusiasm, zest for learning and general gregarious attitude got him selected to be a Young Instructor Leader (YIL) during one of Agastya’s earlier visits to his school. As a YIL, he says he really enjoys teaching his peers. “I feel a sense of responsibility in encouraging them. I also feel like children listen when someone closer to their age is explaining things to them. It’s such a nice feeling when you know that someone understood something because you explained it to them.” His favorite experiment to explain is the heating of the bi-metallic strip. “That was my favourite experiment. When the Agastya instructors demonstrated it to us I was extremely fascinated. I went back home and read up more on it. Now I can explain why the bi-metallic strip bends when we heat it even in my sleep.”

Besides having a knack for explaining concepts to his peers, Abhishek also enjoys creating his own models. He created a model that explained how mechanical energy was converted to electrical energy. “I built a turbine using a plastic bottle and a straw. I connected this to a metallic road which was connected to a copper coil which was in turn connected to a bulb. When the water in the plastic bottle is disturbed by blowing in through the straw, energy is generated, this energy is converted to electrical energy in the copper coil and the bulb glows.” Abhishek was given the opportunity to explain his model at the science fair. He said he was nervous at first but as he started explaining he found himself getting more and more confident. His teachers told him he was giving more information than they expected from him. This, Abhishek said made him feel extremely proud of himself.

Of all the branches of Science, Abhishek like Biology the best. He enjoyed learning about the body when the Agastya instructors brought the model of the human body to his class. He hopes to grow up and become a doctor someday. “I love Biology. I especially love learning about the roots of words and how they originated. I feel like it’s an easy way to find out what the word might mean. It’s especially easy to find the root of words in Biology. I think knowing this information will make it a little easier to become a doctor.” In the meantime, Abhishek says he’s going to continue to be a good student. He also hopes that as a young instructor leader that he might be able to inspire more children to take school and their futures more seriously.
Name: Ankit Singh  
School: Powai Municipal English Secondary School  
Age: 15 years, 10th standard

Ankit spends most of his free time at his uncle’s small electrical repair shop. He has been spending every evening there since he was 6. Ankit could take a radio apart and put it back together at the age of eight. He could fix broken fans and mixers and grinders at the age of ten. “I just understand machines. I see a machine and I immediately need to take it apart and see how the engine looks. How the motor runs. How all the components are connected to each other. I have to see all the connections to be able to figure out how it works.”

While Ankit spent so much time around machines and learning how they worked, he never connected this skill and knowledge to his school work. “For me school was school and my uncle’s shop was my uncle’s shop. That’s where I came after school to relax and play around with motors and wirings.” The Agastya experience has enabled him to establish a connection between his passions and his school work.

“Before I was exposed to the wonders of the mobile van I didn’t know that I could use what I have at my uncle’s shop to better understand the different concepts we learn at school.” After being introduced to the model that explained the reflection and transmission of light, Ankit went back to his uncle’s shop and tried to find different objects that would help him recreate that model. Ankit now brings a lot of scrap materials from the electric shop to school. He sits with his friends and they try to make different models.

Another thing he says he learnt from being exposed to the Agastya classes is how to repurpose things he has available to him. “I saw that the instructors had made models using straws, empty plastic bottles and ice cream sticks. At our shop we have so many waste parts. I never thought about using them. The other day I used a small part from a fan to fix a broken mixer. I though, the fan rotates and I need the mixer to also rotate so maybe I can use something from the fan to fix it. I tried it out and it worked.” Ankit said.

Ankit hopes to grow up and become an electrical engineer. “I want to help my uncle run his shop and I also want to invent things on my own.” Ankit has already started making a note of all the ideas he gets from working with machines all day. “Sometimes I open up a machine that’s in perfect running connection just so I know how all the connections are made when it works. This way when it breaks I might be able to figure out what connection needs to be repaired. This also gives me new ideas.” Ankit has always felt that he has what it takes to be a good engineer, “If you build a house I can do all the electrical wiring myself.” he said. He feels that being exposed to Agastya’s way of doing things has given him the confidence to continue to chase his dreams.
“In school we learnt about how the day and night are formed. How seasons changes and how to account for one year of our time. What didn’t understand was how we could just gain and lose days the way we did. Why did we have leap years?” Dhiraj had had this question on his mind for several months, his question was answered the day the Agastya Mobile Science Van pulled into his school. “I saw the instructors walk in holding a model of the solar system. I watched as they set it up. As soon as they set it up I thought they were going to lecture us and do a demonstration, instead, they asked us to come and touch the model” Dhiraj said that was his favourite part of the class. “We don’t have a lot at our school. We don’t get to interact with a lot of materials. Sometimes teachers will bring materials but we are not allowed to touch it. So it was nice to be able to go up and actually experience it for ourselves.” As the class progressed, Dhiraj says that he noticed that the Agastya instructors never actually lectured. He said that they just explained everything by asking questions. “They asked us what happened when we turned the lever. They asked us how the day was formed. They asked us what happened if the moon came between the earth and the sun.” Towards the end of the class, when the instructors asked them if they had any questions, Dhiraj says his hand shot up in the air.

Since that day, he always looks forward to visits from the Agastya van. “When I come to school in the morning I always look to see if the van is here.” Interacting with the instructors and the models has increased Dhiraj’s participation in class as well as his confidence. He has participated in a science fair at which he explained the model of the solar system. “Before these visits from Agastya I would not even raise my hand in class. Now I feel like I can stand in front of the class and explain things. I even volunteer to participate in class activities.”

Dhiraj also recognizes how his confidence has influenced his relationship with his family. He says that now his parents take an interest in what he is learning at school because he is always trying to find things at home he can use to make low cost models. “My parents have become curious. I come home and try to make models. Once I made a model to explain water pressure using an old plastic bottle. Now they help me find things around the house that I can use.” Dhiraj also feels confident in explaining things to his younger sister. “She is learning things I have already learnt, so I try and see if I can come up with a fun way to explain it to her.”

