

“We do not write history. We make history.”  
- Sardar Patel



# AGASTYA'S BLAZING FIREFLIES

**Igniting young  
minds through  
innovative learning**

Foreword by  
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*Innovating with the poor*

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## CREDITS

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The title of this book is inspired by Arun Maira's metaphor to describe a rising, inclusive India.





## FOREWORD

Rural India is significantly different from urban India, especially from cities which are vastly better endowed in almost every sense. In the field of school education, rural schools invariably present a depressing picture. Most disadvantaged rural children are far worse off: they are denied help they need and seek. Published statistics naturally reveal that in many competitive tests such children achieve the lowest scores. As one sad consequence, alarming numbers of them migrate to towns and cities, which leads to an undesirable increase in urban populations.

However, Agastya recognised the following truth: how well rural children develop today must determine how well India performs tomorrow. Keeping this in view, Agastya decided to address the problem by taking one tiny step forward. Aware also of the pristine rural environment so conducive to learning, Agastya conceived and put in place a new model for broad instruction in science. The model also has a noble goal: to impart unobtrusively values which are so fundamental to personality building. How this unique model is panning out is the question the present handy volume answers in the form of one hundred reactions from diverse sections of communities which have had direct exposure to the Agastya practices.

These reactions are presented here in two parts. The first part presents seventy-five views regarding the following five attributes inculcated in Agastya pupils: awareness, creativity, curiosity, leadership and problem solving. The second part presents twenty-five essays documenting what the following groups had to say: government and panchayat officials, teachers, parents and Agastya alumni. The reactions and views vindicate the ideals Agastya aims at, namely, (1) a scientific mindset free from superstitious thinking, (2) leadership displayed by trained young instructors, (3) girls pursuing education, resisting parental pressure to marry and start families prematurely, (4) supporting elders in their efforts to give up unhealthy habits such as smoking and (5) motivating the young to preserve the purity of the rural environment. These are but a few of the everlasting values that Agastya students and teachers have imbibed from Agastya's educational system based on the ancient Indian notion of holistic education.

Agastya innovated in ways which they believe can be used or applied at other levels of instruction. Their hands-on science education programme, their Mobile Labs travelling to farflung village schools without teaching laboratories, their teacher education programmes and their attempts to train students to teach other children are all uncommon devices in the Indian school system, in both rural and urban areas. Statements made spontaneously by diverse visitors and others clearly suggest that Agastya's uniquely designed system is delivering what its visionary initiators envisaged. If scaled up and extended to countless villages elsewhere, rural India will be so transformed that it might even generate reverse migration, that is, from cities and towns to remote villages. Therein, I believe, lies much genuine hope for our country.

*Padma Vibhushan*

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## INTRODUCTION

**A**gastya International Foundation is a Bangalore based non-profit educational trust that seeks to transform and stimulate the thinking of disadvantaged children and Government School teachers by bringing innovative science education to the doorstep of schools across India.

Agastya's Campus Creativity Lab, located in Kuppam, Andhra Pradesh boasts of hands-on learning centres and labs for science, ecology, astronomy and art among other subjects. This state-of-the-art 'idea factory' impacts thousands of children every year and about 500 children every day. Furthermore, Agastya has 45+ Science Centres, 110+ Mobile Labs, 105+ Lab-in-a-Box Sets, 55+ Lab-on-Bikes driving hands-on science education in villages across 15 States in India. Learning is disseminated via Agastya's Hub-and-Spoke outreach channels in which Science Centers act as Hubs and Mobile Labs and others as Spokes.

Aside from hands-on science education, Agastya runs a range of ground-breaking programs to develop the skills of children and teachers alike. For instance, some students are identified and trained to become Young Instructor Leaders (YIL) to their peers based on their innate curiosity, questioning nature and ability to think laterally, and not on their ability to secure good grades. Another example is the Operation Vasantha in which local school and college students are trained to teach and inspire disadvantaged children in their villages. Agastya also holds workshops to help Government School teachers to supplement their understanding of concepts in Physics, Chemistry, Mathematics and Biology. Agastya instructors are also fully involved in developing and updating prototypes of models, low-cost scientific kits and various learning modules which are integral to all programs or programmes.

Today, Agastya has an international reputation as a truly unique, innovative and integrated creative learning center for children and teachers unmatched in its scale and creative mission. Agastya's unique model transforms and stimulates children's thinking in five areas:

### Awareness

Knowledge among relevant stakeholders of alternative methods of learning and teaching science that is preferred.

### Curiosity

Behaviour characterised by exploration, investigation, observation, and a desire to learn more about new, incongruous, or unknown elements.

### Creativity

The ability to think beyond accepted norms or explore concepts or synthesise information to generate innovative ideas.

### Problem-Solving

The ability to recognize and understand the multiple dimensions of a problem and to address it by applying relevant knowledge.

### Leadership

The ability to guide and inspire others, and the capacity to think, act and direct their activities.

This book is a collection of stories captured through the voices of children who have been positively impacted by their exposure to the Agastya campus. These stories narrate the nature of Agastya's interventions and the subsequent impact on children's awareness, curiosity, creativity, problem-solving and leadership skills.



## GETTING MOTIVATED, GETTING INVOLVED



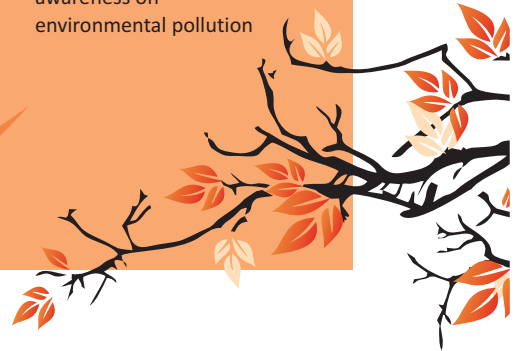
### R. Anitha

Class 10  
Student of ZPHS,  
Kothaindlu

### A Firefly

because she raised  
awareness on  
environmental pollution

### AWARENESS



Agastya's innovative approaches have given Anitha the courage and ability to follow her dreams of starting her own clinic to serve the people of her village free of cost. Amazed to see so many science models when she visited the Kuppam campus four years ago, she loved the way instructors impart knowledge, showing children how things work and allowing them to experiment.

In Agastya she got to see as well as demonstrate models of the human body and also teach her sixth standard classmates about its parts. She was ecstatic about being chosen as a Young Instructor Leader (YIL), getting additional classes and learning topics outside her school syllabus. Agastya instructors encouraged her to speak freely in class, building her public speaking skills - she came first for her speech on 'how our environment is being polluted, its causes and how to stop it'. Awarded gold and silver medals for dancing, Anitha no longer has stage fear. The YIL programme enabled this youngster from a village to meet an engineer from Bangalore who explained the aerodynamics of military planes.

Delighted to see and hear former President of India, Dr Abdul Kalam when he visited Agastya's Kuppam campus, Anitha read his biography discovering all that he had done for science, society and the environment. This inspired her to visit an elementary school in her mother's village to talk about the

importance of trees. She even helped them plant saplings around the school.

When she was in the eighth standard, one of her classmates was taken out of school to get married. Anitha and her friends went to the girl's house where she explained the benefits of an education and how the school and the government finance studies. When the girl's parents were persuaded into sending their daughter back to school, a motivated Anitha realised that "if I want to become someone and be in the number one position, then my education is going to be very important."

**Fear  
to  
Confidence**

Thanks to Agastya's teachings, she garnered the courage to talk to her chain-smoking father and is elated that he has stopped for a whole year now. She has also started to discuss what she learns in Agastya with her parents, improving their knowledge too.

Anitha feels that Agastya has been such a compelling influence that it has reinforced her desire to study.

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker



## SAFETY AND ANTI-SMOKING CRUSADER



### B. S. Nandakumar

Class 9  
Student of ZPHS,  
Gudupalli

### A Firefly

because his anti-smoking and traffic safety campaign saves lives

### AWARENESS



The first time young Nandakumar sat in the Agastya bus three years ago he thought his class was going to a temple. Astounded by the delights of its Chemistry Lab, this shy boy got hooked on to Agastya from day one.

However, Nandakumar discovered his passion in the Biology Lab, where he learned about human and plant cells and volunteered to present the subject to other students. His leadership skills were noticed by his Agastya instructors and as a Young Instructor Leader (YIL) he participated in a slew of transformative projects.

When some Agastya friends discussed the accident-prone road near a school in Gudupalli, Nandakumar and his YIL partners decided to act. They prepared sign boards and travelled to Gudupalli to instruct residents, drivers, and students on the traffic rules. With money collected from the community, they bought bricks and built a speed-breaker.

A true lover of nature, Nandakumar recalled being blown away by the lush green beauty of the Kuppam campus. After seeing what YIL teams had done in other schools, he requested Agastya's staff to provide 25 saplings to plant in his school's barren premises to provide shade, bring the temperature down and improve air quality.

Nandakumar's passion for biology, dedication to the environment, and love of teaching came together when he decided to confront his father about his smoking habit. Agastya gave him an opportunity to participate in a project, in which he learned about the destructive effects of smoking. He made his father blow smoke on a white cloth - two minutes later, the cloth turned yellow! With such arresting visual proof of the impact that smoking was having on his internal organs, along with those of his son, daughter and wife, Nandakumar's father has not touched a cigarette since. Nandakumar and his classmates also wrote, acted in and recorded a skit about the adverse effects of smoking which they now run in various villages.

Despite his preference for biology, he is interested in everything and that is what keeps him coming back to Agastya. "Anything you do not know, you can learn here," he says. With Agastya instructors as his role models, 15 year-old Nandakumar aims to become a primary school teacher "to teach others everything they do not know."



The journey from curiosity to creativity



## DEVELOPMENT DREAMS



### Divya N.

Class 9  
Student of ZPHS,  
Shanthipuram

### A Firefly

because she convinced the *Panchayat* to plant trees and persuaded parents to send their children back to school

## AWARENESS

Divya finally got the opportunity to visit Agastya's Kuppam campus when she was in the eighth standard. Her favourite by far is the Biology Lab, where she learnt about the different species of snakes in her region, both venomous and benign. For an essay competition at Agastya, she wrote about illiteracy in her village and how institutions like Agastya can play a key role in improving literacy. She has learned about the food chain, about pollution and how to curb pollution. Immediately after watching an Agastya video about the ramifications of water and air pollution, Divya rushed back to her village to tell her family about the benefits of planting trees. Impressed, her parents got her a rose plant from a nursery, and had her plant it in their house. Divya also told her friends about the benefits of plants; they in turn told their parents who told their friends, which created a ripple effect. Community members then decided to plant trees in and around their village on a specific day. With almost every household aware of how important trees are to the environment, people of all ages came together for the tree planting drive. Divya's father, Nagaraju was immensely proud of his daughter and thanked Agastya profusely for imparting not only practical knowledge, but also for instilling moral values in their children, something lacking in almost all schools.

As a Young Instructor Leader (YIL), Divya has learned some English and can now introduce herself in English. A keen musician Agastya has given her the opportunity to play different kinds of musical instruments as well. As part of the YIL programme, Divya learned the importance of social etiquette, and of being sensitive to the needs of other people. As a result of her exhorting parents to send children back to school, three school dropouts in her village have re-enrolled. Divya had also learned that the main reason students were quitting school was a lack of financial resources. She shared this with the school administration, who agreed to provide such children with text books and school uniforms.

Looking  
to  
Observing

Agastya has been a life changing experience for Divya, who believes that "we should play our role in society". Her ambition is to become an Indian Administrative Services (IAS) officer so that she can develop her village.

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## A BOON TO STUDENTS

### Subramani H.

Class 9  
Student of APMS,  
Gudupalli

### A Firefly

because he convinced  
30 farmers to use drip  
irrigation

## AWARENESS

Can you imagine voluntarily changing from a private to a government school? That's exactly what Subramani did when he was in the seventh standard at a private school. After he was exposed to the magic of Agastya's innovative programmes, Subramani enrolled in a government school just so he could visit Agastya's Kuppam campus and learn new things!

He is enthralled by the phenomenon of energy, a fascination that began in Agastya's Discovery Centre with an experiment demonstrating how wind energy propels boats forward. He recalls learning about the scientific principle behind Newton's Car, a model illustrating Newton's third law of motion, which states that for every action, there is an equal and opposite reaction. The car moves when it hurls a weight off its back, the force of the release helping to push it forward. Subramani was so intrigued by the concept that he designed a model of Newton's Car at home, and demonstrated it to his teachers and friends at school.

A teacher and an educator by instinct, Subramani motivated about 30 farmers to adopt a drip irrigation approach after he learned about it at Agastya and explained its uses and benefits to them. Subsequent to becoming a Young Instructor Leader in

the eighth standard, Subramani's English and communication skills grew exponentially owing to the encouragement and training that he received at Agastya. His language is so good that he comfortably and easily converses with English-speaking visitors.

Subramani feels incredibly lucky to live so close to Agastya's Kuppam campus, as this allows him to visit at least two to three times a month. He says, "Agastya has been a boon to students like us, from backward villages in AP. At Agastya you can go to any lab and just by experimenting, learn anything you want."

When he grows up, Subramani has decided that he wants to become an electrical engineer. He dreams of developing a simple and affordable anti-theft alarm that even the poor can afford. The alarm will consist of a battery that is attached to a buzzer that goes off when someone tries to move or unplug an electrical device from the outlet.

His advice to other children is, "Don't say yes; ask why."

Yes  
to  
Why

The journey from curiosity to creativity





## WHY CAN'T WE ALL BE LIKE TREES?



### AWARENESS

#### J. Prakash

Class 10  
Student of ZPHS,  
Shanthipuram

#### A Firefly

because he helps  
people earn and he  
saves trees



Already a passionate advocate for social change and environmental conservation, Prakash is dedicated to preventing deforestation. The son of a farmer and a homemaker, Prakash admits that he was indifferent to social and environmental problems before Agastya. Struck by the quiet green beauty of the trees and shrubs dotting the Kuppam campus, he learned about the pivotal role that trees play in supporting plant, animal, and human life. He reflects that “in their lifetime trees help everyone, but humans destroy trees.”

As a Young Instructor Leader (YIL) and a peer-to-peer teacher, the 15 year old believes his role is to “take initiative, speak with courage, help people, and do your work without fear.” Determined to perform his YIL duties and honour the contribution of silent, defenceless trees, he took it upon himself to stop people from cutting trees. Now, when he sees someone hacking at a tree, he explains the importance of trees in preventing soil erosion and precipitating rainfall, especially to farmers. Realising that woodcutting is a livelihood, he has stumbled upon an ingenious solution as an alternate option. Due to a dearth of agricultural labour, people in his village are stretched thin, cultivating land on their own. He invites the tree cutters to work six days a week on his parents' farm for which they are paid at the end of the week. He also helps to find them

daily wage work in the village. As a last resort, if they are still unwilling to stop what they are doing, Prakash threatens to report them to the police. So far, he has managed to help eight such people find alternative forms of employment.

When asked why he believes that human beings should emulate plants and trees, he says “plants prepare food on their own—they are producers; the rest of us in the food chain are consumers. We must also be like plants, give of ourselves, and not depend too much on other people.” He would like politicians especially to look to trees for inspiration, and seek to help their constituents regardless of caste, class or background. Prakash attributes his drive, courage, and commitment to social justice to his parents' influence and Agastya's teachings. When he grows up, he wants to be a doctor, so that he can provide free medical treatment to the people who need it most.

**Passiveness  
to  
Exploring**

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Young Instructor Leader

Innovation Fairs

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National Platforms

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## A ROBIN HOOD DOCTOR



### Lavanya V.

Class 8  
Student of ZPHS,  
Settipalli

### A Firefly

because she wants to  
treat the poor free of  
cost

### AWARENESS

Lavanya's first exposure to Agastya was when her sixth standard class visited their campus. She found Agastya a lot more interesting than school, as she was actually able to observe, as well as do all the experiments. Agastya's Biology Lab was a revelation displaying real-life specimens in 3D and colour unlike the illustrations in text books. Her aspiration to be a doctor stems from this special liking for biology that was nurtured by Agastya's instructors. She feels they really understand her and unlike school, she finds it easy to get along with them.

After a year of confidently answering questions in the Biology Lab she became a Young Instructor Leader in the seventh standard. As a part of Operation Vasantha, she not only explains to younger children the process of photosynthesis, but also clears her own doubts with classmates and peers. Agastya's teaching on trees and their importance to the ecosystem, led her to plant six to seven trees around her village, with seedlings from Agastya. She also explained to her fellow villagers how trees help humans by producing oxygen and how they bring rain and thus life to plants and animals. She has also become more aware of her surroundings and understands why she should avoid plastics.

She appreciated the importance of education only after coming to Agastya, so when one of her friends started losing interest in school, Lavanya and her friends made sure she fully understood all the benefits of a good education. Now Lavanya is happy that her friend is doing very well in school.

Like many children, she was very naughty when young, but Agastya has taught her to become more disciplined and obedient. She has realized the need to understand Mathematics in life as well as appreciate the value of cleanliness. Lavanya dreams of becoming a doctor so that she can treat people in her village free of cost; her plan is to make money from the rich to serve the poor. Lavanya says "Parents are struggling hard to put us through education, so now children should also struggle to make use of the education." A bright thought for such a young girl!

**Textbook-bound  
to  
Hands-On**

The journey from curiosity to creativity



## CALCULATION AND REFORESTATION



### N. Sathya

Class 8  
A student of KGBV,  
Shanthipuram

### A Firefly

because she taught her  
mother basic calculation  
and her tree planting  
campaign



### AWARENESS

In Agastya “they let me play” Sathya poignantly says. The play has purpose, which is to “teach us lots of things. For example, they show us experiments using objects that we have fun with, like cycles, to explain concepts to us.” Even basics like addition and subtraction are covered - to handle money and calculate how much they have earned.

Sathya appreciated the importance of education, when she was unable to compute her mother's daily wages. Sathya's illiterate mother was outraged—why was Sathya going to school, if she was not even learning the basics? Now after Agastya's grounding in basic arithmetic she not only calculates, but has also taught her mother how to do so.

As is typical of her Agastya peers, Sathya is keenly aware of the relationship between the environment and livelihood. Once when her mother had not visited, an upset Sathya took leave from her residential government school to ask her why. Her mother told her that the family was in dire straits; no coolie work, a barren plot and no money. Still deeply hurt, Sathya refused to eat for two days till her mother took her to the bare field. Only when Sathya saw the damage wrought by a vicious drought, did she understand her mother's plight.

Having studied the rain cycle and how trees contribute to it, she recalled seeing people cutting down trees in her village. The

village primary school teacher confirmed Sathya's suspicion that the drought was caused in part by the lack of vegetation. Sathya discussed the stark difference between Agastya's verdant green campus and the bone-dry surroundings in their village with her friends, and they decided to approach the village leader for help.

After planting about 10-15 trees around her mother's house she convinced her worried neighbours that it is easier to get rid of snakes than make rain fall. Now, they too are planting and actively preventing deforestation. The rains have improved enough for her family to grow rice and other seasonal vegetables.

Sathya wants to support her parents by becoming a doctor. She asserts that “courage” is the most important lesson that she has learned at Agastya, as knowledge would mean nothing if she did not have the bravery to apply it to situations in life.

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## CREATING A 'COMPOSTING' DRIVE



### V. Poornima

Class 10  
Student of KGBV,  
Shanthipuram

### A Firefly

because she convinced  
her village to segregate  
and compost waste

## AWARENESS

Glowing reports from her seniors about Agastya, made Poornima eager to experience the activity-based learning herself. On her very first day at Kuppam campus, Poornima found herself assembling a periscope with her seventh standard class! From that day onwards every time she visits Agastya, she excitedly shares whatever she has learned with her family.

After becoming a Young Instructor Leader in the eighth standard, Poornima began working on waste segregation and composting. From her sessions at the Ecology Lab, Poornima advised community members to separate wet, dry and reusable waste. She tried composting waste at home, but her parents were not supportive. Though hurt, Poornima refused to be discouraged. She discussed the idea with a schoolteacher, and together they concluded that the Village *Panchayat* would be their best ally. When Poornima explained how it would save money on fertilisers as well as cut down the amount of wet waste processing, the impressed *Panchayat* members were determined to begin composting. Moreover, the compost would not pollute their streams and rivers, and would actually be good for their plants and therefore, their health. Since then her village has been segregating and composting the wet waste, and using the resulting manure instead of harmful commercial fertilisers.

The familiar sight of a girl pouring over text books at home during the day disturbed Poornima. Accompanied by her teacher, Poornima tried to convince the girl's parents to send their daughter back to school. The parents were not financially stable and did not understand the value of schooling. Poornima and her teacher explained the long-term implications of getting an education, and how it would benefit their family. The teacher also told them that the school would pay for books and the school bag. Touched by their offer of help, the girl's parents relented and allowed her to return to school where the girl is doing very well - "I'm not afraid to speak" she says.

Poornima says her confidence has grown since coming to the Kuppam campus, and that she would not have had the courage to do the things she has, if it was not for the support of Agastya instructors.

Having seen factory workers in her area falling terribly sick, she would like be of help to the poor by becoming a doctor and helping people get better.

Looking  
to  
Observing

The journey from curiosity to creativity

## THE IMPORTANCE OF EDUCATION



### Prasanna Kumari

Class 9  
Student of KGBV,  
Kadapalli

### A Firefly

because she teaches  
children who cannot go  
to school

### AWARENESS

**T**he superior teacher demonstrates. The greatest teachers inspire." 14 year-old Prasanna believes that people who helm the affairs of great institutions would not have achieved such heights, had they not had a teacher who inspired them. This small girl from Morsanapalli village in Andhra Pradesh aspires to transform the lives of others too. For the past few years, this passionate little teacher has been sharing what she learns in school with children who cannot afford an education.

From a humble farming family himself, her father refused to allow her to go to school. After a great deal of persuasion by a procession of teachers in her locality, her father finally relented. Her brave struggle to receive an education has helped her to grow strong and wise.

On her first visit to the Agastya campus, Prasanna was struck by the beauty of its many trees. Agastya taught her how trees can mitigate air pollution so she planted more than a dozen saplings, improving both the aesthetic as well as quality of her village environment.

Agastya has been a transformative experience for Prasanna, developing her confidence to deal with various types of people. She declares that without Mathematics, anyone can take you

for a ride and without English it is difficult to find a job. Since Agastya's introduction to basic Mathematics and English, she is no longer worried that she will be taken advantage of. With multiple opportunities to address audiences about the various experiments that she has been a part of, she no longer fears speaking in public or being on stage. Her first exposure to information technology was also at Agastya, making her a keen proponent of the internet. She affirms that, "With the help of a laptop and the internet I can explore the whole world."

Prasanna dreams of starting an orphanage for poor and abandoned children. Saddened by young children working in hotels and train stations, without any basic amenities, Prasanna plans to extend a helping hand by educating them. She also hopes to guide her young siblings to acquire an education, and accomplish their dreams.

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## CLEAN WATER FOR ALL



### D.L. Saicharan

Class 10  
Student of ZPHS,  
Shanthipuram

### A Firefly

because he ensured clean drinking water for his school and he tutors children who miss classes

## AWARENESS



**B**efore he came to Agastya in the sixth standard, Saicharan was a self-professed 'childish, immature and mediocre student.' He credits Agastya with teaching him good values, such as the importance of safeguarding health and protecting plant life. These lessons were put to the test when, while washing his lunchbox outside the lunch hall one day, Saicharan noticed dead mosquitoes, flies, and leaves in the water jetting out of the tap. Even more troubling was the fact that many boys were filling their water bottles from this sole source of drinking water at his school. Saicharan wondered if it had anything to do with the overhead water tank, and whether it was being properly maintained. The tank would sometimes overflow when the pump was on, which probably meant that it was not being monitored either.

Armed with these observations, the Young Instructor Leader approached his classmates and teacher for their advice. When they all agreed that the uncovered tank was in dire need of a good scrubbing, Saicharan and his friend got permission to clean it. First, they drained out all the water by leaving the taps open. Next, they used bleach to scour and disinfect the insides

of the tank. After allowing it to dry overnight, the boys refilled the tank once more with water. Most importantly, they covered it with a lid. There was yet another nagging problem caused by a lack of drainage. When the children used the tap, the water tended to stagnate where it fell, thus creating a breeding ground for mosquitoes. Once again, with the school's permission, Saicharan created a small culvert that would drain the water into the school garden.

Sai also tutors those classmates of his who are enrolled in the National Cadet Corps (NCC). These boys have to skip their evening board exam prep classes, because they have practice at the NCC grounds. Every morning before school, Sai — who attends these classes — goes over the previous session's lessons with them.

When he grows up, Sai wants to become a pharmacist so that he can help his doctor father run his clinic.

Looking  
to  
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## THE GREEN ADVOCATE



### A. M. Sampangi

Class 9  
Student of ZPHS,  
Yamiganapalli

### A Firefly

because he stopped  
wastage of water in his  
village



## AWARENESS

When Sampangi first visited the Agastya campus in the seventh standard, it was better than his seniors' descriptions: a peaceful place where learning was fun. Having actually conducted experiments in his favourite Physics and Chemistry Labs, Sampangi is proud of his certificate for participation in Agastya's Science Fair.

Two lessons learned at Agastya, he has applied to life - one is that plastic is bad for the environment, and the second is water conservation. Sampangi went from door to door urging about 15 neighbours to use cardboard boxes instead of plastic bags when buying items - eight to nine have followed his advice so far. When filling water, people often left public taps running while they ran errands, wasting good, clean water. Sampangi urged such people to stop depriving future generations of this precious resource. Not surprisingly, some adults were upset that a young boy was presuming to correct their behaviour. A lot of villagers, though, took his teaching to heart. Believing that everybody wants to do the right thing, he is indefatigable in his outreach work, often approaching the same people four to ten times, or until they agree to change their ways.

Knowing that every drop could raise the ground water level he wants to channel all waste water into holes dug in the ground. He strongly advocates rainwater harvesting be implemented in

all houses. Doing his bit to make his village greener, Sampangi planted trees. Unable to buy saplings, he dug up smaller trees from a wild grove and planted them along the perimeter of his brother's field. He is very happy to see that they have grown quite tall under his care.

He decided to switch to an English medium school in the fifth standard in spite of the challenges it would bring, believing that spoken English is a key element of effective communication. His aim in life is to become a language teacher, teaching Telugu as well as English.

His father having died when he was very young, his mother, elder brother and Sampangi lead a difficult life. Sampangi is unhappy that poor families like his (often relegated to the outskirts) do not have access to toilets whereas people who live within village limits do. Once he gets a job he plans to give his mother a comfortable life and make sure that she does not suffer.

**Fear  
to  
Confidence**

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

## A TEACHER CAN CREATE ANYONE



### M. Subhashini

Class 9  
Student of KGBV,  
Gudupalli

### A Firefly

because she made  
farmers aware of which  
soil retains moisture the  
best

### AWARENESS



As the daughter of agriculturalists, Subhashini appreciates the hard life a farmer leads. When her class did an experiment on moisture absorption in the Biology Lab, she learned that banka matti retains water best. Upon informing her family about the experiment and its applicability to their farm, her parents complimented their daughter saying, "You should learn more in Agastya" about the science behind farming.

What gladdens the heart of this 14 year old is how much children are able to learn and retain at Agastya. When her class first arrived on campus in the fourth standard, they were taught about sense organs. After lunch, when the teachers asked each of them to recount what they had learned, everyone (herself included) was able to answer! Amazed at how much she had absorbed in such a short time she remembers thinking, "I want to come here again and again and learn more!"

In the Art Lab, their teacher asked them to draw trees from memory. After that, they were asked to actually look at the trees and then draw them. This taught Subhashini the importance of observation in everyday life. When her biology teacher teaches them a new topic, the world of creatures for instance, Subhashini goes out and tries to observe the different animals around. When learning about bacteria in spoiled food, she realised that if she accidentally stepped on rotting food, she

could also fall sick and spread illness. Subhashini makes it a point to apply three lessons learned from Agastya in her life — observation, discussion, and teamwork.

An Agastya video about serving one's fellow human beings, particularly those who are handicapped inspired her to change the way she approached people who are older or differently abled. She now willingly helps her elderly grandmother take a bath and move around the house.

She would like to make an Liquid Petroleum Gas (LPG) leak detector for the INSPIRE model making competition. Though she does not know how to do it yet, she knows she can learn the skills from Agastya as did many of her friends. She dreams of becoming a teacher, declaring "while a policeman cannot create another policeman, or a doctor another doctor, a teacher can create anyone." Though she loves Biology as it is related to all aspects of self and life, she believes Agastya will help her teach English because so many people in the Agastya campus speak this universal and very useful language.

Looking  
to  
Observing

The journey from curiosity to creativity





## A POSITIVE APPROACH TO LIFE



### M. Divya

Class 8  
A student of KGBV,  
Gudupalli

### A Firefly

because she teaches  
others how to turn waste  
into beauty

### AWARENESS



**D**ivya belongs to a tribal family who no longer live a nomadic life but stay at Veeranamala Thanda in Ramakuppam Mandal, giving Divya a chance to study. However, her father goes to Kerala to make a living and support the family.

Divya was in the sixth standard when the principal announced a trip to Agastya. She and her friends talked to their seniors who said that in Agastya they teach everything through experiments. "But when I first went to the Art Lab, I was impressed with the variety of things made by students themselves. It was an experience to cherish," she says.

In the seventh standard she was bitten by the Agastya bug. The regular Friday visits became more interesting and the Jhunjhunwala Discovery Centre and the Art Lab became a favourite haunt for Divya. "The first time I came here I never felt like going back. The first impression was lasting but I learnt a lot of things which were not academic in that year. First, I learnt not to waste. Then I discovered that a lot of beautiful articles can be made from paper, stones, leaves, and from most of the things we throw away. I imbibed confidence from the do-it-yourself style of learning, along with a positive approach to life," she says with pride.

Divya loves reading and writing and as a Young Instructor Leader in the eighth standard, she got a chance to teach others all that she learnt in the previous years. "The teaching in our school is ambiguous and we are always impatient for the class to end. We have no equipment or models in our school. But at Agastya, the teachers are very friendly and the manner in which they teach is completely different. I also learnt how to protect the environment, dispose plastic, and segregate waste. Now I keep all this in mind and also read a lot in order to teach other children," she says with a sense of achievement. No wonder Divya is nicknamed 'Bookworm' Divya.

"The Art Lab is a wonderful place to learn and I want all the schools to start such creative ways of teaching. Initially, I wanted to be a teacher but now I want to join the Indian Administrative Services (IAS), so that I can make learning more interesting in schools and also change the education system," she signs off.

**Passiveness  
to  
Exploring**

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

## A WEAPON OF CHANGE



### V. Velumurugan

Class 9  
Student of ZPHS,  
Rallabuduguru

### A Firefly

because he convinced  
his father to stop  
drinking

## AWARENESS

**A**shy, timid boy, young Velumurugan was petrified of his alcoholic father's temper and frequent brawls. He yearned for peace at home and to tell his father that his drinking was destroying him. Astounded by the lush green gardens and dazzling Science Labs of Agastya's Kuppam campus, what affected Velumurugan the most, however, were the lessons on morality and value education that he received.

Agastya's instructors inculcated qualities like discipline, punctuality, and mutual respect through hands-on activities. He was captivated by the life stories of great leaders like Mahatma Gandhi and social workers like Mother Teresa, and learned about how they struggled for what they felt was right. This life changing experience taught Velumurugan that it was also his responsibility to help improve society. As his confidence grew, he began to demonstrate a knack for resolving conflicts, figuring that, "If I am good, my adversary will also become good." Velumurugan befriended two children who constantly fought over trivial issues and tried to get them to reconcile. In the wake of his intervention, all three of them became good friends, and their parents stopped their proxy fights too.

Thanks to Agastya's programme and instructors, it was clear to Velumurugan that he was undergoing a sea change. He gathered the courage to confront his father about his drinking

habits, explained the dangers of drinking alcohol and the toll it was taking on his health. Much to his shock and delight, his father quit drinking immediately. He said, "My father listened to me because I listened to my father." He started approaching chronic smokers in his village describing the dangerous side effects of smoking. He counselled them to quit, which many of them eventually did. He also began mentoring kids who had dropped out of school, encouraging them to return to the halls of knowledge.

Velumurugan wants to serve the poor as he feels "70 per cent of India's population are poor people who do not have adequate food, clothing, or shelter and no access to medical facilities. I will support them free of cost." His dream is to contribute, "50 per cent of my earnings to poor people."

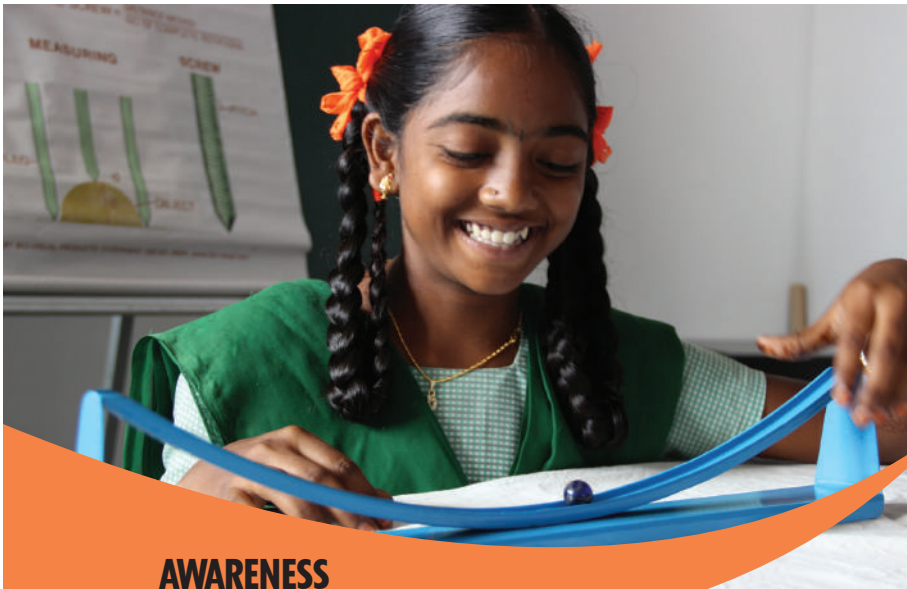
Velumurugan strongly believes that "Agastya is a weapon of change that can transform a child's personality."

**Fear  
to  
Confidence**

The journey from curiosity to creativity



## ECO WARRIOR!



### AWARENESS

#### M.S. Jamuna

Class 10  
Student of ZPGHS,  
Kuppam

#### A Firefly

because she convinced  
farmers to use organic  
fertilizers



Jamuna was bored – she was being taken to yet “another” school to be force-fed theory! Within no time, however, she was an ardent supporter of Agastya’s experiential, hands-on approach to learning.

Jamuna was first taken to the Physics Lab where she actually touched and saw the reflections that convex and concave mirrors make, something she could never have done in school. She even made a presentation about mirrors at her school’s Science Day 2014. She also competed in Mathematics Day 2014 along with 26 other school-teams where her team was awarded first prize for the numerical puzzle they created. This has motivated her to take part in more competitions in the future.

At her favourite Ecology Lab she became seriously worried about how “human beings are using lots of chemicals and destroying the earth.” She learned about pollution and how chlorofluorocarbons emitted by air conditioners and refrigerators damage the ozone layer, which protects us from ultraviolet rays. When she became aware of the adverse effects of using chemical fertilizers, she convinced her father to make compost out of biological waste. Under his daughter’s supervision, he dug and lined a pit with coconut coir, then filled it with waste material like leaves, cow-dung, cow urine, as well as earthworms to help process the waste. After 25 days, he spread the rich manure formed, in the fields as fertilizer. The thrilled Jamuna talked to five neighbouring farmer families who

were won over by her sincerity and also reaped the benefits of composting. She says that people are now approaching her for advice on composting.

Jamuna feels that not only has Agastya imbued her with self-confidence, problem-solving abilities, and persuasion skills but has also given her the courage of her convictions. She has sworn an oath to protect our planet and is dedicated to spreading this message.

Despite her passion for ecology, Jamuna wishes to become a computer engineer. Agastya gave her the opportunity to realise her dream of using computers to type, draw, and most importantly to surf the World Wide Web. “I can learn everything about the world just sitting here,” she says of her fascination with the Internet. She looks forward to learning even more to complement what little information she gets from her text books. With the world at her fingertips, young Jamuna has little interest in travelling outside India...for now.

Yes  
to  
Why

Summer/Winter Workshops

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Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

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## GROWING IN CONFIDENCE

### D.M. Naresh

Class 10  
A student of ZPHS,  
Yamiganapalli

### A Firefly

because he raised community awareness on the dangers of using chemical fertilisers, and the damaging effects of plastic on the environment

## CURIOSITY

Naresh has been coming to Agastya since he was in the sixth standard. His sister, who was once a Young Instructor Leader (YIL), told him about Agastya and how they would teach him new things and help his confidence grow. An excited Naresh found Agastya's learning environment to be warm and welcoming. The teachers were well informed and not at all intimidating, making it easy for him to clear his doubts. Like his sister before him, Naresh became a YIL in the eighth standard. He was proud to be following in her footsteps.