Dhiraj wants to grow up to be an engineer. He is not sure what of an engineer he wants to be yet. “There are so many options. I think I want to a civil engineer because I like to build things. But I think my father wants me to a mechanical engineer. I am not in a hurry to figure it out right
now.” Dhiraj says that on the whole his experience with Agastya has been very rewarding and that he hopes more kids will have the experience that he had.
Pooja Chandanshiv

School: Green Lawn English School
Age: 14, 9th standard

Pooja has always wondered what role oxygen played in our survival. “We are always told that without oxygen we cannot live. I know we breathe in oxygen but I have always wanted to know what happened to the oxygen once it entered our body. Where did it go? How did it reach our organs from our lungs?”

When she approached her teachers with these questions they told her that she did not need to know these details. This problem was however solved the day she was introduced to the Agastya van.

During one of the Agastya visits, Pooja was introduced to the model of the human torso. She learnt about the respiratory system. She asked the Agastya instructors all the questions she has always had about oxygen and the role it played in our survival. “The explained everything so clearly and well. I thought it would be complicated and maybe I would not be able to understand. But they were very patient.” Pooja points out that her favourite thing about the Agastya classes is that she is always encouraged to ask more and more questions. “When I ask a question, the bhaiya will ask me another question and like this it will go back and forth until I am forced to think and answer the question for myself. I feel like I learn so much in the process.”

Pooja has an elder brother who is in the 10th standard. He also attends the same school as Pooja and is also exposed to the Agastya mobile science van. “It’s really nice that we both have similar experiences. When we have free time at home we try and recreate the models we have been exposed to. Because he is older than me, sometimes he tells me about models I haven’t seen yet. I learn a lot from him.”

Some of her favorite lessons include learning about magnets, especially how the compass works. “I had no idea that there was a magnet involved in using a compass. Now I know how sailors use it to find north and navigate their way.” Another lesson Pooja really enjoyed was leaning about the faces of the moon. She was also given the opportunity to explain the model to her peers during the science fair. “I love participating in whatever event is available to us. It is rarely academic related. It was a very fulfilling experience, getting to stand up and explain not only yo my friends but also to my teachers. I really look forward to more opportunities like that in the future.”

Pooja says she feels that her confidence has really improved over the past few months. She has always wanted to be a doctor, until the Agastya van visits she didn’t not think she could achieve her dreams. She says that she has started to take school seriously, “I realize now that school can
be fun. We don’t just have to learn only from books; we can learn from playing and talking to our friends and discussing what we are learning.”
Name: Shalini Jha  
School: Green Lawn English School  
Age: 14, 8th standard

Shalini has never enjoyed learning science. “I have always disliked everything about science. I don’t understand what the teacher explains and I can’t even pronounce most of the words. I don’t ask the teacher any questions because I’m afraid people will make fun of me or that I will be wasting time by asking her to repeat things to me.” Shalini says that the Agastya classes changed this experience for the completely around.

The first day the Agastya van came to Shalini’s school they brought with them a model of the human torso. “We had learnt about the human body in school. We learnt about different organs and their roles. I had found that lesson very difficult. I couldn’t even read most of the words in the text book when the teacher was teaching. I found it very difficult to follow.” The Agastya instructors took a different approach to teaching, Shalini points out. “It wasn’t your usual class. They didn’t stand in front of the class and lecture us. They didn’t even pick up a piece of chalk.” Shalini says that they encouraged all the children to come up and touch the model and ask any question they had about it. At first she was hesitant, she then slowly made her way to the model and asked the instructor to explain the digestive system to her. “They immediately showed me all the parts. Explained everything that the organs in the digestive did. I think seeing the model and getting to touch it really helped me understand it well.” Shalini says that since that day she always looks forward to the Agastya van coming to her school. “The van had visited my school almost 8 times. I can feel myself slowly developing a passion for science. I don’t get frustrated anymore. When I am studying, if I have a question I write it down and ask the instructors the next time they visit. I don’t avoid science anymore.”

Other concepts that Shalini has enjoyed learning about include solar energy, magnetism and pressure. “The instructors taught us how to make our own mini submarine. I went home and made my own. I have always wanted to be a navy officer. Now, because I am learning about all these things, it will be very useful for me. If something goes wrong on our ship or submarine, I will be able to fix it.” Shalini said, excitedly.

Shalini spends her free time singing, watching movies and playing with her sister. She says that since she has been exposed to the Agastya classes, she and her sister now spend time doing experiments and making models at home. “I have also started teaching my sister things I learn at school. The other day I taught her about how plants manufacture food.”
Shalini is also passionate about social issues, and environmental problems such as, educating girl children, and pollution. “I want to do whatever I can to spread awareness about these problems. I want to make this planet a smarter and safer place for everyone.
Name: Yadav Hrithik  
School: Green Lawn English School  
Age: 14, 9th standard

“My parents haven’t studies much. My father didn’t even complete middle school. He works as a driver now, and money is always tight at home. I think because of this my parents have always been big advocates of my siblings and I getting a good education.” Yadav says that his parents were please when the Agastya van started coming to his school. “They were excited that I was getting this opportunity to learn more and to learn in a different way.”

The first time the Agastya van came to Yadav’s school, he said he was nervous. He didn’t know what to expect and he was afraid he would not know enough to participate in the classes. These fears soon vanished. “The instructors are so friendly and they make us feel like we can do anything. They encourage us to participate and we never feel afraid to ask them questions.”

Yadav has had the opportunity to do many experiments. He says that he enjoys making models and learning by doing and observing. “I just remember things better this way,” he says. His favourite model has been that on the digestive system. Yadav even had the opportunity to present and explain the model at a science fair organized by Agastya.

“I have never stood up in front of people to explain anything. I have thought I could. The instructors gave me this model, they helped my practice and even asked me questions. I was nervous but I did a good job in the end.” Yadav looks back on his experience and says that he felt proud and now looks forward to doing more of these presentations in the future.