Naresh's confidence has grown in leaps and bounds. With Agastya's encouragement, Naresh has participated in different competitions, like an Agastya organised essay-writing contest. In his prize-winning essay, Naresh argued that it was humanity's moral responsibility to care for the environment and stop global warming, because "if we save the environment it will save us." This has been his proudest achievement so far, because of all the hard work he put into writing the essay. He now knows about global warming, but would not have if it were not for Agastya.

Naresh has grown steadily more environment conscious, and has planted five to six trees around his house. "Trees provide us with food, wood, and oxygen," which is why Naresh has taken to planting, diligently watering, and fertilising them with manure everyday.

Having learned about the drawbacks, Naresh has reduced the use of plastic in his day-to-day life. When his parents noticed this and questioned him about it, he told them what Agastya had taught him, and convinced them to avoid plastic whenever possible. Naresh has also discouraged his parents from using artificial pesticides, which can damage soil and poison ground water, and they now use only organic fertilisers. Naresh and his fellow YILs organised a meeting where they advised their neighbours to throw rubbish in waste bins and to switch to organic fertilisers.

Thanks to Agastya, Naresh carries himself with confidence, and is a lot more respectful. His knowledge of science and mathematics has also grown. Naresh says, "I want to develop India," and so plans to become an engineer. He wants to build sturdy bridges and big dams that can store lots of water, so there is never any shortage of water in villages like his, during the summers.

**Fear  
to  
Confidence**

The journey from curiosity to creativity

## SOWING THE SEEDS OF A BRIGHTER TOMORROW



### C. Shravani

Class 9  
A student of ZPHS,  
Shanthipuram

### A Firefly

because she promotes  
personal and  
environmental hygiene  
among friends and  
neighbours

### CURIOSITY

Shravani, who is 14 years old, first came to Agastya when she was in the sixth standard. Struck by the beauty of the campus and the equipment in the labs, she also enjoyed the Agastya instructors' simple approach to teaching. Shravani visits Agastya every three months, and is always excited to experiment in each of the labs. The Biology Lab is her favourite, because she finds it empowering. While in the eighth standard, Biology Lab instructors taught her about adolescence, which helped her better understand her changing body.

After being selected as a Young Instructor Leader (YIL) in the seventh class, Shravani started to improve in her studies and began interacting with friends as well as strangers. She is not as shy as she was before and has a better command of English.

Shravani now eagerly participates in school events, like a recent dance presentation, which she credits with strengthening her stage presence. Encouraged by Agastya's instructors, she even represented her school in a state level girls' basketball tournament, for which her team scored a silver medal!

As a YIL, Shravani teaches her peers moral values along with what she has learnt at Agastya. She also practices what she preaches. Having taught that it is one's moral duty to keep the environment clean, Shravani and her fellow YILs acquired ornamental plant seeds from farmers in their village and sowed 50 of them around their school campus.

Shravani's mother has been struck by her transformation. Whereas before, Shravani only spoke in Telugu, now she also speaks in English. Her personal hygiene has improved, thanks to learning about disease causing bacteria at Agastya. She even gives her neighbours tips on how to stay clean. Shravani is a fan of Agastya's instructors since they interact with everybody, regardless of people's caste or social background, and have inspired Shravani to do the same. Once an indifferent student, Shravani now takes an active interest in her studies and is thriving academically.

Unemployment is a pressing problem in her village, which is why Shravani says that it is important to motivate "mothers and fathers, telling them that if their children study well, they will get a job, earn more, stand on their own, and make their families happy."

Inspired by her mother, who is a nurse at a government hospital, Shravani wants to become a doctor when she grows up.

**Textbook-bound  
to  
Hands-On**

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

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## HARISH FLIES HIGH



### Harish Maharshi

Class 8  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because of his passion  
for knowledge and  
dedication to flying



### CURIOSITY

Thanks to Agastya, it took Harish Maharshi mere seconds to find his life's calling. Upon entering Agastya's Kuppam campus for the first time, he was greeted by the sight of a plane that was real, but not in service. Ever since then, his dream has been to pilot a plane just like that.

That was three years ago. Now a 14 year-old, eighth standard student, Harish has visited the Agastya campus at least ten times. Each and every visit, he finds himself staring at that plane, more impressed than ever. He loves planes so much that he spends his time watching movies featuring planes and their daring pilots. He is determined to become an Air Force pilot when he grows up.

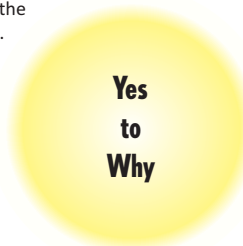
Though Harish loves planes, he has yet to fly in one. He looks forward to visiting Agastya's Physics Lab, which is where he can actually learn about how planes function.

Harish says Agastya has changed him as a student, "Before coming to Agastya, I was not interested in studying and going to school," he recalls. "Now, I just want to learn new things." This change in his personality has manifested itself in his marks. After coming to Agastya, he started to do well in his studies and, a year later, he attained 2nd rank, a position he continues to

achieve today. He attributes this change in part to Agastya's instructors who "teach in a practical way and are good to us."

Harish has also grown more environmentally conscious since coming to Agastya. Even though he is yet to participate in any projects or competitions, he would like to research the causes and consequences of acid rain. When questioned about his passion for flying planes, Harish becomes ecologically poetic, "With the help of a plane, we can see what remains of the greenery of forests, we can fly with the birds, and we can see variations in climate from one region to the other."

Until he can realise his dreams, Harish plans on 'flying' with Agastya and visiting the Kuppam campus as much as possible. He urges students across the country to ask their school principals to also let them go to Agastya.



The journey from curiosity to creativity



## BUDDING LINGUIST NIPS DEFORESTATION IN THE BUD!



### G. Jeevitha

Class 10  
A student of KGBV,  
Gudupalli

### A Firefly

because she prevented the village *Sarpanch* from cutting down the few trees left in their village, just so he could build a guesthouse

### CURIOSITY

When Jeevitha first came to Agastya in the eighth standard she saw an abundance of trees; a clean campus with many labs; and teachers who taught in great detail, and encouraged you to do experiments. Jeevitha had never been in an environment that was so green, and where teachers were so kind and always willing to answer her questions. She loves Agastya's Kuppam campus so much that she wants to live there!

Jeevitha's favourite subjects are English and Telugu. Jeevitha was first exposed to English at Kuppam, and learned of its global reach. A visitor from London taught her some words and sentences at Agastya one day, which she tried out with her friends at school. This fed her passion for the English language, and today she listens to English speakers and practices simple sentences.

Jeevitha now also understands the practical applications of science. The Biology Lab is her favourite place since it was there that she first learned that trees bring rain, which helps with cultivation.

Jeevitha's village has hardly any trees. In the eighth standard, she noticed some lumberjacks felling trees. Having learned that this was a harmful practice, she tried to dissuade them from doing so. They refused, and said that the *Sarpanch* had ordered them to do it because he wanted to build a guesthouse. Jeevitha

went to her father and asked if they could talk to the *Sarpanch* together. Initially reluctant, her father resisted, saying, "If we speak to the *Sarpanch*, we will face trouble in the future." However, after much pleading on her part, Jeevitha's father agreed to accompany her to the *Sarpanch*'s house. The *Sarpanch* initially refused to stop the operation. It was only after Jeevitha's exasperated father threatened to complain to the local MLA that he grew contrite and promised to call off the tree cutting.

Jeevitha wants to become a biology teacher and plans to show her students how to do experiments just like they do in Agastya.

She will always remember the words of an instructor who told a petrified Jeevitha on her first day that, "If you don't know the answer or you are afraid, remember that there is no right or wrong answer. Just tell me what you know." Jeevitha says with absolute conviction, "If I had not visited Agastya, I would still be that scared little girl. Now I feel normal."

Looking  
to  
Observing

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

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## SAYING NO TO PLASTIC



### V. Hemavathi

Class 10  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because she convinced family and villagers to stop using plastic, and to adopt natural farming techniques

### CURIOSITY

On her first visit to Agastya's Kuppam campus, 15 year old Hemavathi was amazed to see a 'hanging garden', a collection of plants growing out of inverted plastic bottles tied to support beams! She was amazed that a lowly plastic bottle could be used thus. Agastya's lush, green, pollution-free environment was the stuff of Hemavathi's dreams. She was immediately drawn to the Biology Lab, where the models and experiments resonated with her own 'earthy' interests. It was here that she decided to become a doctor one day.

At Agastya's Ecology Lab, Hemavathi learnt that ubiquitous chemical fertilizer and pesticide use, was harming the land's yield. The instructors at Agastya argued that farmers should switch to using organic manure and compost instead of chemical substitutes. The minute she got home, Hemavathi made a bee line for her father who is a farmer, and told him to switch to organic fertilizers immediately. After listening to Hemavathi's impassioned speech on the dangers of 'chemical farming', her father decided to start using organic manure, and urged neighbouring farmers to do the same.

At the Ecology Lab, Hemavathi also learned that deforestation and the excessive use of plastic were causing global warming. Kuppam campus's beauty, in fact, was a constant reminder of the mountain of plastic waste in her village. Filled with the same sense of urgency as when she first heard about the dangers of

chemical farming, Hemavathi resolved right away to reduce her village's reliance on plastic. She had observed that milk in her village was being sold in plastic packets. She spoke to the milk suppliers and asked them to use steel containers instead, instead of non-biodegradable and harmful plastic. She warned the village elders that continued use of plastic would reduce the frequency and quantity of annual rainfall, and in turn crop yields. There was an overwhelming response to her anti-plastic campaign, which saw a marked reduction in the use of plastic bags and containers. A proud Hemavathi says, "People in the village take us seriously because we are from Agastya."

More recently, Hemavathi visited a dairy in a nearby village and noticed milk being packaged in plastic containers. Bolstered by the success of her previous campaign, Hemavathi approached the factory supervisor and urged him to stop using plastic. The supervisor assured Hemavathi that that they would soon introduce a suitable biodegradable alternative.

Passiveness  
to  
Exploring

Summer/Winter Workshops

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Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker



## WASTE NOT, WANT NOT



### D. Lakshmi

Class 9  
A student of ZPHS,  
Kenamakulapalli

### A Firefly

because she is hungry  
for knowledge, and  
shares what she learns  
with others

## CURIOSITY



**W**hat Lakshmi loves most about Agastya is that she is encouraged to express herself, without any fear of censure or criticism. “Here (at Agastya) they encourage us, and motivate us, so I have learned to be confident and courageous. When I was younger, everyone said I feared the world too much. Now I just tell them I’m confident.”

Lakshmi’s self-esteem and communication skills have grown exponentially ever since she first visited Agastya’s Kuppam campus in the fifth class. She is no longer afraid to ask questions and clarify doubts. Her mutually respectful relationship with her instructors has encouraged her to speak up. Lakshmi became a Young Instructor Leader (YIL) in the seventh standard, and learned for the first time, what it means to be a leader.

As a YIL, Lakshmi promotes personal hygiene in her village and outside, in order to prevent the spread of diseases. She also tutors young children in her village, and clears their doubts.

Ever since her first visit to Agastya, Lakshmi has planted two trees every year on her birthday—one at school and one at home. She is also careful not to burn plastic, because it pollutes the environment. Instead she collects plastic waste and puts it in an empty well, and throws her rubbish in bins.

In one of many activities at Agastya, Lakshmi learned how to make paper out of peanut shells, something she continues to do at home. First she dries the peanut shells, soaks them in water till they soften, and dries them again. She then grinds the shells and adds Okra juice to make a thick paste. Lastly, Lakshmi spreads the paste on a piece of cardboard to dry which, after a few days, can be used as paper! Lakshmi now knows that waste material can be reused and won an INSPIRE Award for a similar experiment.

Before coming to Agastya, Lakshmi admits that she was afraid to explain things to her peers at school. Now, though, she can discuss scientific concepts clearly with anyone who asks. Once “very naughty” she now respects her teachers.

She wants to be a doctor when she grows up in order to really help people, and to ensure that no one is prescribed fake or expired medication.

**Fear  
to  
Confidence**

The journey from curiosity to creativity





## BECOMING CURIOUS ABOUT EVERYTHING



### N. Kusuma

Class 8  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because she learnt the value of discipline and because of her commitment to help her village



## CURIOSITY

For most of her childhood, Kusuma was a little tornado of destruction. "I used to be mischievous. I would do silly things," she admits.

From the moment Kusuma first set foot in Agastya's Kuppum campus two years ago, she did not want to leave. She was mesmerized in a practical class about the different states of matter. Through experiments, she got to understand what "research" is and how it requires methodology. Inspired by the discipline necessary to be a researcher, Kusuma started behaving herself. Instead of getting angry with people who upset her, she now cools herself down and engages in dialogue. "My parents like Agastya very much. They encourage me to learn more and more by going there. I became disciplined and started teaching at home," she says. Her discipline has helped her improve in her studies.

Kusuma's true interest lies in biology. One day, she learned about human fat in Agastya's Biology Lab. When she answered all the questions successfully in the subsequent quiz, she was chosen as a Young Instructor Leader. With her newfound

interest in biology, Kusuma wants to become a doctor and help people in her village. "In my village, there are so many old people. Since it is in a rural place, they need to travel more than three kilometres to reach the hospital. So, many of them die on the way," she explains.

Kusuma's aspirations do not stop there. Before coming to Agastya, she wanted to become a teacher. "When I was studying in elementary school, no one was there to teach us. Because of this, I wanted to become a teacher to help students in the village," she reveals. She adds that her exposure to teaching methods at Agastya also helped to cement her desire to teach. Her plan is to combine both professions of doctor and teacher.



Looking  
to  
Observing

The journey from curiosity to creativity



## STERILISERS, MOSQUITO REPELLENTS, AND ROBOTS!



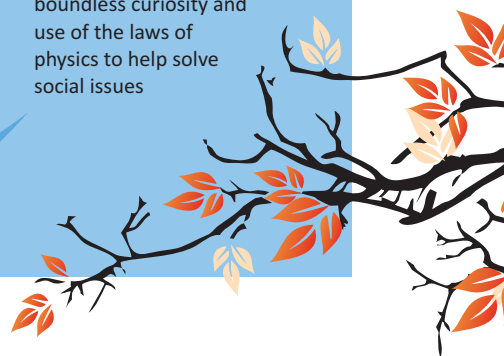
### CURIOSITY

#### Anil Kumar

Class 9  
A student of ZPHS,  
Newpet

#### A Firefly

because of his  
boundless curiosity and  
use of the laws of  
physics to help solve  
social issues



Anil Kumar is a studious boy who thinks twice before speaking. Passionate about science, Anil was excited about his first visit to Agastya. At Kuppam, Anil made a beeline for the Robotics Lab, after which he scoured the other labs as well. "I was very interested in everything I saw!" Anil is fascinated by electronic engineering, especially robotics. He hopes one day to design his own robot, which will be quite domesticated—"it will wash clothes and clean the house!" Anil said, "I want to learn English and my robot will teach me!"

Anil is concerned about the spate of road accidents in his village, and wants to harness the power of electromagnetism to put a stop to them. Anil and his friend Vijay plan to attach like magnets to the front and rear of all cars. These magnets will push the cars apart should they come too close together. They presented this idea in Chittoor at the INSPIRE awards competition.

Shikar Colony, where Anil's school is located, is infested with mosquitoes. Under the guidance of an Agastya instructor, Anil created a papaya leaf, lemon grass, and camphor paste, and cooked it in boiling water. He then filtered out the water, filled it in a spray bottle and sprayed the solution all over his house. Anil found it an effective repellent. He continues to use the spray to this day. His father, a mason, was very proud of his invention and

told him to continue inventing new things. "I was very happy. I hosted a party for my friends."

Anil came up with another concept, called 'Hot Steriliser', for which he won a prize at the 2012 INSPIRE Awards. Anil noticed that the intensive care units (ICUs) in hospitals are kept closed, encouraging bacteria to proliferate and increasing chances of infection. The 'Hot Steriliser' functions like a large hair dryer. Placed in a corner of the ICU, this gadget emits hot air, killing any bacteria that it comes in contact with. Speaking of his invention Anil said, "It is very expensive so I could not make a fully functional model. The cash award was only Rs.5000 so I only made a prototype."

Anil's advice to younger students is "study hard and make a good name for your family."

**Textbook-bound  
to  
Hands-On**

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

## THEORIES ON THE UNIVERSE



### S. Pooja

Class 9  
A student of APMS,  
Gudupalli

### A Firefly

because of her ability to  
ask questions and come  
up with theories

### CURIOSITY



Pooja's mother used to be a journalist. After Pooja's father passed away, her mother was forced to leave her job and do tailoring to make ends meet. An only child, Pooja and her mother live with Pooja's grandparents who, according to Pooja, give her anything she asks for! A first ranker in her class, Pooja says, "There are about ten other students in my class who are good and there is plenty of competition between us to secure first rank." Her favourite subject is Science.

Pooja used to think that Agastya only had labs, and that students were taught in classrooms. Much to her surprise, Agastya was nothing like she imagined. She said that in Agastya, students get to do experiments and learn much more than they do from text books. Her initial feelings when she first came to the Kuppam campus was, "I want to come here every day!"

Pooja feels that she has changed since her exposure to Agastya. Her curiosity about everything has increased. Pooja is currently trying to figure out whether the earth is positioned 'up or down' in the universe. According to Pooja, if the earth is positioned 'up' in the universe, we should be able to directly view the eight planets in our solar system. She exclaimed, "I have so many questions."

Pooja has lost her nervousness around speaking to outsiders. Today she can speak confidently with visitors. Prior to the national elections in May 2014, Agastya arranged for her and other students to visit a nearby village. The children were instructed to explain the Electric Voters Machines to the senior citizens of Chinnagollapalli village. They also explained the importance of voting and gave instructions on how to acquire a voter's card. She says, "I spoke to many people and because of this, I lost my shyness."

Pooja said that what she likes best is Agastya's environment and instructors. She said that the teachers taught in a friendly manner and clarified all doubts.

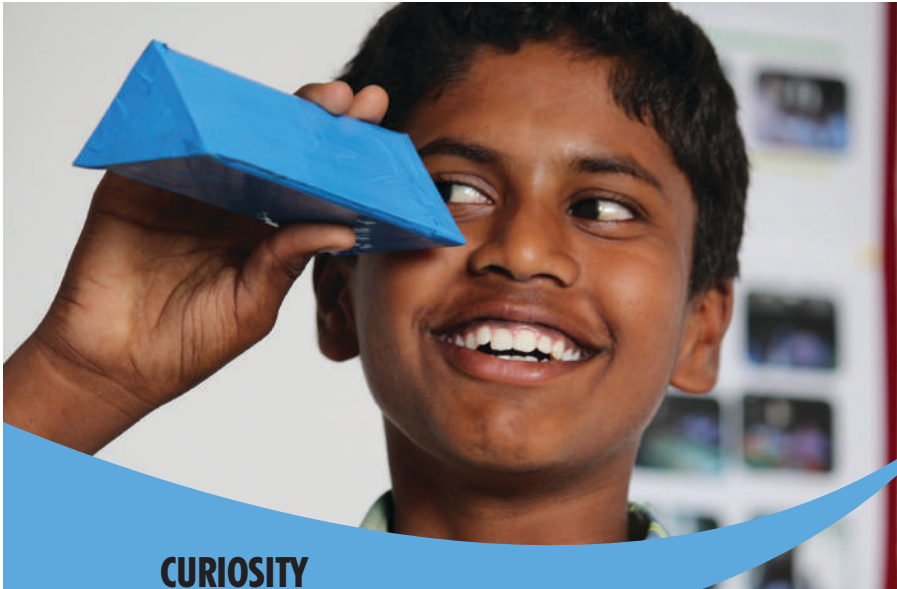
When she grows up, Pooja wants to be a paediatrician because she loves children. Finally Pooja says, "Life is full of opportunities. So follow your passion and be anything you want to be."

Passiveness  
to  
Exploring

The journey from curiosity to creativity



## REALISING DREAMS



### CURIOSITY

#### P. Shreedhar

Class 9  
A student of APMS,  
Gudupalli

#### A Firefly

because he helps  
prevent accidents and  
teaches adults



Shreedhar came to know about Agastya as a result of activities like science camps and quizzes, which Agastya organised at his school. According to him, he is a good student who writes well, and participates in many activities, so Agastya chose him as a Young Instructor Leader (YIL). This 14 year old's responsibilities as a YIL require him "to be like a teacher and teach adults deprived of learning, about science and a lot of other things." He and his classmates even created a speed breaker outside his school to prevent accidents caused by speeding cars. Shreedhar and other YILs also told adults around them that they should queue up when catching a bus.

The first time he entered the Kuppam campus, Shreedhar felt like a scientist. Shreedhar's verdict on Agastya: "I feel good. Here they teach us using hands-on experiments. I'm not comfortable learning only by listening. I learn so much more by doing experiments." Agastya teachers are excellent and treat their students like friends. They also push children to rise higher and dream bigger. Shreedhar believes that, "Agastya is working to save society." When asked to elaborate, he explains how Agastya raises awareness on preventing air pollution by using bicycles instead of fuelled vehicles. Agastya instructors also teach students like him that smoking causes cancer and they must work to eliminate this bad habit.

Since coming to Agastya, Shreedhar has become an extrovert. He is now able to talk with adults, without any fear. Earlier, he said, "I had an allergy to science!" Now he has not only improved in the subject, he likes it very much. He used to score only 70 per cent in school. But after coming to Agastya, his marks have improved and now he scores 95 per cent!

Shreedhar loves the Agastya campus not just for its fresh air and how green it is but also for all the ideas and aspirations its teachers have instilled in him. His father wants him to be a policeman but Shreedhar disagrees with him. He aspires to be an aeronautical engineer, so that he can prevent air accidents from taking place.

Shreedhar's advice to children who are less fortunate is to help others even if they don't help you. He says, "If you see someone in trouble—like a blind person who is trying to cross the road—go and help them."

Yes  
to  
Why

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

**"SUCCESS IS NOT FINAL, FAILURE IS NOT FATAL"**



**S. Pavani**

Class 9  
A student of APMS,  
Gudupalli

**A Firefly**

because she gives awareness to her community on important issues she learns in Agastya



**CURIOSITY**

Just 14 years old, this young woman speaks with the wisdom and confidence of a 40 year old! When she entered Agastya for the first time, she explored all the labs. Pavani said, "After I explored my curiosity grew, and I told myself that I must come here again." She returned to the campus during her holidays two months later. In the past, Pavani says, "I would always feel disturbed and fearful when I studied science." Pavani lamented that she would ask her teachers to explain things but this only gave rise to more questions. After she started coming to Agastya, however, all her fear and confusion vanished because Agastya teaches science practically and explains things clearly. Agastya's programme according to Pavani, improves students' knowledge. "Agastya is superb and marvellous!" she says. At school they are only taught theory, but at Agastya they are taught practically. Therefore she learns that much more.

When asked how she got to be chosen for Agastya's Young Instructor Leader (YIL) programme, Pavani said, "Because I have leadership qualities!" As a YIL, Pavani gives awareness to rural people about bacterial infections. As a result, they now keep their surrounding clean. She has also shared information about the benefits of agriculture and farming, and how people depend on this.

In her prize winning essay on human values, Pavani addressed topics like how to communicate with others and the values that are enshrined in the epics. But Pavani is most proud of participating in the elocution competition because she had to perform in front of many people. She spoke extempore on 'Women in Science'. She said, "I spoke without any fear and I will never forget that moment."

When she grows up, Pavani wants to be an officer at the Indian Space Research Organization (ISRO). She said, "I am very interested in space." Pavani wants to work with cryogenic engines, which provide fuel for rockets. When asked about what her parents want her to be when she grows up, she said that he father wants her to be an inspirational person.

Her advice for other children is this: If you want success in life you should be as sweet as honey, as regular as a clock, as fresh as a rose, and soft as butter. Most importantly though is to be like this with everyone.

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to  
Hands-On**

The journey from curiosity to creativity



## INVENTING ALTERNATIVES, DEVISING CHANGE

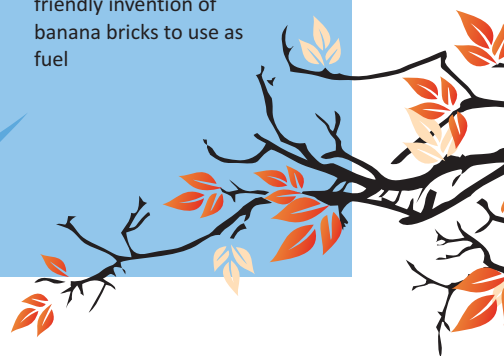


### S. Hareesh

Class 10  
A student of ZPHS,  
Sanganapalli

### A Firefly

because of his eco-friendly invention of banana bricks to use as fuel



### CURIOSITY

Hareesh's first trip to Agastya's Kuppam campus was so impactful, that eight years later, he still remembers what he learned there. He is most proud of his participation in the IRIS National Science Fair. Hareesh had noticed that in his village, where agriculture is the primary source of income, a number of farmers who cultivated bananas were burning the stems after each harvest. This gave off a lot of smoke and caused air pollution. He wanted to figure out a way to put a stop to this. Hareesh was struck with a realisation that heat transforms into energy and an idea for a project was born. Hareesh and a friend partnered up and undertook a project entitled 'Energy from *Musaacuminata* (banana plant) Peel and Stem'.

First, Hareesh collected banana stems and peels, cut them into small pieces (separately), and dried them in the sun, ground the desiccated pieces into a powder, and he converted this into a paste consisting of calcium hydroxide (10%), starch (20%), and water. He then put the paste into a brick machine to shape it and remove the moisture, after which he dried it in the shade. The final product was a banana brick!

Hareesh and his partner won a silver medal for the project, which they received at an awards show in Bangalore. The two of them even got to demonstrate it to the judges. The same project was nominated for first prize, this time at a science

competition conducted by TANA (Telugu Association of North America). Owing to limited funds, the duo could not travel to America to participate. Initially disheartened, their spirits lifted when their guide for the project at Agastya, Ms Chaya, promised to send the project by mail. The project arrived at TANA, and took home the gold medal!

Hareesh did not stop there; he also implemented the project in his village. He went from house to house in his village and explained the advantages of using banana bricks as an alternative source of fuel. Families in his village rely heavily on firewood. He estimates that you need 1 kg of bricks to cook a single meal for the family.

Agastya has transformed Hareesh's life by teaching him to be innovative. As he puts it, "Agastya proves science works." In future, he would like to come back to Agastya and teach students here.

Looking  
to  
Observing

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker



## COLLECTING A LIBRARY



### V. Amresh

Class 10  
A student of ZPHS,  
Sanganapalli

### A Firefly

because he created the  
first and only  
community library in his  
village

## CURIOSITY



The son of a carpenter and a housewife, 15 year old Amresh was first introduced to Agastya in the third standard, when a Mobile Science Lab visited his school. He recalls watching the instructors demonstrate chemistry experiments, the first time he and his schoolmates had ever seen actual chemicals reacting with one another.

A Young Instructor Leader (YIL), Amresh volunteers in Operation Vasantha, an after-school programme run by Agastya. He has taken part in various competitions. On Mathematics Day, he got a second prize for explaining formulae to his fellow classmates using low cost models that he had made. Amresh says that, "After coming to Agastya I have gained in self-confidence and the talent to talk in front of many people."

Amresh and his YIL cohorts collected books from different people in the village for the first community library in his village. Starting the library is Amresh's proudest accomplishment, because "it makes doing projects so much easier now that we have more resources to get knowledge from."

Inspired by how clean and tidy the Agastya campus was, and wanting his village to look the same, Amresh started a village cleaning drive. He collected small amounts of money to buy cardboard boxes that he tied to poles. These boxes now serve as dustbins and Amresh has advised community members to dump their rubbish in them.

Recently, along with his YIL group, Amresh visited a slum nearby and cleaned out the drains. This experience has inculcated a desire to help, while also serving as a vivid reminder of the importance of hygiene.

Amresh encourages the teachers in his school to come to Agastya, so that they can observe the alternative teaching methods that Agastya instructors use. As a result, they do more experiments, and when they do not have the resources for certain experiments they ask Agastya for assistance.

Amresh looks forward to collecting many more books for their library and hopes to get even more saplings from Agastya that he can plant around his village. He also dreams of the day his village is powered entirely by solar panels. He says he wants to "encourage children to keep going to school, so that through education we can move away from poverty." His advice to the world is, "Don't stop learning, it is a continuous process, and there should be no dropouts."

**Textbook-bound  
to  
Hands-On**

The journey from curiosity to creativity





## A WORLD IN WHICH WASTE IS WORTHY



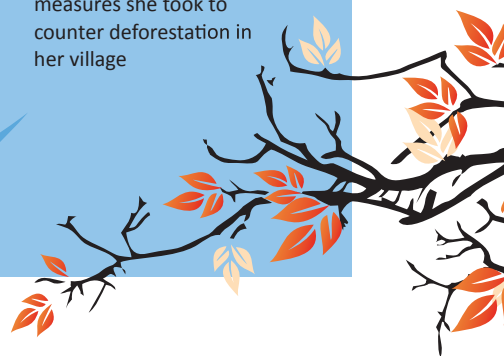
### CURIOSITY

#### S.V. Vani

Class 10  
A student of ZPHS,  
Kuppam

#### A Firefly

because of the  
measures she took to  
counter deforestation in  
her village



Vani first visited Agastya's Kuppam campus when she was in the sixth standard. Setting foot in the Kuppam campus was like entering a magical world where waste like discarded plastic bottles could be re-used to pot plants and broken vessels could become sculptures. Vani decided to use coconut shells that would otherwise be consigned to the dust bin, to pot different kinds of saplings all around her village. Struck by the strange beauty of the open-air stone installations at Kuppam, Vani attempted to recreate these displays at home. She along with her community created a large idol of Vinayaka, using waste articles and clay.

At Agastya Vani learned about trees and their benefits. Given the rampant deforestation in her village, Vani decided that serious measures had to be taken. Impressed with Vani's impassioned address, community members divided themselves into two groups, one consisting of youngsters and the other of seniors. The two groups were assigned responsibility for different parts of the village, and started planting trees in their respective sectors. Within a couple of days, the courtyard of each house was bedecked with plants!

On another occasion, Agastya conducted an essay writing competition on science, which was held at the Government Boys School in Kuppam. She won first prize for her essay describing an experiment that she had conducted with

guidance from Agastya. She had potted a plant in a way that one of its leaves was half-inside and half-outside the pot. She placed a few drops of iodine solution on the portion exposed to light, and set it aside. After a few days the part of the leaf that was allowed to face the sun had turned blue, leading Vani to conclude that leaves secrete starch in liquid form.

Vani frequently regales her friends about Agastya and its campus. Agastya's staff have visited her village in the Mobile Lab, and demonstrated science experiments. These visits take place at night so that everyone has an opportunity to see the experiments. As a result, people have been able to learn about different types of phenomena from a scientific perspective.

Though Vani took part in school events before joining Agastya, it was always with some trepidation. Now, however, she feels only confidence. A tenth standard student on the brink of young adulthood, Vani hopes to open an old age ashram in her father's name.

Looking  
to  
Observing

Summer/Winter Workshops

Thinker Explorer

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Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

## INNOVATIONS IN IRRIGATION



### V. Narasimhulu

Class 10  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because his design of an irrigation model uses even less water than drip irrigation

### CURIOSITY



Narasimhulu's eyes shine as he explains the model that won him the first prize at INSPIRE, a state level Science Fair. He designed an irrigation model that uses even less water than drip irrigation. Plant and flower pots are fitted to a perforated pipe which feeds them water from below. The water infuses the soil, but is not directly exposed to the sun, thus preventing evaporation-induced water wastage. Even fertilizers can be fed through these pipes. Such a model can be used in terrace gardening, kitchen gardening, and even on board ships to grow vegetables!

Narasimhulu would also like to develop a simple device which can be used to control fire accidents on trains, in apartments, and by industries.

Narasimhulu first heard about Agastya when he was in the fourth standard but only got to visit two years later. He hopes to make many more visits to Agastya's campus, as their teachers are excellent saying "Agastya's instructors help us understand a subject well, by teaching us through experiments, which we can never forget."

Narasimhulu has learned a lot of life-changing lessons at Agastya that have inspired and influenced innovations like his irrigation mechanism. It was at Agastya that he learned about the relationship between plant life and the quality of the air we breathe, since plants clean up the atmosphere by absorbing CO<sub>2</sub> and releasing oxygen. He was fascinated when they taught vermicomposting and waste management, about the solar system and the evolution of mankind.

It is from Agastya that he gets his love of biology and it has rekindled his childhood dream of becoming a medical doctor. His exposure to Agastya helped him firm up his future plans.

**Textbook-bound  
to  
Hands-On**

The journey from curiosity to creativity



## CHANGING MINDSETS



### CREATIVITY

#### M. Nandini

Class 9  
A student of KGBV,  
Gudupalli

#### A Firefly

because of her firm  
belief that teaching  
moulds character and  
builds futures



**N**andini comes from a tribal family of Lambadas, many of whom make a living from stone-crushing. Being the firstborn girl child, her parents thought it did not augur well for the family. Over the years, the feeling of a 'rejected girl child' was always in a corner of her mind. At Agastya, she found the strength and discipline to change the mindset of the family with her actions and not her words.

When the principal of her school announced that the students of her class would be taken to the Agastya campus, "I thought it was a tour. But once I entered the campus, it was a completely different world," she says. "Agastya teaches things which I have never heard of. Every day we see sky, stones and trees. But at Agastya you experience and study them in detail." Nandini learnt a lot through silent observation, watching the sky change colours or finding stones of different shapes and moulding them into objects of art through painting. "I like trees. I feel sad when I see brown leaves. The fresh reddish leaves make me very happy."

"Earlier, I never used to respect anybody. I had a care-free life. One day, when we saw ants working hard and marching in a line, the Agastya Instructor showed us how discipline and hard work

are the two hallmarks for anybody to succeed in life. It has changed my life and now I teach others how I benefitted from being disciplined," says Nandini. She was obsessed with teaching. "The Art lab teaches you the art of living. I was strongly entrenched in the culture of Agastya," she said.

Initially, Nandini wanted to become a pilot but now she wants to be a teacher "a good teacher can mould a child's character to become anything," she smiles. Nandini feels that teaching and learning should be fun, just like in Agastya.

When asked what impact Agastya has had on her, she says that the influence was not just on her life but even her family. "I used to tell my father about different objects of art, I made with stones. He was very happy as he too works with stones. After that he started liking me," she said. When she came first in the class, her father said: "Even when you were born I was not so happy. Now I am very proud of you because you proved that even girls bring joy to the family."

**Looking  
to  
Observing**

Summer/Winter Workshops

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Young Instructor Leader

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Young Innovator

National Platforms

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## SERVING A BETTER FUTURE



### Y. Indra

Class 8  
A student of APMS,  
Gudupalli

### A Firefly

because his initiative  
reduced disease in his  
village

## CREATIVITY

Indra, aged thirteen, remembers being in awe of all that he saw on campus when his school brought him to Agastya in the third standard. Everything looked new and unfamiliar. His earliest memory of a lab is the Mathematics Lab where he and his friends learnt logic. In seventh standard he was chosen as a Young Instructor Leader (YIL).

Indra also got the opportunity, as part of the YIL team, to make a small model of an electronic voting machine in Agastya. The YIL team then went to a village close by and demonstrated how to use the machine. Indra says this was important because “we have to choose a good responsible leader who will be able to help us, and who has good problem solving skills. For that the people need to know how to vote, so it is important to know how to vote.”

The YILs in his village have meetings and discuss problems the communities are facing. In one of these meetings they found that there was a lot of stagnant water in the village, which acted as breeding grounds for not only mosquitoes but for bacteria as well. So they decided to do something about it. They put *Basil* leaves in the water to decrease the bacteria breeding. To stop

the mosquitoes they put kerosene in the drains to kill their larvae. The villagers were very sceptical at first, but once they saw it was working, they appreciated the efforts.

This young man, who comes from humble beginnings, has achieved so much for his community, but is still not satisfied. He wants to be a District Collector so that he can keep serving people, “as a YIL my service is limited to my village, as a Collector I can spread my service.” He wants to help his district, by constructing houses for the needy and building orphanages too.

He says “in school the lessons are boring, but in Agastya the lessons are so interesting. They make you curious about everything and you want to learn more.” That perfectly sums up what a major impact Agastya has had on this motivated young man's life.

Yes  
to  
Why

The journey from curiosity to creativity



## MAKING A DIFFERENCE ONE TAP AT A TIME



### M. Asha

Class 8  
Student at ZPHS,  
Gudlanayanapalli

### A Firefly

because she solved a  
water wastage issue in  
her village

### CREATIVITY



An avid problem-solver, 13 year old Asha's zeal to make a difference in the world has grown stronger since joining Agastya. Keen to share everything she learns at Agastya with everyone in her village, this Young Instructor Leader admits that she was not always so eager to help others, "I wouldn't explain anything to anyone. [I was] very selfish in my education, I wanted to learn and I wanted to succeed." Asha has come to realise that this selfishness was the result of her fear of failing. She is determined to make the prospect of getting an education less intimidating for children like her.