Seeing all the models and the new experiments at the Agastya classes continue to inspire Yadav. He spends his free time making small models with what he has available at home. He has on younger sister in 5th standard and one younger brother in 6th standard. “I have started making models for my sister and brother. I read their text books and see what I can make. I do this so that they will be exposed to this way of learning from a young age. I hope that it will make them enjoy learning and school the way it has made me enjoy it.” Yadav feels like he has already inspired his siblings. Sometimes, he says, he can even hear them discussing inventions and experiments amongst themselves.

Yadav wants to grow up to become a civil engineer or an architect. He says he’s already working towards it by making mini models of buildings at home. “I want to design and construct big buildings. When I look at the Bombay skyline, I would like to see one of my buildings up there.”
He hopes that with his parents’ support and with inspiring teachers like the Agastya instructors, he will be able to achieve his goals.
Name: Tejas Jadhav  
School: Green Lawn English School  
Age: 13, 8th standard  

“I like science because we learn about things that have happened to us and around us. We sometimes don’t think to question these things but when we do we learn so much that we didn’t already know.” Tejas says that since he has been exposed to the Agastya classes he sees science in everything. “There is science in everything we do. For example, even cricket has science. When I throw the ball and my friend hits a six or a four, that is science. The ball travels in a certain way because of force and pressure. The force with which I throw it and the pressure and force with which it makes contact with the bat all influence how the ball.” Tejas says that this was something he only recently began to appreciate. “Agastya has opened my eyes to seeing the world in a different way. I now question the little things. I find myself investigating everything I encounter.”  

Tejas says his favourite topic in science is astronomy. “I like learning about the planets and the stars. I’m very curious about how our planet was formed and how different bodies in the galaxy function.” During the Agastya Science Fair, Tejas was asked to explain the model of the solar system and specifically describe how seasons are formed. “I enjoyed explaining about the solar system. During the Agastya class, I remember asking the instructors about the seasons. I had asked them why we don’t get snow in India. They explained it very well to me. I kept that in mind when I did my share of explaining at the science fair.” Tejas says that he felt well prepared and was equipped to answer all the questions he was asked.  

Tejas says he notices a lot of difference between the Agastya instructors and his regular school teachers. “The Agastya instructors are always ready to answer our questions. But they don’t just directly answer, they ask us questions in return and make us think. We don’t have this opportunity in our regular classes.” Tejas looks forward to these classes because he feels engaged and wants to participate.  

On graduation from high school, Tejas hopes to study engineering. He wants to study computer science. “I have been exposed to computer classes and I want to learn how to program. I want to be able to develop computer programs that help in e-learning. I want to give these to schools like mine so that children can benefit from it the way I have.”  

Tejas believes that he will be able to accomplish his dreams if he works hard and get more opportunities to interact with programs like Agastya’s.
Name: Avishkar Singh  
School: Green Lawn English School  
Age: 13, 8th standard  

Avishkar’s father works at a printing press and a home maker. “The first time I saw the Agastya van I did not know what to expect. I was scared and curious at the same time.” He says that now when he looks back on his first class he can only remember that he had a lot of fun. “I forgot that I was in school and I didn’t feel like I was studying.” He says that the instructors made his whole class feel like they were a part of something fun and engaging. “Since their first visit I always look in the parking lot to see if the van is there. There is nothing I look forward to more than the Agastya Classes,” he says with a smile.

When it comes to science, Avishkar says he was never really interested. “I just treated it like any other subject. It was dull to me. I would just memorize things for the exam and then immediately forget it.” Now, he says that he is actually interested. He wants to know how and why things happen. “I think I had to see and feel, do experiments with my own hands and witness the changes for myself to actually get interested.” Avishkar says that he is sees the importance of learning by doing.

During the Agastya science Fair, he was assigned the working model of a petrol engine. “I had to learn everything about it. I had to learn how it functioned, how it utilized petrol and how it made a bike run.” Avishkar says that at first he was nervous. He was not sure he could answer all the questions that he would be asked. “Just so that I was fully prepared, I went to the local mechanic and asked them if I could see the engine of a bike. They allowed me to see it and I even asked them a few questions.” Avishkar says that he was extremely proud of the way he performed at the science fair. He was able to answer all the questions he was asked and was even able to explain complicated functions to his teachers. “I did not think I could do something like this in the past. I look forward to doing more of these in the future,” he says.

After learning about the engine of a bike, Avishkar says he is now interested in seeing how other machine function. “Someday I will ask my father to take me to the printing press so I can see how the machines in the factory function. I would also like to see how a car engine works.”

“I have always wanted to join the forces as a child. I wanted to be an army officer. But now, after being exposed to these classes and learning about all these things, I think I want to be an engineer. Maybe I will do both. There are machines on the ground, we have tankers, planes and ships. Maybe I will become an engineer and fix all these machines.”
**Name:** Sumit Tiwari  
**School:** Green Lawn English School  
**Age:** 14, 8th standard

“I find everything about science to be so interesting. I enjoy learning about new things and then relating them to what I observe and experience in my everyday life.” Sumit says that the first time he was exposed to the Agastya class he was scared. “I thought these teachers would ask us questions that I would not be able to answer. But it was nothing like that. They made the class very interesting and I realized that I had nothing to fear.” Sumit says that he realized for the first time that learning and school could be fun.

Amongst the many things he has learnt in the Agastya classes, Sumit says that he has mostly enjoyed learning about the solar system. “All my life I have had so many questions about the solar system. I have wondered if the sun is so big how come we cannot see it at night?” Sumit says that his questions were answered and that he even learned other things about the sun. “I enjoyed learning about solar energy. I didn’t know there was such a thing. I hope that someday I will be able to make a solar powered battery.” Sumit has also been curious about time differences, “I wanted to know why it was night time here and day time in America. The instructors explained this very well to me.”

“What I like most about the Agastya instructors is that they explain things in such a way that it makes us think. They don’t just directly answer our questions. They ask us questions, encourage us to discuss it with our friends and even try out experiments on our own to find answers. We don’t get that kind of experience at our school. When we ask teachers questions they just answer us directly.”