Asha's interest in helping her community extends beyond the classroom. Recently, the Village *Panchayat* installed a bore well in her village. But whenever the water pump was turned on, water was wasted. This was because of a rather basic oversight. They had failed to attach taps to the ends of the water pipes, leaving villagers with no means of turning the water off once their containers were filled. Noting the wastage of water, Asha asked her mother if there was anything she could do to stop it. Her mother replied that it was the *Panchayat's* job to address such problems. A few days later, when the *Sarpanch* (Village Head) visited their school, she mustered her courage and asked him to fix the open pipes. The *Sarpanch* agreed and within a matter of days, taps had been installed and water wastage controlled.

Something else that Asha has learned in Agastya is putting compassion into action. Asha's neighbour was an old woman, Muniamma who was routinely beaten, kicked, and starved, by her son and daughter-in-law and had taken to begging for food. Having noticed how hungry she was, Asha started sneaking the old lady food late at night, when her son and his wife were fast asleep. Unfortunately Muniamma's health slowly deteriorated and she passed away. Asha likes to believe and is happy that in the last few months of Muniamma's life, there were people in the world who cared about her and her well-being.

When she grows up, she would like to become a Mathematics teacher, and to teach children to look after their parents and not neglect them. Asha also enjoys participating in her church's theatre and dance programmes.

### Passiveness to Exploring

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

## A SMILING TEACHER



### R. Nadiya

Class 9  
A student of ZPHS,  
Chinnagollapalli

### A Firefly

because she expanded  
her horizons through  
creative and  
constructive freedom

## CREATIVITY



From a lonesome girl to a smiling 'teacher', Nadiya's experience at Agastya is a journey to be cherished. "I used to be very lonely. After coming to Agastya, I am very happy. Suddenly, I realised that I am able to mingle not just with my parents and siblings but with my neighbours and friends too," says Nadiya, the youngest of the two sisters. Her father Ravindrachary, a coolie, is thrilled that the vibrant environment at Agastya's Jhunjunwala Discovery Centre was instrumental in this transformation. "My father says that my way of talking to him has changed."

Just like the Science Lab or the Butterfly Park, the Art Lab is a happening place. The time spent at the Art Lab has made this 14-year old's mind active and inquisitive. "I heard about Agastya in the sixth standard from Kaveri, who was my senior. But I never imagined it would be so beautiful. I had a lot of fear in the beginning. But my fears vanished and I enjoyed the taste of freedom," she says with a naughty smile. After visiting the Art Lab every week in the seventh standard for a year, she began to mingle with everyone as the teachers at Agastya were very friendly and gave the young students a free hand. "We had a lot of freedom to do whatever we want. I am not afraid to ask questions anymore and my curiosity has increased," she adds.

"We throw away a lot of things thinking they are useless. If we think a bit, we can do something with everything. Here I learnt to make beautiful things from 'waste' material and now I teach other children too," she said. "I went to the Science Lab once and was at the Physics Lab for two days. But every Friday, I used to come to the Art Lab. Here, we learnt to observe different things. First, we were asked to draw the picture of a tree. Then we were taken out to the field to observe real trees. I realized that trees are very different while leaves have different colours and shapes. I also learnt what observation means," she said.

"I want to become a teacher. I got a lot of freedom to draw different things and to create beautiful toys. I gathered many seeds and made a small animal model. Now I teach children in my village and try to impart what I learn at Agastya, in my small way. The best thing I like about Agastya is the freedom. The freedom to think differently and creatively has helped us learn a lot and focus on the activity," she signed off.

**Fear  
to  
Confidence**

The journey from curiosity to creativity



## INK FROM FRUIT



### R. Suresh

Class 10  
A student of ZPHS,  
Kodathanapalli

### A Firefly

because he developed a  
natural ink from fallen  
fruit

### CREATIVITY



Newton discovered gravity when an apple fell from the tree under which he sat, and hit him on the head. R. Suresh had a jarring, but equally enlightening experience. While attempting to climb the *Kurakpallo* (Indian BlueBerry/*Jamun*) tree, Suresh lost his grip and crashed to the ground, landing forcefully on a carpet of overripe fruit that had fallen from the same tree. The squelched fruit left an enormous stain on his shirt and Suresh's initial reaction was panic—he was going to have to think up an excuse to explain the stain to avoid getting into serious trouble with his parents. After his panic somewhat subsided, Suresh realised that his shirt was stained the same colour as his favourite ink. Excited, Suresh collected the fallen fruit and rushed home. He mashed the fruit, wrapped it in cotton fabric and squeezed it to extract its juice. The thick extract lacked the pleasing fragrance that the ink he usually used had. Suresh remedied that with a few drops of rose water, which he made himself by boiling rose petals plucked from the rose bush in his courtyard. The addition of the rosewater also thinned out the fruit's 'ink'. He now had his own endless supply of ink, thanks to the *Kurakpallo* fruit, which is strewn in abundance around his village. Suresh promptly shared his discovery with his Agastya instructors, who provided him with equipment to further refine the ink, and recommended a few chemicals that he could add to the mixture to make the ink last longer.

Suresh's innovation was selected for the IRIS Fair, a National Science Fair that is conducted every year by the Department of Science and Technology (DST), Government of India and INTEL.

A bright and energetic Young Instructor Leader, Suresh loves to share his experiences at Agastya with his friends and family. His brothers, who are a little envious, often tell him, "You're lucky to have opportunities like these, which is something we never did."

Yes  
to  
Why

Suresh is also an accomplished orator who has won top prizes in 10 different elocution competitions, his two personal favourites including the speech he gave on the Raman Effect (named after Indian physicist C. V. Raman), and on Galileo's telescope.

Summer/Winter Workshops

Thinker Explorer

Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

Ignited Innovator/Change Maker

## OF FLOODS AND FLOATING HOUSES



### M. Priyanka

Class 9  
A student of ZPHS,  
Krishnadasanapalli

### A Firefly

because of her  
'Amphibian House'  
model to counter floods

## CREATIVITY



**D**ismayed by the news in print and television media about floods in coastal areas, Priyanka, a ninth standard student, worked hard to come up with a suitable solution. Priyanka's family is from the coastal district of Matarlapalli in Andhra Pradesh, an especially vulnerable location since, "in coastal areas, especially in northern areas, there are rampant floods." After much thought, Priyanka came up with an idea for what she calls an "Amphibian House." She described what she had in mind to a school teacher, who encouraged her to share her ideas with her Agastya instructors. The teachers assured her that her idea could take shape and gain definition with a little input from Agastya's Kuppam campus.

After discussing it with them, Priyanka began to design the house under the guidance of her Agastya instructors. The architectural logic of the "Amphibian House" was inspired by the versatile nature of amphibious creatures like snakes and frogs, which can live on land and in water. Priyanka developed a working model of the house, which consisted of a plastic tray, plastic straws, and a dwelling made of thermocol sheets. To begin with, Priyanka created a bed of plastic straws on a plastic tray, upon which she placed a house made out of thermocol. She then poured water into the plastic tray, and as the straws began to fill with water and expand, they pushed up against the thermocol house, forcing it to rise with the water level. Priyanka's Amphibian House model won the INSPIRE award, exciting news that she was elated to share with her parents.

Before she started visiting Agastya, Priyanka says that she was a mediocre student, but not anymore. Exposure to Agastya has helped this young YIL to improve her grades. Priyanka also credits the Young Instructor Leader programme with helping her to overcome her stage fear and develop enough confidence and courage to speak without inhibition in public.

Priyanka's goal is to become a District Collector so that she can take serious steps to curb illiteracy. "When I was in the sixth standard, there were 54 students in my class. Now there are only 34, because the remaining children have all gone to work in factories" says a sombre Priyanka who believes that children should be required by the law to study up to the tenth standard. Once she becomes a collector, Priyanka will tout the advantages of education and work hard to convince parents to send their children to school. She will distinguish between children who are quitting on their own and those who are being forced to quit by their parents, so that she tailors her 'Back to School' message accordingly.

**Passiveness  
to  
Exploring**

The journey from curiosity to creativity





## AT THE VANGUARD OF CHANGE



### S. Vanitha

Class 10  
A student of KGBV,  
Gudupalli

### A Firefly

because she created an  
eco-friendly ink from  
*visa ornal* seeds

## CREATIVITY

Vanitha is confident about her ability to teach friends and community members things she learns at Agastya. At a village meeting, Vanitha asked her elders for permission to speak, and proceeded to encourage them to plant trees instead of cutting them, not to waste water, and to keep their surroundings clean. The elders were very receptive to her message, and her parents were proud of the poise with which their daughter addressed a village-level meeting. Vanitha has been visiting Agastya since the third standard and loves it because, here, learning is like play!

In the eighth standard, Vanitha's lab work inspired her to create an eco-friendly ink from *Bixa Orellana* (Lipstick tree/*Sindhuri*) seeds, and to submit it at the Summer Science Fair. In order to make the ink, Vanitha took *the* seeds and soaked them in a solution of glycerine, water and ethanol for five days. She then dried and ground them into a powder and mixed the powder once again with ethanol, filtered the resulting solution, heated it, and once it had cooled, used it as ink. The experiment, which she executed on her own and of which she is very proud, was Vanitha's idea entirely. She also participated in an Elocution competition in which she spoke about Newton's Third Law, and used a rocket set to illustrate her explanation. She won the second prize for her presentation.

A socially aware young woman, Vanitha once persuaded the parents to re-enrol their daughter who dropped out of school. Vanitha exhorted the girl's parents to allow their daughter to continue her studies so that she can one day stand on her own feet, be independent and help her family financially. Her friend's parents finally agreed and enrolled their daughter at the local Kasturba Gandhi Balika Vidyalaya. Vanitha is thrilled that she was able to make a difference in another person's life and is very proud of her efforts.

When she grows up, Vanitha would like to become an Indian Administrative Services officer. She hopes to use her standing to eradicate poverty from Gudupalli, to serve as an inspiration to other women, and to ensure that there are at least 10 women like her who can take her place. Vanitha is certain that Agastya will help her achieve her dreams, because what she has learned here has given her a good foundation to build these dreams.

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## THE CONSCIENTIOUS ARTIST



### R. Vedavathi

Class 10  
A student of ZPHS,  
Gudupalli

### A Firefly

because she dispels  
false notions by  
explaining the science  
behind superstitions

## CREATIVITY

Vedavathi can still remember the excitement she felt on her very first trip to Agastya, four years ago when she actually experimented on her own at the Physics Lab. In the Art Lab, she has learned how to create models and objects using recycled material. Vedavathi has even exhibited her work at a Science Fair!

She learned about 3D animation at the Media Lab and created computerised animations that looked just like clips from another popular cartoon character on television. Her proudest moment was when she got to demonstrate how to use drawings in the 3D animation process, to her teachers. When she was explaining the process in detail, all eyes were on her. The demonstration earned her praise from the Principal. She credits Agastya, for all the recognition and appreciation she receives from her peers and teachers.

At Agastya, Vedavathi learned that most superstitions are false. For example, in her village there is a superstition about sugar which says, 'if you eat more sugar then you will get sugar (diabetes).' Teachers at Agastya explained to her that sugar itself cannot cause diabetes, and that it takes a combination of different factors to get sick. She likes going back to her village and dispelling people's belief in superstitions by explaining the science behind their beliefs.

Worried about the number of trees being cut down in her

village, Vedavathi explained the ill effects to her parents who then passed on Vedavathi's message to their friends and word slowly spread. A group of concerned citizens then took up the matter with the *Panchayat* Secretary, who was forced to call a *Panchayat* meeting. At the meeting attended by all the villagers, the Secretary explained Vedavathi's stand, but also augmented her request by asking people to plant more trees. After the meeting, each of the 30 households in the tiny hamlet planted at least one tree. People in Vedavathi's village commended her for leading this initiative. Vedavathi was happy because she felt vindicated—the townspeople believed her, and took her seriously enough to plant trees.

Vedavathi comes to school regularly, just so that she does not miss a trip to Agastya! When she grows up, she hopes to become a teacher and follow Agastya's teaching methodology because, unlike her schoolteachers who focus on text books, Agastya instructors use models to illustrate their points and, most importantly, do not punish students if they answer incorrectly.

**Textbook-bound  
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Hands-On**

The journey from curiosity to creativity



## A DOCTOR IN THE MAKING, ARTIST AT HEART



**CREATIVITY**

### **Shameema B.**

Class 8  
A student of KGBV,  
Gudupalli

### **A Firefly**

because she creates art  
out of waste



**F**ourteen year-old Shameema always had a weak spot for art. It is no wonder then that when she first visited Agastya last year, staff members decided to introduce her to the Art Lab. From that point on, her love of art has taken on a life of its own.

Shameema was impressed by the artwork which was made out of reused material like plastic and paper. She then realized something, "In my village, everyone - including me - throws waste material out and it pollutes the environment." Today, she would rather use waste material when she is creating something. Using discarded cardboard boxes, Shameema created a festival calendar that mentions all the important public holidays and school activities. Now, all of her friends own a similar calendar.

In the Art Lab, Shameema also learned about the importance of observation and concentration. "Every day, I would simply look at things, but I would not observe them. I would always forget whatever I saw, and that is because I would not make the effort to understand things around me," she explains.

Shameema's artistic skills hugely benefitted from this new piece of advice. In the Art Lab, she has developed a better grasp of perspectives and colour combinations. Nowadays, she pays careful attention to details such as colour and structure when

she draws plants and stones. She has also applied these new insights to her regular studies. "Art is very helpful when it comes to drawing diagrams in biology or even maps," she says.

Shameema deplores that fact that government schools turn a blind eye to art. She believes that art cultivates the imagination, which in turn increases one's intelligence. "Any artist's imagination is very important because, without an imagination, we are all zeros," she points out. Shameema acknowledges that Agastya's Art Lab increased her own imaginative capacity.

"Before coming to Agastya, I liked art. But now, art is my life," Shameema reveals. While she aspires to become a doctor and not an artist, this does not mean that what she has learned is in vain. "Art will be very helpful for my future because, in biology, there are many diagrams which I now find very easy to draw," she explains. Medicine seems to be much more than a science to this young artist!

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## MAXIMISING POTENTIAL



### S. Mahalaxmi

Class 10  
A student of KGBV,  
Maadhanapalli,  
Shanthipuram

### A Firefly

because she actively  
found a short and long  
term solution to  
eradicate mosquitoes

## CREATIVITY

Exposure to Agastya has transformed Mahalaxmi from a timid and fearful girl, into a bold and outspoken Young Instructor Leader (YIL).

When she was in the fourth standard, Mahalaxmi's parents, who are labourers, decided to move to Bangalore to find work taking her younger brother along with them. Instead of leaving her with her uncle, Mahalaxmi's father decided to enrol her in the local KGBV, which is a residential school for girls. She missed her parents tremendously at first, but slowly adjusted to hostel life. It was in the eighth standard that Mahalaxmi first heard about Agastya.

Since joining Agastya Mahalaxmi has participated in a variety of elocution, dance, drama, and singing competitions and has won a glut of prizes. She proudly reveals that she won a gold medal for singing a song about India's struggle for freedom at a *Mandal* level contest organized by the Kalabharati Foundation.

Mahalaxmi became a YIL almost as soon as she joined Agastya. In her capacity as a Young Instructor Leader—a role she takes very seriously—Mahalaxmi has converted ordinary cardboard containers into waste collection boxes and has placed one in each of her classes. Other girls have started following in her footsteps and have created boxes of their own, which they too are using. When she realised that there was a growing body of stagnant water that was filling up a series of pits in the school

premises, Mahalaxmi came up with both a short and long term solution. First, she sprayed kerosene across the surface of the stagnant water body to prevent mosquitoes from proliferating. The next step took a little more time. Mahalaxmi gathered sufficient dirt to fill the pits so that they could no longer serve as receptacles for stagnant water.

Mahalaxmi likes the fresh clean air of Agastya's Kuppam campus and admires her instructors, since they treat children well, and teach them good values.

Since joining Agastya, Mahalaxmi's performance in school has improved. She now scores upwards of 90 per cent as compared to 80 per cent earlier.

She now has the courage and chutzpah to teach illiterate village elders the Telugu alphabet and how to write their names. Her advice to the world comes in the form of a stern warning, "Water is going to be a scarce commodity. Save water and use it economically." Mahalaxmi's aim is to become a doctor who serves the poor.

Yes  
to  
Why

The journey from curiosity to creativity

## ELECTRONICS AND ENGINEERING ARE CHILD'S PLAY!



### V. Nandini

Class 8  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because she invented a  
Janta Fridge

### CREATIVITY



After years of hearing about how magical and wondrous it was, Nandini finally got a chance to visit Agastya's Kuppam campus in the seventh standard. Since then, she has visited the campus no less than 15 times, and has explored each and every one of its Labs at length.

Nandini loves playing with numbers and spending time in the Mathematics Lab. She can while away the hours fiddling with a slew of multi-jointed geometrical instruments. One of her favourite activities—*Tod-Fod-Jod*—involves dismantling and reassembling objects. As the name suggests, students are free to take apart any piece of equipment to better understand the internal logic of its functioning. The very first piece of machinery that Nandini got her hands on was a table fan that had been lying abandoned. She opened it up and examined each of its components. Nandini developed a clear understanding of the functions of all the fan's moveable parts. Ever since then, Nandini comes to the rescue when there is a problem with the fans at home. She knows how to determine exactly what's wrong with the fan, why it is not functioning properly, and how to fix it.

Nandini's curiosity about the composition and functioning of mundane, everyday objects led her to invent a 'Janta Fridge' (people's fridge). After discovering that water stored in mud pots stays cool, Nandini decided to come up with her own version of this mode of refrigeration. She collected a bagful of

sand and doused it with water. She then placed a mud pot filled with fresh vegetables, on the wet sand. She found that the vegetables stayed fresh for at least four to five days. She dubbed it the "*Janta Fridge*" and exhibited it at the school Science Fair, winning both praise and a prize. Nandini's father has adopted this mode of refrigeration and uses it at home.

Nandini has decided that her interests lie in studying the functioning of electronic devices and would therefore like to become an electrical engineer when she grows up. One of her first inventions as an engineer will be a remote controlled children's bicycle. A bike that can be manipulated to stay upright, by a child's family perhaps, that would make learning how to ride a bike much less intimidating.

Nandini owes Agastya for shaping her thinking and for the enormous confidence she has developed in herself ever since she started visiting Kuppam.

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## ORGANIC IS THE WAY TO GO!!



### V. Geetha

Class 10  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because of her creation  
of low-cost pesticides  
and fertilizers that will  
help farmers increase  
their yield

## CREATIVITY



The daughter of a vegetable farmer, Geetha has long been intrigued by the different kinds of crops and plants that her father grows on his land and enjoys accompanying him to work. It is this fascination with cultivation that makes the Ecology Lab her favourite on Agastya's campus. A sixth standard student when she first visited Agastya's Kuppam campus, Geetha was enamoured by the beauty of its environment. It is here that she first learnt about grafting, cutting, and the artificial propagation of plant species. One of the most memorable experiments she was involved in dealt with vegetative propagation, where plants were 'cloned' to resemble the mother plant.

Geetha recently learnt how to make organic compost using 'cattle dung', at the Ecology Lab, and was inspired to attempt this process at home. In a slight departure from the approach used at the Lab, Geetha chose to create compost using plant-waste from her father's land, instead of dung. After gathering together as much plant-waste as she could find, Geetha proceeded to dump it into a pit that she covered with soil. She sprinkled water on its surface, every day for a few weeks, and was rewarded with rich, organic manure that was free-of-cost, and of a far better quality than what her father was using. Geetha's father tried her manure on his crops and was thrilled at the outcome! Geetha presented the results of her maiden

composting attempt to classmates at her school's Science Day event, and won first prize.

Geetha has also figured out how to concoct an organic pesticide using information gathered at the Ecology Lab. She ground together *Lucas*, *Pungamia*, and *Neem* leaves and squeezed out their juices through a cotton cloth. She added some pepper powder and let the herbal mixture sit for a day. At the end of the process, she was left with a natural pesticide that her father now uses on his crops, and that he has pronounced "much better than chemical pesticides."

Geetha says that Agastya has all the implements and resources required to conduct experiments, and such trials help her remember everything that she learns. Agastya's Labs, and approaches to teaching, have inspired Geetha to become an ecologist when she grows up. She wants to design low-cost pesticides and fertilizers that will help farmers increase their yield, while also preserving the nutritional content and productive capacity of the soil.

Looking  
to  
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## ENGINEERING A FUTURE IN ELECTRONICS



### G. Dhanpal

Class 9  
Student at ZPHS,  
Rallabuduguru

### A Firefly

because of his ability to  
make models of his own

### CREATIVITY



**D**hanpal may be only 13 years old, but he is a true patriot. “Settlers in India took valuable inventions from us,” he states. “I want India to start inventing new things again.” Not content in waiting for change to occur, he is determined to make it happen himself with help from Agastya.

Dhanpal learned about the mechanism of a fan on his first visit to the Robotics Lab two years ago. His curiosity piqued, he wanted to try it himself. At home, he cut fan blades out of a cardboard sheet fixed them on a small motor and connected it to a battery. His parents and two brothers praised him when cool air wafted out.

Then and there, Dhanpal decided that he wanted “to invent something new for my country, something different that no one has thought about yet.” He acknowledges that his experiences at Agastya reinforced his decision to become an electronic engineer because this is where he found the inspiration to create something new.

Agastya's influence has transformed Dhanpal into a versatile and prolific student. For instance, in the Mathematics Lab, he learned about arcs and lines. Following this, he took the initiative to make a chart classifying what he had learned. Praised not only on campus but also in his school his chart is now used in every class. He also won first prize in a biology competition for his original and comprehensive presentation

on joints in the human body, such as elbows, knees, and shoulders.

A self-assured young man, Dhanpal reveals that he used to have stage fright, “In school, there are so many other kids and I used to fear some of them”, he admits. “But I have lost my fear because classes at Agastya are much smaller.” After coaching and confidence building by Agastya instructors, he gained the assurance to speak in school. Nowadays, he enjoys presenting in front of his class at school.

Since his first visit to the Robotics Lab where he learned about electromechanical ventilation, Dhanpal has been a fan of Agastya, no pun intended. As he puts it, “Agastya is a foundation for creativity.” Even though he has no clue what he is going to invent, let us hope that Agastya's creativity-conducive environment will inspire Dhanpal to conceive of something that will serve not just his compatriots, but the rest of the world.

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## CLARITY IN SCIENCE



### Y. Greeshma

Class 9  
A student of APMS,  
Gudupalli

### A Firefly

because of her prize  
winning presentation on  
bio-fertilisers

## CREATIVITY



“Text books can only be read but in Agastya we gain so much knowledge by doing practical work with our hands,” says 14 year-old Greeshma with complete conviction. She has been visiting Agastya's Kuppam campus for two years. In her first exposure to the campus, she was taken to the Physics Lab where she learnt how to produce sound from different materials. In the Chemistry Lab, she learnt how to mix and make new colours. “It was a very good feeling coming to Agastya.” Greeshma says that the instructors clarify all her doubts and treat her like a friend. This, for her, is very different from school.

In 2013, on Education Day, Greeshma participated in a Science Fair at Dravidian University. At the fair she explained the benefits of using natural bio-fertilisers. Greeshma was awarded the first prize for her project and was presented with an Oxford Dictionary. Her parents were very proud of her and encouraged her to keep up the good work. In the first round of the iKen Scientifica Science and Technology competition, Greeshma scored 99.9 per cent in writing and got selected for the second round. Here, the participants were given a few items with which

to create something. Greeshma was unable to complete her model of a farmer's ploughing cart and move to the next round, because she chose to help a handicapped girl with her project.

Earlier, Greeshma had many doubts in science and drove her teachers to distraction with her questions. At Agastya, however, the instructors are patient and answer all her questions. As a result of this, Greeshma's marks in science have gone up from 82 per cent to 98 per cent.

Greeshma's mother is supportive of whatever it is she decides to pursue when she grows up. Her father on the other hand, wants Greeshma to become an officer in the Indian Administrative Services (IAS). Greeshma says, “I argue with my father on this subject because I want to be a doctor.”

Greeshma's philosophy in life is, “If you respect your work, you are not answerable to anyone; but if you pollute your work, you are answerable to everyone.”

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## EXPLAINING MATHEMATICS FORMULAS



### L. Suma

Class 10  
Student at ZPHS,  
Gudupalli

### A Firefly

because of her  
involvement in the IRIS  
program

### CREATIVITY



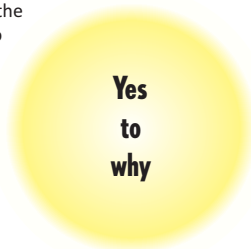
Just what did Agastya do? Curious, Suma and her friends travelled to the Kuppam campus two days after Agastya trainers invited their school to experience its delights. On that first visit an instructor enlightened them about Agastya's work with children. In wonderment, she says, "I did not realize how lucky we were to have a place like this so close to us, where we can gain so much knowledge." A month later she learned about triangles, not from a text book, but by using paper. "I learnt that the sum of three angles is 180!" she says with glee. Unlike her school, Agastya teaches lessons by making the students do experiments themselves. "This helps us remember the lessons for ever."

When 14 year-old Suma was chosen to be a Young Instructor Leader (YIL) in the seventh standard, she was taught what qualities a YIL should emulate in special classes at the Centre for Creative Training on the Kuppam campus. As a YIL, Suma learned to share the knowledge she gained with adults and children alike. She explained in simple terms the algebraic formula ' $a^2 + b^2 + 2ab$ ' using scissors and paper, to her juniors during the Mathematics Fair. At the Science Fair she described the human respiratory system to fellow students.

Suma's Transpiration project was one of the five selected for the IRIS programme in Bangalore. She took a graph of how the leaves of a healthy plant release water. After a few hours covered with a polythene sheet, she observed that the sheet was coated in moisture because of the water released from leaf stomata. After testing different varieties, she established that the *Bougainvillea* plant releases the most water. Suma explained that we will get more rain if we plant more *Bougainvilleas*! If grown on road dividers, their thick foliage will also deflect the glare of headlights preventing accidents.

Suma's mother has told her that giving our lives for our country is the greatest honour a person could receive.

While her mother wants her to join the army, what Suma really wants is to preserve and protect life. Her goal is to one day find a cure for AIDS, since no one has been successful thus far.



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## THIS IS SO COOL!



### C. Devi

Class 10  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because she fabricated  
a natural refrigerator  
and air conditioner

## PROBLEM SOLVING



Since her first visit to Agastya four years ago, Devi has developed a voracious interest in everything. “After coming here, I started getting many ideas. I learn basic things at Agastya and then complex ideas come to me”, she explains. She plans on implementing composting at her school. She also wants to place sign boards in the school zone to prevent accidents. In her village of Rallabuduguru, Devi wishes to plant trees like tamarind and banyan that absorb methane.

Devi is keeping two of her most ingenious ideas for the Initiative for Research and Innovation in Science (IRIS) competition. Her first invention is a refrigerator made of three pots placed one on top of the other. The bottommost pot contains sand, while the topmost one contains leaves. Due to the cooling properties of both, food stored in the middle pot stays fresh for as long as a week. Her second idea is a natural air conditioning system. By surrounding a house with leafy trees with cooling properties, the temperature can be brought down by a few degrees. She hopes to avoid the methane emissions of traditional refrigerators and air conditioning systems.

Even though she wishes to become a doctor, Devi wants to continue inventing. She also wants to teach! “What I know, I

believe I should spread to everyone”, she explains. For the last two years, she has been able to do just that as a Young Instructor Leader (YIL). Committed to wearing multiple hats, Devi’s role model is the former President of India Dr. A. P. J. Abdul Kalam, who was both a scientist and administrator. As a YIL, Devi hopes to be a role model herself who will inspire others to follow in her footsteps.

Devi regrets that she will not be able to visit Agastya as regularly as she used to because she is in the tenth standard now. She knows, however, that her experience at Agastya will continue to have an impact on the rest of her education. “When I go back to school,” Devi says, “I find it much easier to understand my lessons because of the practical things I have learned at Agastya.” Devi is immensely grateful for everything that Agastya has helped her achieve so far. “I am very lucky,” she says.

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## SWEET SMELLING SUCCESS



### PROBLEM SOLVING

#### Vijay B.

Class 9  
A student of ZPHS,  
Newpet

#### A Firefly

because he developed  
natural mosquito  
repellents and  
deodorants



Vijay's first memory of Agastya is the Discovery Centre, where he learnt about momentum. He became a Young Instructor Leader when he was in seventh standard.

Vijay observed numerous mosquitoes in drains near his school. He and his friends wanted to eradicate these pests. They came up with an idea to make a concoction of *Neem* and *Tulsi* (Indian Basil), since these have medicinal properties, to work as a mosquito repellent. Their preparation was successful and they shared it with their community members, and instructed them to spray it where ever there were mosquitoes.

In 2013, through Agastya, Vijay got the chance to participate in India's leading Science Fair. He said that he was constantly struggling with smelly socks! His project was to create a product that would remove body odour. In his village, mothers used *Albizia Lebbeck* (Siris tree/*Vaagai*) flowers, soaked in water, to bathe the new born babies. This is where he got the idea to use the same flower in his project.

Vijay and his friend collected the flowers, shade dried and then powdered them. They gave the powder to forty children as a test run. The feedback they got was...it worked! No more smelly socks! Now they were ready to submit their project to Initiative in Research and Innovation in Science (IRIS) competition. The boys were overjoyed when they heard that their project had been selected and that they would be going to Bangalore to

make a presentation. The competition was held in Christ College, Bangalore where they explained their project to the judges. Vijay says both he and his friend were very excited and nervous. Though his project did not win, Vijay says that the whole experience was exhilarating.

He and his friend Anil Kumar have been selected to represent their school at the INSPIRE Science Fair. Their plan is to create an electromagnetic, accident brake system by putting similar magnets on two different cars. When on a collision course, the cars will repel each other, because of the magnetic fields, and therefore will not crash into each other. Vijay is certain Agastya instructors will help develop their idea.

In the future Vijay aspires to be a pilot; it has always been his dream to fly high in the sky. He says when he becomes a pilot he wants to take all the people in his village in an airplane free of cost. Aah, what a dream! May it come true for this young boy!

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## BREATHE EASY!

### D.V. Sreedhar

Class 9  
A student of ZPHS,  
Yamaganapalli

### A Firefly

because of his tree  
planting initiatives

## PROBLEM SOLVING

Initially nervous about visiting Agastya two years ago, Sreedhar has since grown comfortable with the people there and feels like he is part of a wider community. Sreedhar has learned new notions since coming to Agastya, lessons that have stayed with him, including how light is reflected; that plastic pollutes; air pollution is on the rise; and deforestation is bad for the environment. He is very concerned about air pollution in particular as it threatens the most basic of human functions - breathing. In his village, trees are being cut to build houses, leading to the destruction of the metaphorical 'lungs' of that area. Sreedhar hopes to reduce smog by planting more trees and reducing the number of combustion vehicles plying the roads. He believes that if community members from every village come together and plant trees in the barren land surrounding their villages, it would check the spread of aerial pollutants.

When his Agastya instructors first told him that trees reduce air pollution, Sreedhar went home and announced that they should start planting trees. His father thought about it and said that once he made some extra money, they would buy some saplings and plant them. He kept his word and, once he had enough money to do so, Sreedhar and his father planted 100

trees in their field. They did this about a year ago. Today, the trees are flourishing. He asked his neighbours to do the same, and they have also planted a few trees in their fields.

Science is his favourite subject, because in science one can learn and innovate. Sreedhar wants to become a doctor and use science to help those in need. He remembers visiting a hospital once where he overheard someone say that since they had no money to pay for their treatment, they would have to leave. This got him thinking about how poverty prevents access to health care, a problem he will work hard to address when he grows up.

Sreedhar believes that Agastya will help him achieve his dreams, because he has learned so much here and knows that he will learn even more in future. If he could, he would bring each and every child in his school to Agastya.

**Fear  
to  
Confidence**

The journey from curiosity to creativity



## MOSQUITO BUSTER



### C. Sravani

Class 10  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because of her desire to  
prevent diseases by  
eradicating mosquitoes

### PROBLEM SOLVING



Ever since her first exposure to Agastya, Sravani has become increasingly concerned about the stagnant pools of water breeding mosquitoes in her neighbourhood. Having learnt that mosquitoes cause diseases like malaria, dengue, and *chikungunya*, Sravani has made people in her locality aware about the dangers of allowing water to stagnate and has asked them to ensure this does not happen. Luckily for Sravani, her father is a member of the village *Panchayat*. She has been known to take advantage of this privilege to ensure the betterment of her neighbourhood. Nowadays, if she happens to see potholes (potential water receptacles for mosquito larvae), she takes her father to the spot, points it out to him, and requests him to fill the holes and fulfil his duties in the process.

Sravani has also spoken to her neighbours and acquaintances about the importance of segregating and recycling plastic, which does not decompose. She is worried that the over-accumulation of plastic could cause natural disasters. She gets her ecological conscientiousness from Agastya, particularly the Kuppam campus, with its “natural atmosphere, and fresh air.” Inspired by Kuppam's serene green surroundings, and keen to recreate the same settings at home, Sravani has planted a number of saplings, supplied by Agastya, all around her village.

Before coming to Agastya, Sravani was an unremarkable student who was indifferent to her studies. She now really enjoys studying and has no intention of stopping. It was only after joining Agastya that she came to understand that learning can be a dynamic and exciting process. According to her, “In school we are taught whatever is in our text books. In Agastya, on the other hand, we learn by doing and that's what helps us understand the subject much better.” Once terrified of her teachers and of science as a subject, Sravani struggled to comprehend scientific theories and concepts even though she read her text books repeatedly. Thanks to the instructors at Agastya, she has been able to develop the courage and the confidence to ask questions, and to keep asking till she gets a satisfactory answer.

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Science Fairs

Young Instructor Leader

Innovation Fairs

Young Innovator

National Platforms

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# THE AGASTYA FOUNDATION CAMPUS







## CITIZEN SURYA



### K. Surya

Class 10  
A student of ZPHS,  
Chinnagollapalli

### A Firefly

because his problem  
solving betters his  
community

## PROBLEM SOLVING



According to Surya, one of the main lessons Agastya has taught him is not to waste. He said “nothing is ever waste, everything can be recycled, even a small piece of iron.” Another skill he says he learnt is problem solving. Once Agastya took their group to a medical college, in front of which there were little shops and restaurants with garbage strewn all over the road. Without Agastya instructors advising them, Surya and the other children made a sign saying not to throw rubbish around. He said that the medical college also worked as a hospital and with all the bacteria and germs in the waste thrown in front of the gates, the patients would get even sicker.

Surya and his friends observed that drains in their village were clogged as they were not being cleaned and had become a breeding ground for mosquitoes. So the boys decided to take it upon themselves to do so. It took them three days to clean the drains. They also spent time advising the villagers not to dump plastic and waste into the drains. Surya and his friends identified another problem. Because their school was in front of a road everything was always dusty. To counter this, Surya and his friends decided to plant *Ashoka* and *Guava* trees, provided by Agastya, on the boundary of their school.

Not only is Surya an active citizen today due to his exposure to Agastya, he is also a more active student. He has participated in an essay competition where he wrote about different scientists and in the Telugu Maha Sabha he performed an act on the freedom fighter Alluri Sita Rama Raju. He is also a volunteer at Operation Vasantha, an Agastya initiative, where he teaches younger children.

He really likes mathematics and has big plans for the future. His ambition is to become an architect and construct a variety of buildings. In his community he wants to be able to plant more trees and advise people to stop drinking alcohol.

Surya says before coming to Agastya he was not very knowledgeable and did not talk much to anyone. As if in retrospect Surya muses “Agastya is very near my village, so I am very lucky to be here.”

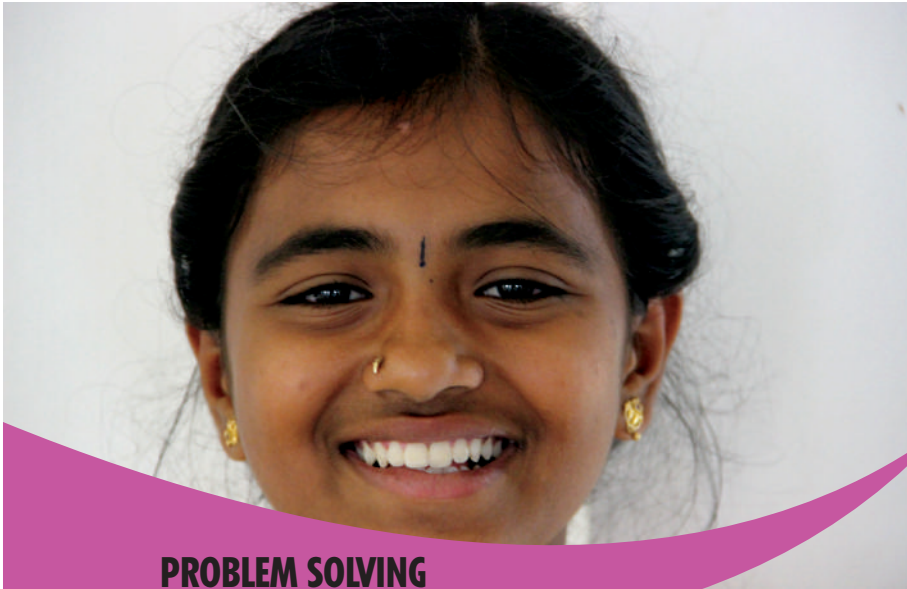
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Hands-On**

The journey from curiosity to creativity





## A REAL LIVEWIRE!



### K. Haritha

Class 8  
A student of ZPHS,  
Rallabuduguru

### A Firefly

because of her ability to  
apply daily lessons to  
benefit others



## PROBLEM SOLVING

Haritha is excited to share her experience of Agastya with the world, because she feels that she has a lot to contribute. When she comes to Agastya's Kuppam campus, she has no desire to return home. Impressed with the calibre of Agastya's instructors, Haritha would like to one day become a teacher, and impart everything she learnt at Agastya to the next generation.