Sumit says that coming to the Agastya classes has greatly improved his self-confidence. “When I talk to my friends now I feel more knowledgeable. I feel like I know what I’m talking about and feel like I am making a valuable contribution to the conversation.” Sumit says that he even plans experiments with his friends now. “My friends and I have tried several experiments together, The other day we tried to burn a piece of paper using a magnifying glass. Over the summer holidays we hope to build something together.”

“I enjoy science but I want to become an accountant.” Sumit says that his family faces a lot of financial trouble and he wants to learn accounting to help his father out in his shop.
Name: Nafees Ahmed Ansari  
School: S.A. Public School  
Age: 15, 9th Standard

“I didn’t know learning by doing experiments was an option in school. I thought I had to wait until college to do experiments. The Agastya instructors taught us that we didn’t have to wait. The taught us that we can make use of anything we had around us to learn.” Nafees has always liked school and has enjoyed learning. “I especially like science. We learn about so many fascinating things and we find answers to all our questions.”

“I have learnt about so many different things from the Agastya classes. They have shown us models we have never seen before and they have also shown us experiments that I can go home and replicate on my own.” Nafees says that he has enjoyed learning about the solar system, about chemical reactions and even about the human body. “The human body model was my favourite. I want to grow up to be a doctor so it was very interesting for me to see a real life size model of a human body. The instructors explained where all the organs are, how they function and even what can go wrong with them.” Nafees says that seeing the model and getting a hands-on experience has now made him want to become a doctor even more.

Nafees feels that his participation in class has also improved of late. He feels like he wants to take his school work more seriously. “Our teacher had organized a class science project. I usually never participate in such activities. But this time I took the initiative to make a project.” Nafees managed to make a small decorative desk lamp using an old plastic bottle, some scrap material he found at the electrical store. “I really enjoyed making the lamp. I had never made anything like it before. It was a fun learning experience.”

What Nafees specifically likes about science is that it helps people overcome superstitions. “we all live in such a poor community, people are uneducated and superstitious. As a result of their superstitions, they make children, especially girls do silly things. This really bothers me. I hope to spread awareness about the evils of superstitions so that we can make progress as a community.”
Siddharth Prakash Shedge
School: S.A. Public School
Age: 15, 9th Standard

Siddharth is the eldest of three siblings. They were all raised by their mother as their father passed away when he was young. Siddharth says that his mother works very hard to put him and his siblings through school. “Even though we don’t have much, I am glad my mother realizes the importance of giving us all a good education. It has inspired all of us to work hard and make the best of all the opportunities that come our way.” Agastya, Siddharth says has been a great experience in this regard. “I have learnt so much from these classes and the instructors have been very inspiring to all of us. They make learning fun.”

Of the many experiments he has done and the many concepts he has learnt, Siddharth says that he really enjoyed the lesson on force and motion. “the instructors brought in a small car with a fan attached to the back. When the fan was switched on, the car moved forward. I went home and recreated this experiment to show my sister and brother. They were extremely fascinated and have taken the initiative to show their friends.”

Siddharth along with three of his friends, being inspired by the models they saw in the Agastya van, have created their own model of a light that is powered by salt water and copper. “We designed the whole apparatus by ourselves and even sourced all the materials.” Siddharth says that they took the help of the Agastya instructors to construct their light. “When it finally worked, we were so excited. We had never created anything like this before. Now I think we will do this more often.”

Siddharth says that since he has been using his hands to create his own projects, he finds himself questioning what he’s learning more and more. “I was never this curious before. I would just learn what I was asked to learn. Now I want to know how and why things happen. It helps me in coming up with new ideas for my projects.”

Siddharth wants to grow up to be a software engineer. “I want to learn more about computers. I feel like everyone can benefit from learning about computers. I want to be able to design science learning computer programs for children in government schools.”
On Pratiksha’s first visit to the Agastya Science Center in Phaltan she was completely enthralled. She said she couldn’t believe that her “Text book had come to life”. Having always loved biology, Pratiksha said her favorite model was that of the human body. “I always wondered how the organs looked inside the body, how they all stayed in place. I was concerned that the stomach would crush the kidneys” she said with a look of wonder in her eyes. All these questions that plagued her were answered the second she stepped into the Science Center. She said that the Agastya Instructor did an amazing job answering all her questions about biology, specifically the human body.

Another subject she’s always had a lot of questions about was chemistry. “I was so terrified when it came chemistry. I don’t know why but I’ve always had this mental block”, she said. “I think my biggest fear was that the acids would burn me” she continued. When she was introduced to chemistry in a new light in the Agastya science center, she said she realized she had nothing to fear (5, G1) The instructor showed the class how to experiment with acids and bases and Pratiksha said she couldn’t wait to try it on her own.

Having always been a gregarious girl, Pratiksha said she has never hesitated to raise her hand when she’s has a question. “I love participating in all activities. In our regular classroom, there isn’t much room for participation. The teachers explain and we just sit there”, she said. “In the science center,” she continued, “I can’t ever remember sitting! Even on our first visit, I remember making my way to the front of the group” she smiled. She also derives a lot of joy from public speaking. “I love writing and I always write my own speeches when we have programs in school. I think one of my favourite things about coming to the Science Center is that we get to do a lot of explaining in front of the class. Especially during the science fairs. I love to see the looks in people’s eyes when they understand what I am trying to explain”

Pratiksha’s innate ability to take initiatives has led her to spread awareness about several issues in her community. Pollution, she says is a big issue in her neighborhood. During her school annual day, Pratiksha along with her friends created several posters and went around their community spreading awareness about the ill effects of pollution and ways to overcome it. “I love participating in public events”, she said. “You don’t have to ask me twice to take charge to organize and coordinate events”, she said enthusiastically. Her enthusiasm to lead and participate is not limited to the academic world. Pratiksha is a skilled dancer and enjoys teaching her friends
to dance as well. “If there is any program in school I always take care of the dance. I get my friends together and we come up with steps. It’s my favourite hobby” she grinned.