Haritha finds that she can apply much of what she learns at Agastya to everyday life. It has helped her identify and address potentially dangerous situations. For example, Haritha was introduced to the concept of conductivity at Agastya, and was shown how electricity flows through wire which is conducive to electric currents. One day in her neighbourhood, Haritha noticed an exposed electrical wire that had somehow come loose of its casing. Having seen for herself how electricity is conveyed, she knew that if it was not fixed, this particular wire could give some unsuspecting pedestrian a nasty, even fatal, electrical shock. She quickly informed the linesman about the exposed wire and requested him to repair it. The linesman chose to ignore Haritha's request. Unperturbed, a determined Haritha approached the village *Sarpanch* (Head) and explained the situation to him, including her visit to the linesman.

Impressed with her persistence and concern for the danger to her neighbourhood, the *Sarpanch* immediately ensured that the line was repaired.

Another important lesson that Haritha learned at Agastya is the importance of water conservation. In her house they wash their clothes and utensils in the backyard, where the used - but non-toxic - water just goes to waste. Heedful of Agastya's advice, Haritha has dug a canal for the waste water to flow through and irrigate their tiny kitchen garden. Making note of this, Haritha's impressed neighbour duly followed suit, and makes sure that her waste water is recycled in a similar manner.

A firm believer in universal education, Haritha recently counselled a mentally challenged girl from her neighbourhood who had dropped out of school, to re-enrol herself.

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## WORK LIKE CLOCKWORK



### Manoj Kumar

Class 10  
A student of ZPHS,  
Settipalli

### A Firefly

because of his ability to  
repair small items for all  
his neighbours

## PROBLEM SOLVING



**M**anoj visited Agastya with his cousin who was an instructor there, and was taken to the Art Lab. The experience made him want to visit the campus again and again. Out of all the labs at Agastya Manoj says he likes the Planetarium the best as he found the lesson on the universe and how it was formed to be the most interesting.

Manoj participated in the INSPIRE Science Fair where he created a model to show how magnetic energy can be converted into electrical energy. He is also working on getting his project selected for the IRIS (Initiative in Research and Innovation in Science) competition. He wants to reduce the fluorine levels in water by putting *Tulsi* (Indian Basil) into the drinking water. He got this idea when drinking *Tulsi* water at the temple. It tasted different from home water so he asked one of the Agastya instructors if he could test his theory with *Tulsi*. They found that the fluorine levels did decrease but not as expected, so he is still working on the project.

Manoj also helps out in Operation Vasantha - remedial night classes organised by Agastya. He played a good Samaritan to his friend Ganga Raju, who dropped out of school to work because of financial problems at home. Manoj and his teacher spoke to Raju's parents and convinced them to send the boy back. His

teacher said that the school would provide the necessary books as well as fees. Now Raju is in tenth standard.

Manoj says that after coming to Agastya his stage fear has gone and because Agastya instructors do not beat or scold him, he feels more confident when sharing his ideas and opinions. His English has also improved after getting the chance to interact with foreign guests who visited Agastya.

When Manoj grows up, he wants to be a mechanical engineer, because he really likes physics. From a young age he has loved repairing things and has been good at it. All his neighbours bring small things for him to repair and would always tell him that he will be a mechanical engineer in the future.

Manoj's message to anyone feeling demotivated is "Don't sit like a rock, work like a clock. If they can work like a clock they can achieve anything." So get working everyone, time is ticking and this young man is definitely working!

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## SHEDDING LIGHT ON ENERGY CONSERVATION

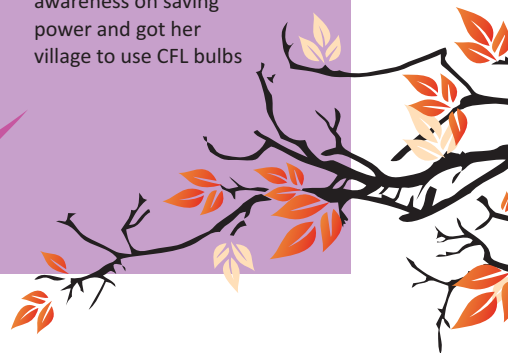


### M.C. Bhavana

Class 8  
A student of APMS,  
Gudupalli

### A Firefly

because she raised awareness on saving power and got her village to use CFL bulbs



### PROBLEM SOLVING

When Bhavana was in the fourth standard and first heard about Agastya from her friends, she knew that was where she wanted to be. However, she had to wait till the sixth standard before she got a chance to visit the campus. But the wait was well worth it.

At Agastya, Bhavana has enjoyed the privilege of learning through doing. In the Physics Lab for example, she got to build a periscope by using mirrors, insulation tape, and cardboard. In biology, she examined the stomata of a leaf under a microscope and then drew the structure. In ecology, she learned the water filtration method and went on to exhibit the experiment at Kuppam on Science Day.

Bhavana has a penchant for conducting her experiments with great thoroughness. At Agastya, she studied the differences in energy expenditure between Compact Fluorescent Lamp (CFL) and incandescent bulbs. With Agastya's support, in her village Gudlanayanapalli, she selected a few homes in which to conduct her energy conservation study. On concluding her experiment, she observed that CFL bulbs have a lower temperature, consume less power, and provide higher intensity of light than incandescent bulbs. Another innovation of Bhavana's was her switch model. Here she took a safety pin, two

wires, a Light Emitting Diode (LED) bulb and a battery. She connected a wire to the LED bulb, and the other end to the battery. When the safety pin is closed, current flows and when it is open, the current circuit is disconnected.

Bhavana did not stop there; she went on to publicise her findings in her village and, today, 95 per cent of the village population use CFL bulbs. She has been praised by members of her community, because she showed them a simple way to save money and energy. Quite an achievement for an eighth standard student. It comes as no surprise, then, that Bhavana is also a Young Instructor Leader.

Bhavana believes that she would not have accomplished all that she has if it were not for Agastya's practical style of teaching and learning. "At school, I read only theory but, at Agastya, I do hands-on activities," she explains. Through Agastya, Bhavana managed to change herself and the people around her.

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## STOPPING CHILD MARRIAGE IN ITS TRACKS



### Ramyasree M.

Class 10  
A student of KGBV,  
Shanthipuram

### A Firefly

because she stopped  
child marriage

### PROBLEM SOLVING

Ramyasree remembers being fascinated by what the Agastya staff told her class about Agastya, and felt like she wanted to know more. When in the seventh standard she was chosen as a Young Instructor Leader (YIL). She says after becoming a YIL, she had the confidence to take part in any programme whether it is a drama performance or a competition. She has since participated in singing and drama competitions and in an elocution competition where she spoke about how India got independence. She has been able to achieve this only after coming to Agastya.

Ramyasree has also been able help her village since joining Agastya. She says she learnt how to problem solve after coming to Agastya. She found that the women in her village always fought for water as there was only one public tap. She went to her *Sarpanch* and suggested they split the same water connection into three separate taps. The *Sarpanch* agreed and since then there have been fewer fights. Ramyasree also found that mosquitos were a big problem in their village. She had read somewhere that if kerosene is poured on stagnant water, it prevents the mosquitoes' ability to reproduce in that water. At Agastya, she discussed her idea of pouring a mixture of *Neem* leaves, kerosene and a small amount of detergent into all the

stagnant water bodies around the village. It worked! Ramyasree was presented an English dictionary for her efforts.

At Agastya she was taught about the evils of child marriage. So when one of Ramyasree's friends got a marriage proposal in ninth standard she felt she needed to intervene. Ramyasree and some of her friends tried to convince her parents to keep the girl in school. She even approached the *Sarpanch* and asked him to talk to the girl's parents. As a last resort, Ramyasree approached her school teacher, who called the police. The parents finally agreed to break the marriage and send their daughter back to school. Since that day there haven't been any instances of child marriages in Ramyasree's village.

For the future Ramyasree wants to mainstream all the school dropouts and empower the girl child and make sure they understand that they have a right to an education too.

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The journey from curiosity to creativity

## SATYAM, AHIMSA, NYAYAM



### Preeti Jinta

Class 10  
A student of KGBV,  
Shanthipuram

### A Firefly

because of her pro-activeness in planting 400 trees and discouraging the use of chemical fertilisers



### PROBLEM SOLVING

**N**amed after her parents' favourite Bollywood actress Preity Zinta, young Preeti has already noted a marked shift in herself as she now feels more focused and grounded. Preeti credits the meditation sessions that precede the day's activities at Agastya, with improving her ability to concentrate. Sitting still for five minutes, in silence, before starting the day has enabled Preeti to grow calmer and more disciplined.

Preeti's improved self-esteem and a growing awareness of the world have kindled in her a desire to help her community. Through her exposure to Agastya and its Kuppam campus, Preeti knows exactly *what* she plans to do.

She plans to encourage community members to compost and convert kitchen waste into organic manure; and to increase the amount of green cover in the village. She and her cousins convinced their parents to stop using commercial fertilisers. The whole family dug a pit near their house, into which they started throwing their kitchen and garden waste. The family now generates so much organic manure that Preeti's uncles and father have stopped using chemical fertilisers altogether.

Inspired by Kuppam's impressive foliage, and having learned that trees benefit humans and other living beings, Preeti undertook to plant more trees in her village. She discussed her plans with her father, who then approached the village elders

with Preeti's proposal. With their approval, Preeti and her father procured saplings from the Forestry Department. Along with other farmers from their community, they planted at least 400 trees in the three years since they started this project. The trees have borne fruit, which community members sell at the local farmers' market.

Preeti aspires to follow Mahatma Gandhi's footsteps and become a lawyer when she grows up. As she puts it, "there's a lot of injustice in the world, and I want to put a stop to it. I can do this as a lawyer." When asked to elaborate, Preeti says, "The rich are getting richer and poor are getting poorer, because the rich refuse to allow the poor to come up in life. I'm not interested in earning money, especially money earned through unjust means. I'm interested in the truth. Gandhiji is my role model. He preached *satyam, ahimsa, nyayam* (truth, non-violence, justice) — this is how we earned freedom as a country, so this is the path I want to follow." Preeti's philosophy is "Be the change you want to see in the world".

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## GIRL POWER!



### Usha R.

Class 9  
A student of APMS,  
Gudupalli

### A Firefly

because of her desire to  
ensure that all girls get  
an education

## PROBLEM SOLVING



Usha is very concerned about the phenomenon of girls dropping out of school. Having seen so many instances of it in her village, she has tried to convince girl dropouts to return to school. A friend of hers was pulled out of school by her parents in seventh standard because her parents said that they needed the money and could not afford to lose their daughter's income. To this Usha responded, "Your daughter will earn more money later if you allow her to go back to school." She continued to plead with them, but to no avail. Her friend now works as a maidservant, while Usha feels terrible for having failed her.

This is why, when she grows up, Usha wants to become a teacher, because this will allow her to do everything necessary to keep girls in school. Since her favourite subject is mathematics, her dream is to become a Mathematics teacher. She said with great confidence, "If you understand mathematics, you don't have to study it. People, who say mathematics is difficult, just have to understand it better." Usha came to feel this way after coming to Agastya. Here, she has no fear of being punished and feels free to express her thoughts

and opinions. She plans to emulate Agastya's instructors and will use stories and examples to engage her students. Her stories will focus on social issues, and their goal will be to change village life.

Another social problem that weighs heavily on Usha's mind is child marriage, a practice that she desperately wants to put an end to. The instructors at Agastya have also told her it is wrong. Usha has seen girls who marry young suffer because men who marry young girls often remarry, abandoning their child brides. In her village, girls are often married off after they complete tenth standard. Her opposition to child marriage gained strength after she started watching a TV programme, which highlights the trials of child marriage. She was worried that it might happen to her but her parents reassured her saying, "We will not do that to you."

**Fear  
to  
Confidence**

The journey from curiosity to creativity



## FIXING LEAKING TAPS



### S.D. Bhavana

Class 8  
A student of ZPHS,  
Gudlanayanapalli

### A Firefly

because she used  
science to calculate  
water wastage

### PROBLEM SOLVING

When in the seventh standard Bhavana's school started coming to Agastya regularly, she realised that Agastya taught science in a fun and interesting way. She was selected as a Young Instructor Leader (YIL), and was motivated to make a difference and do something good.

When Bhavana and her mother washed clothes at the bore well tap, she noticed that the tap was leaking and plenty of water was being wasted. In Agastya she had learnt that water was a precious resource and she wanted to stop the unnecessary wastage. She fixed a litre bottle to the tap and observed that it took thirty minutes to fill. She calculated that in a day they were wasting forty eight litres of water. She showed her findings to her uncle who told her that nothing could be done because water was being pumped at high pressure out of the bore well. Undeterred, Bhavana put a drum, under the leaking tap and collected the waste water to irrigate the field.

Bhavana has become more participatory after coming to Agastya using the knowledge she receives as inspiration for her projects. For example in her school Science Fair she did a project on the conservation of biodiversity and discouraging deforestation as the forests are critical for life.

Bhavana has also noticed that due to Agastya's influence, she is more disciplined now and less selfish. She has also realised that only if she understands a concept clearly will she do well in her exam. Her future plans are to graduate and become a high school science teacher. Bhavana wants to become a teacher to help children, just like her teachers have helped her.

Bhavana says she loves the freedom that Agastya gives her, for example they encourage her to take part in activities like sports, arts and singing. She also likes how clean and green the Agastya campus is and says that "there is a positive energy on campus that makes you learn". The models at Agastya inspire her as do the Agastya instructors who explain everything - whenever she asks questions to an instructor, she never gets the answer "I don't know."

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## CREATING OUTDOOR CLASSROOMS



### V. Harikrishna

Class 10  
A student of ZPHS,  
Gudupalli

### A Firefly

because his tree  
planting initiative allows  
classes to take place in  
the shade

### PROBLEM SOLVING

Young Harikrishna strives to make his community a clean and green place to live, much like Agastya's Kuppam campus that he so loves to visit. Harikrishna has been a regular at the Agastya campus for the past five years.

Harikrishna and his friends liked to study in the open air. But the drains in his village emitted a foul odour so bad, that the children found it almost impossible to concentrate. To find a solution, the children addressed a *Panchayat* meeting and spoke about the issue. Predictably, none of the adults listened. Undeterred, Harikrishna waited for a visit from the Mandal Revenue Officer (MRO).

When the MRO finally visited, a nervous but determined Harikrishna approached him and told him about the poor condition of the village drains. The MRO promised a relieved Harikrishna that he would get the drains cleaned. A week later they were! Today, the village members themselves clean the drains on a monthly basis. Harikrishna remembers being terrified about speaking to the MRO on his own. As he puts it, "if you give into your fear, you won't accomplish anything."

Another problem that Harikrishna noticed was the lack of classrooms in his school, which forced teachers to conduct classes outside in the hot sun. Telling himself "if I don't do

something, no one else will." Harikrishna decided to plant trees on his own. He managed to get tree saplings for free when he told the proprietor, "this is not for me or my house, this is for my school and for the community, so we can sit in the shade and study." Not only did he not have to pay, but the impressed vendor invited him back anytime for more saplings. Harikrishna returned to town and started planting his saplings, primarily mango, *Karpuram*, and other small flowering trees. The whole process took him a month to complete. That was three years ago. Today, the Mango and *Karpuram* trees have grown and children now sit under them and study, just as Harikrishna had envisioned. Harikrishna believes that if all of us plant two trees each, the world would be a much better place. His parents are tremendously proud of him and encourage him to continue his work. This is what motivates him.

Harikrishna attributes his accomplishments partly to Agastya's influence and partly to his own innate interest in making a difference.

**Fear  
to  
Confidence**

The journey from curiosity to creativity





## WALK THE TALK



### V. Ramya

Class 8  
A student of KGBV,  
Shanthipuram

### A Firefly

because of her initiatives to set up compost pits and ensure that every house in her village got a toilet

## PROBLEM SOLVING

In Agastya's Kuppam campus, the Biology Lab is Ramya's favourite, because here, she learnt about plant and animal cells, following which she was given a chance to observe them through a microscope. It is only when she got to see with her own eyes that she understood that plants, animals, and human beings all have cells and was amazed.

In the Library, she inculcated a fondness for reading and many important life skills and lessons, including the importance of personal hygiene, and of moral values like respect for others.

She had a chance to share these life lessons with people in her village, including the village elders and locally elected officials. For instance, she spoke to the village *Sarpanch* about the importance of cleanliness, how open defecation was bad, that toilets needed to be built in every house, and people should be encouraged to use them. The *Sarpanch* instructed her to write a letter to the *Panchayat* and she very proudly states that one month after she submitted the letter, the *Panchayat* started to build toilets. Today every house in her village has a toilet.

When she learned about how to recycle waste and filter dirty water, she immediately thought of how this would help her village. She and her parents spoke to the *Panchayat* head. With his help she was able to set up compost pits for every five houses. She also installed clay pots lined with coconut fibre in

trenches where dirty water flowed. This helped to filter the water and clean it (coconut fibre has bacterial properties in addition to being dense, but porous).

As for other activities, Ramya has participated in speech competitions, where she spoke about child rights and won first place. She also participated in an interschool Science Fair, where she used a model to explain the solar eclipse phenomenon and won second place.

Ramya believes that she owes much of her success in academics and in her efforts to effect social change, to Agastya's influence. It is the teachers here who constantly encourage her to apply what she has learned. She has therefore resolved to use all that she learns in Agastya to help others. Her aim in life is to become a teacher and she hopes to change other people's lives as well. Finally, she wants to acknowledge that without her mother's support, she would not even be in school.

Passiveness  
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## DOING GOOD IN HER NEIGHBOURHOOD



### G. Swathi

Class 9  
A student of ZPHS,  
Krishnarajpalli

### A Firefly

because she spreads awareness on the importance of green energy, waste segregation and waste water usage



### PROBLEM SOLVING

Swathi is proud that she and her team got to demonstrate a rocket launch for none other than former President of India Dr Abdul Kalam, using a model they assembled at Agastya's Kuppam campus! A 14 year-old student at ZPHS Krishnarajpalli, Swathi cherishes her time at Agastya. She has visited the Kuppam campus at least 20 times, her favourite spot being the Discovery Centre. She talks animatedly about the 'Bheeshmachar chair' that is housed there; named after the Pandava patriarch from the Hindu epic *The Mahabharata*, the chair is made up of evenly distributed nails of equal height rendering it painless to sit on.