Pratiksha’s father is a farmer and her mother is a housewife. She says that she enjoys going home and sharing what she learns in school and at the Science Center with her father. “I think I got my love for science from my father”, she said, “He’s always reading about science and technology in the field of agriculture so that he can adopt more cost and time effective farming methods. He always asks me what I learnt and we discuss how science can make our lives easier. Together we implemented a sprinkler system on our farm. Now we don’t have to spend a lot of water and time in watering the crops. I also told my father about all the models we have at the science center. I described my favorite model, the simple camera to my father; and he helped me make one of my own!”, she said excitedly. Pratiksha had brought her model so how the class. She held it up and explained how she collected the materials and then proceeded to explain the mechanism of the camera by describing how the light rays invert the image.

When asked what she liked about the camera, Pratiksha said, “I like how it can bring far away images close by.”

Pratiksha dreams of being an IAS officer. “There are so many issues in my community. Pollution, the caste system, illiteracy are the big ones. I think it’s very important for everyone to be educate. Change will not happen unless everyone is educated”, she said passionately. She said her father supports these views and says that they are her biggest support system. “I know I have to work hard and that change will not happen overnight. But I strongly believe that I can make a real contribution to society if I achieve my dreams” she concluded. When asked what she thinks makes a person ‘successful’ she said “I think someone is considered a success if they can lead by example. We have so many leaders who say one thing and do another. I want to be a strong leader. I want to be hardworking, honest and confident. I think that will make me successful.”
Name: Sumit Suresh Shirke
School: Uttershwar High School Vidani
Age: 15 years, 10th Standard

Sumith is an extremely soft spoken 15-year-old with big ideas. On his first visit to the Agastya Science Center he was drawn to the model of the submarine. He was completely fascinated by its mechanism. Sumit says that he’s interested in anything that will help us fight crime and keep our community safe. His interests led him to design and create own surveillance model.

Sumith showed me his model and explained its mechanism to me. “I was interested in creating a model that our soldiers can use to keep themselves and our borders safe” he explained. “Here is what I made. This is like a remote controlled car, but unlike an ordinary toy car this one has a camera attached to it. This way the soldiers can use it when they are in the trenches and will know when there is an enemy close by.” Sumit said his favourite feature of the model is that unlike other models of similar design, his car not only moves forward and backwards, but it can also turn. “I attached a special motor to each wheel,” he explained, “these motors are controlled by sensors I connected to the remote, so if I want the car to turn I just have to push this button!” he demonstrated enthusiastically.

When asked what were some of the biggest challenges he faced when creating his model, Sumith said he had some problems with the electrical wiring. “I couldn’t figure out the wiring. I tried it three or four times and each time something went wrong. I went to the local electrician in my community and we sat and figured it out together”. Another problem he said he faced was attaching the sensors. “I read as many books as I could find about sensors, I looked on the internet and I asked the Dada Bhaiya to help me.” When asked how he felt when he saw the finished and working product, Sumith said, “I was so proud of myself when I finally saw it working. I didn’t think I could make something like this.” Besides his love for physics and specifically machines, just like a lot of students in his class, Sumith is also extremely fond of biology. He enjoyed the session on the human body. “I really enjoyed taking out all the body parts and putting it all back together”, he said, “when we read it in the text book we can’t really imagine it. We have to see it and feel it in order to really understand it.” On seeing the model of the human body, Sumith says he is now considering becoming a doctor. Sumith’s father is a farmer and his mother is a housewife. His love for creating models has enabled him to even help his father out on the farm. “I shared what I read about drip irrigation with my father, he was excited by the idea and now we have also implemented it on the farm.
We find it much more effective than the old method we were using. And the best part of the system we have in place is that my father does not have to stand on the field all the time to monitor it. We just leave it alone and the field gets waters.” He continued to say that he thinks his parents are impressed with his growing knowledge in science, “when I was making the model of my remote controlled surveillance car, my parents thought I was making a toy, they didn’t take it seriously. After it was completed, I explained its uses to my parents and they could not believe it”, he said with a smile. Now, Sumith says that when he takes on a project to make something, his father helps him source the materials.

Growing up in a low income community, Sumith says the biggest issues he sees are in the prevalence of the caste system. “I think it’s unfair to keep people from entering the temple just because of the caste they belong to. God is for everyone. If God created us equally, I don’t understand why we can’t treat each other equally”, he asked insightfully. “I would really like to educate people and spread awareness about equal rights”, he continued. “I think change can be brought about if people are open minded.”

When asked what was the one thing that he wished Agastya could provide him with, Sumith said, “I wish they used more technology. I would love to actually see how the human body actually functions. I wish we had the facility for doing power point presentations in the science center. That way we can also learn how to use that kind of technology.”

Sumith dreams of becoming a doctor someday, but he’s aware that there are many opportunities for him to become successful. “Right now, my dream is to be a doctor, but I know that that can change. Whatever happens I know that I will be successful in life”, Sumith said hopefully. “If I do become a doctor, I want to dedicate my life to working with poor people. It makes me sad that they are denied treatment just because they can’t afford it.”
Name: Kshitija Sanjay
Age: 13 years old, 7th Std.
School: Shriram Vidhyalaya, Kholapur

The first time Kshitija came to the Agastya science center at Kholapur she said she was scared. “I had no idea what a science center was”, she said, “I didn’t know what to expect. I thought I would not be able to understand anything. I am only in 7th standard, I thought all these experiments were only for older children.” Kshitija continued to say that soon her fears melted away. “The first experiment we were shown was the ‘magic bank’. The Agastya instructor showed us a box that looked like a glass piggy bank, she then took a coin and dropped it in. All of us were expecting to see the coin drop in but it just disappeared. We had no idea where it went!” she reported excitedly. That was the moment she said, she realized that this was a place where she would have a lot of fun. Kshitija went home and created the model on her own to show her family.

Kshitija’s school, unlike other Agastya schools, engages in extremely active science learning activities. On Saturdays the children come to school without their book bags, the teacher then puts them in groups of 4. Each group is asked to pick a topic of their liking from the chapter they were discussing in school that week; after selecting the topic, each group takes turns to explain the topic they chose to the rest of the class. “It’s really fun”, reported Kshitija, “It’s like a mini science fair every Saturday. And the team that explains their topic in the most innovative and fun way wins a prize” she concluded excitedly. When we spoke to the teacher, she explained that she’s aware that most children fear science. When they are afraid they tend to close their minds. She then said that she has always made it a point to make her classes interactive and fun. “I’ve always felt that it’s the best way to ensure that children remember what they are learning.” Since Kshitija was not a stranger to hands on learning experiences, she adopted to the Agastya way extremely quickly.

Kshitija has always had strong leadership skills. She is currently a class leader and a school captain. “She’s a really good leader”, her friends chimed in, “She always makes sure that the decisions she makes are fair for everyone involved. She never shows partiality or favoritism”, they all said.

Coming to the Agastya Science Center has given Kshitija the confidence to try her had at making her own models. She created a model to demonstrate how air pressure works. She brought her model and explained it. “I took this bottle and made two holes in the lid. Then I attached two straws to it. To the end of one straw I attached a balloon that hangs inside the bottle when I close it. The other straw is left open. When we suck on the empty straw the balloon fills up with air.” She excitedly demonstrated her model. “Even though we engage in a lot of experiments in my
classroom at school, none of our models are as fancy as the ones we see at the science center”, she said.

Kshitija’s favourite subject is biology. She loves learning about the human body. She had always wanted to know what all the organs looked like and how they all fit inside our body. When she came to the science center, the instructor showed her the model of the human body and Kshitija was so excited to take out all the organs and examine each one closely. “I had soo many questions about what the pancreas looked like, how the intestines were rolled up inside our body, and where the kidneys and the stomach were. There are pictures in our science book but it’s not clear. There is a lot left to our imagination. Seeing the models and being able to touch them and play with them has been a real advantage”, she said.

Kshitija’s father is a photographer, when she’s not busy with school work, she likes to learn about photography from her father. She has learnt how to develop films, about the importance of light exposures. She says she now recognizes the important role science plays even in the field of photography. Kshitija concluded by saying that someday she hopes that she can teach her children about the world of science through photography.
Name: Somesh Rushikesh More  
Age: 13 years old, 7th Std.  
School: Shriram Vidhyalaya, Kholapur

Somesh is considered the class clown. “He’s the funniest boy in our class”, his friends said in unison. Somesh said he was mesmerized when he first came to the Agastya since center. “I was always under the impression that science experiments were something you could only do in big labs at colleges. I had no idea we could do it here, and on our own at home”, he said excitedly.

Somesh is extremely fond of chemistry. “when we study chemistry from our text books and they describe the reaction, I had a hard time imagining what actually happened. After coming here and getting to not only watch the instructor do the experiments but also doing the experiments on our own has been the best learning experience.” Somesh says that he now tries experiments on his own. He takes chemicals and mixes them and records his observations under the watchful eye of the Agastya instructor Somesh was excited to demonstrate his favourite experiment, he carefully set up the apparatus, a Bunsen burner placed under a tripod stand, on top of which he meticulously placed an iron mesh. He then filled a beaker half way with water and lit the Bunsen burner. “now watch what happens when I add the Potassium Permanganate” he explained excitedly. Somesh then proceeded to slowly add small bits of potassium permanganate crystals to the heated water. “Watch!”, he exclaimed, “see how the colour swirls around in the water! This is like magic to me. I feel like a magician when I do this experiment”, Somesh said as his friends closely watched him demonstrate the experiment. Somesh’s love for chemistry has led him to set up a mini lab in his own house. “I’m constantly bringing things from outside to mix and do experiments with. Sometimes I even rummage in the kitchen to see what I can use. It used to make my mother angry, but now she understands that I am experimenting, like a scientist” he grinned as he held up the beaker. “To be honest, I have never fully understood any concept in science. I just had a vague understanding of how the circulatory system works, or the role of water pressure in physics. After coming here and getting to do all these experiments, all the questions I didn’t even know I had have been answered”, he said. Somesh says he sees the value in doing things himself to understand how they work.
Somesh wants to join the military when he grows up. He lives near an army training camp and often sneaks to the gate to watch the training drills of the soldiers. “I see the soldiers undergoing rigorous training and I also see them helping each other. I want to be a part of that. My favourite drill is the climbing one. The soldiers have to use a rope to climb a wall. I think I would be really good at that because I’m already really good at climbing tree”, he grinned. Somesh says his biggest inspiration in Shivaji Maharaj. “Shivaji Maharaj selflessly fought for the betterment of society. He was a big advocate for the equality of religion and caste. I want to be like him.”
Name: Hrithikesh Yashwant Kolekar
Age: 13 years old, 7th Std.
School: Shriram Vidhyalaya, Kholapur

“The first time I saw a pulley was when I saw my grandmother drawing water from the well. I have been hooked since. I love how they make our work easier. Since then I have always been drawn to pulleys” Hrithikesh said when asked what he liked about science. Hrithikesh’s father works at a Physics lab at a university in Pune. Hrithikesh loves visiting him because he gets to see a lot of really fun experiments and play with pulleys. His favourite thing to do is to explain the function of the pulley to people. When he was selected to participate in a school science fair, Hrithikesh made his own pulley with his father’s help and explained it to his classmates. “I told them how we don’t need to exert ourselves because the pulley will do all the work. We just need to apply a little force when we are trying to pull up heavy objects”, he explained excitedly.

Hrithikesh was excited to demonstrate an experiment with a pulley. He brought set up the experiment in which he placed a rolling metal rod on an inclined plane. The metal rod was attached to a string which he placed over a pulley. To the end of the string he threaded a small weighing scale. “Now watch as I place weights on this scale, see how the metal rod moves up the slope. The more weights I put the faster it moves!” he described. “I think if we use them smartly, pulleys will help us solve a lot of problems.

Hrithikesh’s love for physics was enhanced when he came to the science center in Kholapur. “My teacher would always say ‘light travels in a straight line’ I had no idea what that meant. When I came to the Science center, the instructor set up an experiment with a candle, a box and a screen. She made two parallel holes on two opposite sides of the box. Then she set up the candle, the box and the screen in a straight line. When the candle was lit, we saw a speck of light on the screen. Then I understood that the light went through one hole, out the other and thus was reflected on the screen. A lot of concepts became clear like this one” said Hrithikesh.

Hrithikesh’s science teacher at school is also a very dedicated teacher. “My teacher has always tried to explain things with materials. But our school is small and we don’t have a lot of the amenities we have here in the Science Center. I feel like I have learnt so much more after coming here by doing experiments and handling the models. My teacher also comes with us every time we visit. This way she also gets more ideas that she uses in the classroom.”
Hrithikesh went on to say that he always assumed that chemistry experiments were something only ‘big kids’ did. “I didn’t know I could do them too. I enjoy watching chemistry experiments. But not as much as I like experiments with pulleys!”

Hrithikesh has participated in several science competitions including the Homie Bhaba District level Science competition and the Mumbai Science Teachers Association Science Fair. “My favourite part about science fairs and competitions is that I get the chance to explain science concepts to people. I love it when they ask me questions.” His teacher and the Instructor at the science center both reported that Hrithikesh’s confidence in public speaking has vastly improved since he started attending the sessions at the science center. “The first time he came to the science center he just quietly stood at the back and observed. Now he stands right in front and answers questions that other students ask” the instructor reported.

Hrithikesh wants to be a District Superintendent of police when he grows up. “I recognize a lot of issues in my community. For example, where I come from, the community does not encourage girls to study beyond high school. I want to change this. In my class the girls are smarter than the boys and I want to see them succeed.”
Name: Divya Narayan Athawale  
Age: 14 years old, 9th Std.  
School: Z.P. Girls High School, Jalna

Divya is the middle child in a family of 5. Her elder brother works for a shipping company in Pune, her elder sister is in 12th standard and her two younger brothers are in primary school. Divya’s mother is a housewife and her father is a cook in the police station. “Growing up in such a big family I have learnt to be happy with what I have. I know so many people who don’t have half the opportunities that I have, I am really grateful for what I have.”

The first time Divya set foot into the science center, she said that she felt like she had entered a dream world. “I didn’t know models like this even existed!” she exclaimed. The instructor had let them walk around and explore the materials for themselves. “I took my time, examining each model, touching it and playing with it. I had seen all these images in my book. I just never knew I could see it in real life”. Divya reported. “My favourite model was the one of ‘persistence of vision’. The instructor held up the model, the rotatable square plank on the top has a picture of a parrot on one side and an empty cage on one side. He asked us how we would get the parrot inside the cage. I though he was joking. It seemed impossible to me. Then the instructor started rotating the handle attached to the plank. The plank started rotating really fast and as it rotated it looked like the parrot was in the cage!”, she described her experience excitedly. “I had never seen anything like it. That’s when I knew that anything was possible in this lab.”

Divya said that she has always enjoyed participating in all kinds of activities. “Our school is small and we don’t have a lot of programs and competitions, the opportunity for me to participate was limited. After this center opened, we had many top people form our district come to visit it one day. My friend and I had the opportunity to explain the model of the eclipse to everyone. At first we were so scared, but the instructor stood behind us and told us we had nothing to be afraid of. When we were done everyone said we did a great job. That is easily one of my favourite experience till date”, she explained.

“During the summer holidays, we attended the Agastya summer camp here at the science center. It was a three-day camp during which we were asked to write about our favourite scientist. I chose to write about Newton. Did you know that his family and teachers always told him that he was useless and that he would not achieve anything? And now the whole world knows his name and what he discovered!”, said Divya. She continued to say that thats why she admired him, because he didn’t let people bring him down. Another activity they did at the camp was creating their own rocket launcher. Divya drew out the model as she explained it. “We took a bottle, and attached a long pipe to it. Then we all made hallow paper rockets that fit on to the pipe. When we hit the bottle with both our hands the rocket shoots up because of the air pressure. My group’s rocket went the highest”, she smiled proudly.
Divya has never hesitated to be active in class. “Right or wrong, I don’t hesitate to raise my hand to answer questions in the class. I’ve always been that way. Now I’m even quicker to raise my hand because I have learnt so much and I know that I know the answer.” Divya reported that her confidence had improved so much that now sometimes she explains concepts to her science teacher even before they discuss it in class. Divya said that before coming to the science center she used to get a little bored in science class. “We only had the teacher and the blackboard to look at, I never even used to do my homework, now sometimes I finish my homework even before I go home!” She is glad that the science center is set up in her school. She doesn’t have to travel anywhere to learn from the models. “Now I feel that everyone can benefit from it the way I have.” When asked what Agastya can do to improve her experience, Divya said, “look around you, look at all that we have in this lab. We have things I could never even imagine. I think we already have everything we need to succeed. What more can I ask for?”
Divya says her biggest role models are her parents and her teachers, “If it wasn’t for my parents’ hard work, I would be here. And if it wasn’t for our dedicated teachers we would never succeed.” Divya and her father have a shared dream of her becoming an IPS officer. “I hope that I can make my father and myself proud by achieving our shared dream”, she concluded.
Nilakshi Y. Sute  
Age: 14 years old, 9th standard  
School: Kai Anandraa Meghe Vidyalaya, Wardha

Nilakshi lives in a two room house with her mother, father and two younger brothers. “It’s a small house, but I think it keeps us close.” During Nilakshi’s first visit to Agastya, her class was taken to the Biology lab. “I was instantly gripped”, she said. “Biology has been the one subject I have always had plenty of questions about.” For instance, Nilakshi has always wondered what the inside of the human body looked like. She felt like no matter how hard she tried she couldn’t imagine it. “I know there are pictures in our textbooks but somehow it was never enough. For the longest time I though all the organs were kept in line. I though first we had the lungs, then below that the heart, then the stomach and the intestines and finally the kidneys. I thought everyone was a different height because their organs were of different sizes.” On seeing the human body model and being allowed to take it apart and examine each organ, Nilakshi says not only were a lot of her questions answered, but now she has so many more questions that she had never thought of before. “Now I want to know more and more about the body. I want to know how our joints work, how come sometimes bones break, and how our muscles are connected to our bones.” Her questions are not only limited to the study of human biology, she also has several questions about botany and zoology. For example, she has always wondered why plants were green. “There are so many colours, I have always wanted to know why plants were green. Now after coming here, the Agastya bhaiya told us about chorophyll and how the plants need it to manufacture food”. She feels that with more frequent visits to the Agastya science center all of her questions will be answered.

Nilakshi says she looks forward to visiting the physics lab more often. “Just like biology, I have also always liked physics. I feel like I know so little and have all these questions. I want to know how the plane stays in the air, how cars work, and how machines are made.” She said she remembers reading about how eclipses are formed but has had a hard time picturing it. “I didn’t know what the textbook and the teachers meant by ‘revolve’ and ‘rotate’. It was so confusing.” Nilakshi says that on her first visit to the physics lab she spotted the model of the solar system and asked the instructor to explain it to her. “I have never understood any concept better than this”, she smiled.

After her three visits to the science center, Nilakshi says she has realized the importance of doing experiments and interacting with models in order to learn. “In our school classrooms we have a few models, but only the teacher handles them. We are never allowed to touch anything. I understand that we have very limited materials and the teachers does not want us to break anything but I feel that children will learn better if they are allowed to handle the materials on their own, like we do here at the science center.” She looks forward to doing more experiments.
Nilakshi’s favourite experiment so far has been watching the change in the states of matter. “The teacher placed a small piece of camphor on a plate. Then she set up a tripod stand, under which she placed a Bunsen burner. The plate was placed on the stand and then a funnel was inverted onto the plate. The neck of the funnel was blocked with a piece of cotton.” Nilakshi described, “when the burner was lit, the camphor evaporated!” She said she had never seen anything like it.

Another apparatus that she was really fascinated by was the microscope. “We have pictures in our books of what cells look like. But seeing it in real life under a microscope is really another experience altogether.”

Nilakshi says that the Agastya experience has opened her eyes to the importance of science. “If it wasn’t for science we would not have electricity, we would not have TV for entertainment and we would not have fans and air-conditioning.” She hopes to grow up and become a mechanical engineer. “I want to be an inventor. I want to contribute to the advancement of science”, she concluded hopefully.
Name: Radhika Bipin Pandey
Age: 11 years old, 7th standard
School: Z.P (Ex. Govt.) Girls High School, Camp, Amravati

Radhika, moved to Maharashtra from Bihar at the age of 4. In spite of being a daughter of a priest, being exposed to a lifestyle of rituals and superstitions, Radhika has been able to separate her religious beliefs from the world of science even at the age of 11. “My entire family is very God-fearing and I know that we perform many baseless rituals that have no scientific reasoning. But I try hard not to question it, I like being religious, it makes me feel close to my family but I also enjoy learning about Science.”

Even though she has had only one exposure to the Agastya class, she says that she is very optimistic and excited to see what future classes with Agastya will look like. Form a very young age, Radhika says she has had so many questions about the world at large. “Why do plants need sunlight to grow? What makes metals hard? How does one process the barks of trees to make furniture? How come ships don’t sink even though they are so heavy?” Coming from a community where people engage in practices without questioning anything, she says she has never had the opportunity nor has been encouraged to ask any of these questions.

Radhika says that her favourite experiment so far has been the experiment that demonstrated the transfer of heat in metals. “We took a metal rod and attached 5 nails to it in a row using wax. Then we heated one end of the rod and watched as the nails dropped one by one.” She then said she realized that this is what happens to the cooking ladle when its left in the pot. “Sometimes my mother leaves the ladle in the kadai when she’s making subji. I have always wondered how it becomes hot. Now I know.”

Radhika is a born scientist. When she learns about a new concept at school she says that she rushes home to try out an experiment to understand the concept better. Her favourite subject is Biology. She says that she finds experiments involving plants the easiest to replicate at home. “It’s very easy for me to find seeds and soil at home. I have no access to other materials like magnets and wires, so I like doing experiments with plants.” For example, in order to fully understand the necessity of sunlight for plants to grow Radhika conducted her own experiment at home. “I took two pots and planed soya seeds in both. I then placed one pot under my bed and I left the other one outside. I watered both of them regularly. After a couple of weeks, I noticed that the pot I kept out in the sun started to sprout but the pot that I placed under my bed did not.” From this experiment she learnt that plants need sunlight to grow. “When I told my teacher about this experiment, she further explained that plants need energy from the sun to manufacture food and that’s how they grow.”

Radhika’s love for Biology also extends to the animal world. She has had several questions about the animal kingdom. “How come when humans are born, it takes us so long to start walking; but when animals are born they start walking in a few minutes?” she asked quizzically. Her love for
animals was sparked when she visited the circus at the age of 5. “When I was 5-years-old my father took me to the circus and I saw a lot of animals there. Then I asked him what happens to the animals when they get hurt or if they fall sick, he told me that they take the animals to the veterinary doctor. Since then I have always wanted to be a vet”.

Besides Biology, Radhika also enjoys Physics, she particularly enjoys experiments that explain the properties of light. “We did an experiment to learn how light travels in a straight line. We also did an experiment that demonstrated that sunlight is made up of different colours. Our teacher darkened the classroom. We covered all the windows with black chart paper. Then our teacher made a small hole on one of the chart papers so that only a ray of light entered the room. Then we took a clear glass of water and held it up to the ray of light. We saw the water split up the ray into several colours. It was beautiful!” Radhika went home and demonstrated the same experiment to her mother. “She was so excited to see it. My mother said she has never seen anything like it before.”

Radhika is acutely aware of the social issues in her community. “Child marriage, is such a big issue where I come from. They make young girls marry old men and I don’t think it’s right. I think girls should be educated, sometimes I feel that girls are smarter than boys, we can achieve so much more.” She’s says that she is also aware of the ills of the caste system. She hopes that she can spread awareness about these issues as well as educated people to be more open minded.