Swathi is committed to educating people in her village about the importance of 'green energy', and assiduously practices what she preaches. Having done a project on Compact Fluorescent Lamp (CFL) bulbs, and having learned about its benefits, Swathi first replaced all the light bulbs at home with CFL bulbs. Her friends soon followed suit. Swathi then spoke to her fellow villagers and explained the difference between CFL and incandescent (regular) bulbs. CFL bulbs, she said, use less energy and generate less heat.

Swathi noticed that water stagnation was a problem in her village. Waste water from kitchens and shops stagnated in crater-sized potholes that riddled their roads. She convinced community members that these pools of water were a health hazard, since they could breed mosquitoes; she also pointed

out that this water could be used for other purposes. She persuaded local farmers to dig a canal and divert the water to their farms.

Swathi has introduced waste segregation in her village. She has explained to the community that plastic does not decompose, and needs to be segregated from biodegradable waste. Along with her friends and folks from their village, she segregates the plastic and hands it over to a professional recycler. She has planted saplings supplied by Agastya at school, and waters them diligently on week days.

Impressed with Agastya's approach to teaching, Swathi wants to become a teacher when she grows up and emulate Agastya's teaching style. She is concerned about the state of literacy in villages. As a teacher she would like to motivate and encourage parents to continue sending their kids to school. Swathi's advice to her juniors is this: "education is very important. You need to study to know what is happening around you. You have to be literate to be able to read hoardings as well as newspapers."

Looking to Observing

The journey from curiosity to creativity



## TRANSPLANTING THE SPIRIT OF AGASTYA



### Dr. Praveen Kumar

IPS

Secretary, Telangana  
Social Welfare  
Residential  
Educational  
Institutions Society  
(TSWREIS)

### OFFICIALS

Dr Praveen Kumar believes that Agastya's unique approach adds immeasurable value to the Indian education sector. It makes science simple, attractive, and playful. Children are introduced to quality teaching learning materials. Many of them go on to teach their peers, thus extending Agastya's sphere of influence. Dr. Kumar characterises Agastya's mode of functioning as radical. Elaborating on this observation, he says that, "What is also unusual about Agastya is that you have a lot of different [science] models in the market, but you are never the owner of those models. In Agastya, you are the owner of the model. Agastya helps with materials but does not claim ownership."

Dr. Kumar looks forward to a long and productive association with Agastya. While he is keen to reproduce the Kuppam model in other parts of the state, he recognises that an undertaking like that requires lots of time. Realistically speaking, "In the short term, there is tremendous scope for transplanting the spirit of the entire effort represented by the Agastya Kuppam campus."

In order to successfully 'transplant' Agastya's 'spirit', the government of Andhra Pradesh is in talks with Agastya to implement and incorporate the Lab-in-a-Box (LIB) and the Lab-on-a-Bike (LOB) programme into the school system. The LIB is a way to assemble mini science labs in different places, while the

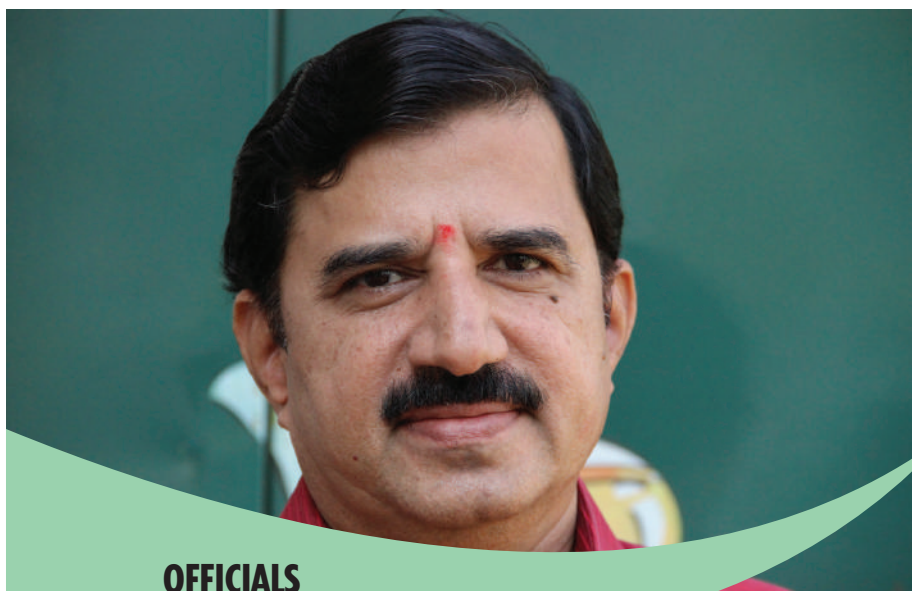
LOB is a way to keep LIBs in circulation across a prescribed region. Since the administration finds it very difficult to ensure rapid spread through the use of Mobile Labs, Dr. Kumar is clear that from the very outset, "We didn't want to copy the Hub-and-Spoke model. What we told Agastya was 'be our hand holder and tell us what raw materials we will need.' We have science teachers and students who have been trained by Agastya. We can use the raw materials and all these people to spread this kind of learning." With the right quality, low-cost material in hand, the government network will be able to "spread the Agastya spirit."

Agastya's primary impact on teachers has been to teach in a more hands-on manner. So far, more than 300 Government School teachers have been sent to Agastya, trained to make low-cost models, and to improve their teaching methods. They are now equipped to use the 5000 rupees that the government gives them to greater effect, now that they can purchase low-cost material with it.

The journey from curiosity to creativity



## “AGASTYA: A PATH BREAKING INNOVATION”



### Mr. K.S. Rama Rao

Deputy Collector -  
Revenue Department,  
Government of  
Andhra Pradesh

### OFFICIALS



**M**r. K. S. Rama Rao started his career in the field of education as a project officer for the Sarva Shiksha Abhiyan (SSA), where the main focus is on creating facilities and providing infrastructure for education in government schools. He believes that “unless the teacher is trained, empowered and performs according to our expectations, we are compromising.”

Mr. Rama Rao came to know about Agastya during his time as Kuppam’s revenue officer. He grew interested in Agastya and spoke to some of his students who visited Agastya’s Kuppam campus. Their enthusiasm and eagerness to learn new things told Mr. Rama Rao that Agastya was helping students by promoting ‘learning by doing’. Agastya helps students from marginal communities enrich their knowledge through practical experimentation.

He believes that both Agastya and the SSA’s work are driven by the same passion to take students’ educational experience from a basic to an advanced level. Mr. Rama Rao feels that Agastya’s trainers have incredible teaching skills and are very well prepped. He strongly believes that the government can learn from Agastya, and take the SSA’s programmes to a different level. Agastya should also extend its reach to other districts and states, so that children across the nation can have access to

stress-free learning using experiments and activities, rather than just text books.

Mr. Rao is convinced that Agastya is helping students develop a scientific mindset which will help society at large by eliminating superstitious thinking. He sees how leadership is encouraged at Agastya, through their novel Young Instructor Leader programme (YIL). Whenever he visits villages he sees the impact of the YIL programme on its participants, who like to disseminate whatever they have learnt among their friends and fellow students. This helps bring out students’ latent teaching abilities, and fuels their quest to learn more. Not surprisingly, Mr. Rama Rao feels that Agastya should not only be a platform for students but also for their teachers. Agastya can provide opportunities for knowledge-sharing, and for showcasing research that teachers at various schools have conducted, by organizing an event where teachers and students can interact with each other, and learn from and with each other. “Anything done with good intentions will prosper,” he believes of an organization like Agastya which has brought about a change in the lives of many children and continues to do so every day. These good intentions will not only help Agastya prosper but will also benefit society.

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## A PRESCRIPTION CALLED 'AGASTYA'



**Dr. P. Shivkumar**

Mandal Medical Officer, Kuppam

### OFFICIALS



It was in 2008 that Mandal Medical Officer Dr. P. Shivkumar first heard of Agastya. He had seen Agastya's Mobile Labs ferrying children across town, and understood that Agastya taught science and technology to government and private school students, in a practical way.

He has since learned that Agastya plants trees all around Kuppam, and teaches the public about the uses of various medicinal plants. Dr. Shivkumar said, "Agastya also collects new innovative thoughts from different people to teach their students." He said that the institution mentors exceptionally talented students from government schools, and helps them move up in life. Agastya often invites Dr. Shivkumar to talk on various health related topics.

Dr. Shivkumar believes that students who have been exposed to Agastya are more knowledgeable about science and technology than their peers. They are also able to talk fluently about the uses of Ayurvedic plants. Also, teachers find it easier to teach their school lessons, once they have had a chance to visit Agastya.

Though there is a similar institution in Tirupathi, Dr. Shivkumar points out that, "This place is not like Agastya, because they do not do programmes for the needy." Other Science Labs are run more as commercial establishments, where visitors pay to see

the facilities. In Agastya, government school children are transported to Kuppam campus and taught free of cost. Dr. Shivkumar says that the government does not have any programmes like Agastya, because they would find them difficult to run. Agastya is therefore unique.

Since rare birds and animals visit the Agastya campus, Dr. Shivkumar suggests opening it up to members of the public from both Tamil Nadu and Karnataka.

As a physician himself, Dr. Shivkumar knows how challenging it is to manage hospital waste. "It would be great if Agastya innovated some way to dispose of hospital waste. This would be a huge service to us," he says. He also suggests that since Agastya is located in a hilly area, that they create a waste water re-cycling plant to provide nearby villages with water, which is scarce.

Dr. Shivkumar is impressed with Agastya's practical, demonstrative approach to teaching. He is equally appreciative of their instructors, who encourage poor rural students to do better.

The journey from curiosity to creativity



## MPTC IS ALL PRAISE FOR AGASTYA



### Ms. Pramila

Mandal Parishad  
Territory Counsellor  
(MPTC) of  
Kotachambagiri  
village, and in-charge  
of Kopiganipalli  
*Panchayat* and  
Agaram

### OFFICIALS

Pramila looks too young to be the mother of a boy who is doing his first year of pre-university. She is the Mandal Parishad Territory Counsellor (MPTC) of Kotachambagiri village in Kopiganipalli *Panchayat*, and in charge of Kopiganipalli *Panchayat* and Agaram. She speaks shyly but firmly when she describes how she first came to hear about Agastya through her children. It was around eight years ago, when her son was studying in the third standard.

Ever since he started attending Agastya's classes, her son speaks more articulately and engages in many different experiments at home. Pramila laughs and says that since she is illiterate, she hears about what they were doing but does not always understand what she hears. After each visit to Agastya, her children come home and practice what they have learnt. Normally they reluctantly do their school homework, but when they return from Agastya, they happily do extra work.

Pramila is a newly elected MPTC, so she has not yet observed Agastya's impact on the children in her village. She does feel that since her children have benefitted and changed so much after being exposed to Agastya, that other children must be experiencing the same thing. Pramila says, "Before Agastya, the children did not show any interest in going to school. Now they desperately want to go to school."

Since parents are busy cultivating their land and as daily wage labourers, Pramila feels that they do not have the time to focus on their children's studies, but are confident that Agastya is making a difference. When she meets other parents, she tells them about what her own children have learnt. Listening to her, these parents have started to express an interest in Agastya. Parents feel that the community centre (Operation Vasantha) in their village is a huge boon for their children because here, Agastya helps all their children with their studies.

Pramila says that because of Agastya, teachers have also started changing. They have started teaching English in school, and take saplings from Agastya and plant them in the school premises.

"I want to see more improvements by Agastya so that more children will benefit. If the children benefit, then the whole world will develop."

Pramila has yet to visit Agastya although she is very keen to do so in the near future. Her children tell her that, when they go to Agastya, they do not want to come back home.

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## SPREADING THE WORD ABOUT AGASTYA



### Mr. Y. Rajeshwar Kumar

Ex Mandal Resource Person (MRP),  
Gudupalli Mandal,  
Kuppam Division,  
Chittoor District

### OFFICIALS

On his arrival in Gudupalli Mandal as a Mandal Resource Person (MRP) in 2006, Mr. Rajeshwar Kumar heard about an institution called Agastya that was doing exceptional work that benefitted both students and teachers.

In his capacity as MRP, Mr. Kumar was responsible for instructing teachers on how to conduct the various Sarva Shiksha Abhiyan (SSA) programmes. As soon as he got an opportunity, Mr. Rajeshwar Kumar visited the Agastya campus in Kuppam and he says, "I was very excited when I saw the beautiful campus and how involved the children were in their work." He encourages students and teachers to participate in Agastya programmes, like their Young Instructor Leader (YIL) initiative, Operation Vasantha, and outreach work, which is carried out by their Mobile Labs. Ms. Jayamma, who is in-charge of Operation Vasantha would inform him about Agastya's activities, which he passed on to schools that he visited. During a training programme for teachers that was conducted by the SSA in Gudupalli Mandal, Mr. Kumar took resource persons who had come from Madanapalli, to Agastya's Kuppam campus. They commented that the teachers in Gudupalli were very lucky to have easy access to Agastya, and requested Agastya to conduct similar programmes in their *Mandal*.

Mr. Kumar finds that in schools, the projects are the same all year around. At Agastya however, children get to learn new things all the time. Unlike schools which use the lecture method of teaching, Agastya teaches science practically. Agastya teachers are very involved and interested in teaching their students. "There is plenty of learning material for teachers, available in Agastya."

Mr. Kumar states that, after being exposed to Agastya, children are more disciplined. "Agastya has taught children to respect others and has given them moral values," he says. The parents of the children are mainly illiterate but they know about Agastya through their children. Mr. Kumar says that, because of Agastya, teachers now include practical experiments in their lessons. Teachers also share Agastya's methodologies with their friends and colleagues from other *Mandals*.

Mr. Kumar especially likes the environment at Kuppam campus. He is also very impressed with the Agastya teachers. He feels that the Agastya model should be replicated in other areas because the students there learn so much, and because what they learn continues to have a positive impact on their daily lives and their future.

The journey from curiosity to creativity



## ONE STUDENT CHANGES, THE WHOLE VILLAGE CHANGES



**Mr. B. Krishnamurthy**

*Sarpanch,  
Cheekatipally  
Panchayat*

**PANCHAYAT**



**W**hen Krishnamurthy was studying for his B.Com degree at Dravidian University, he came to Agastya and learned how to get involved in efforts to improve communities. After his exposure to Agastya, he asked them to start a night community centre (Operation Vasantha) to teach the children in his village and help them with their homework. Krishnamurthy helped Ms. Jayamma of Agastya, go door to door every evening, to ask children and school drop-outs to come to the community centre. Started five years ago this centre is running successfully even today.

Krishnamurthy has been extremely active in encouraging students to go to school. With financial support from Agastya, in the form of scholarships, he helps lots of students. Three boys named Balaraju, B. Naveen, and Mallikarjun, were dropouts. With Krishnamurthy's intervention, Naveen finished his intermediate, and is now working in Bangalore. Krishnamurthy helped the boys with uniforms and Agastya helped with stationery and school fees. With Agastya's help he identified poor girl students in a neighbouring village, motivated them and sent them to a girls' school. Earlier, parents were not willing

to send their girls to school or even to the community centre. After Agastya raised awareness, parents started sending their girls to school.

During Operation Vasantha sessions, when the students brought up social problems, such as poor garbage disposal systems, Krishnamurthy personally distributed dustbins to every house in the *Panchayat*. He is also planning to ask Agastya for help in providing big dustbins for the streets of his village. He says, "One teacher changes thousands of students. If students learn better things, they will spread the word. That is what Agastya is doing. If one student changes, then the whole village will change." Krishnamurthy said that ten years ago he was the first person in his village to complete his tenth standard and then do B.Com. "Now thanks to Agastya there are a lot more."

Finally, when asked about his work, Krishnamurthy says that as a *Sarpanch* and social worker he can look after everyone, which regular people with regular jobs cannot claim to do.

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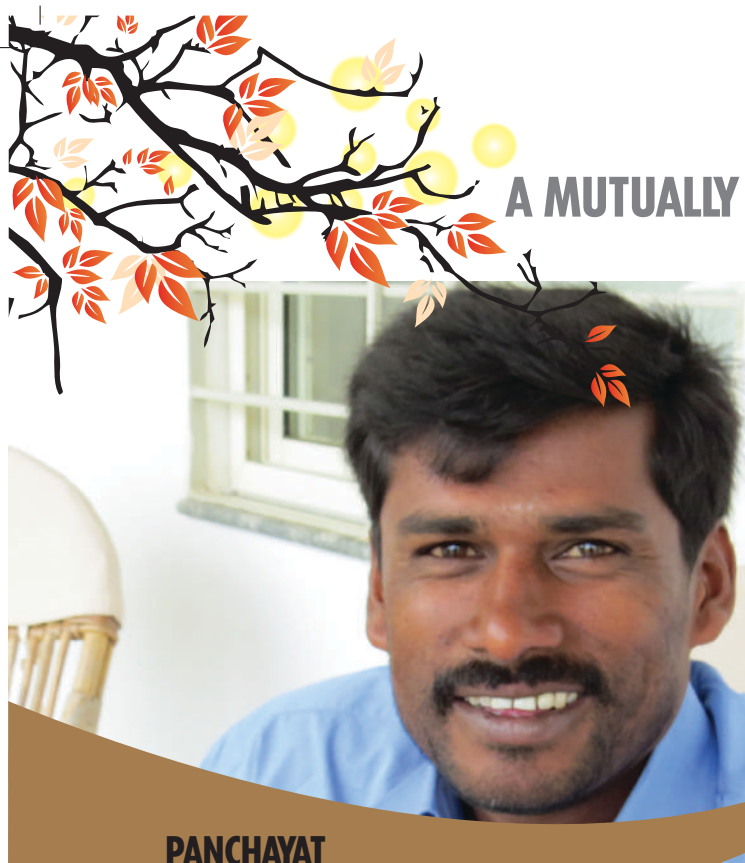
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## A MUTUALLY BENEFICIAL RELATIONSHIP



### Mr. L. Ramesh

Ex Sarpanch,  
Kodathanapalli  
Panchayat

### PANCHAYAT

In 2000, when villagers heard that the government had allotted 170 acres to some organization, they became suspicious and afraid they would not be able to graze their cattle on that land. Subsequently, the District Collector, *Tahsildar* and the Mandal Parishad leader met the villagers and enlightened them on Agastya's objectives. They clarified the various issues that villagers were worried about and also explained that Agastya would create jobs for the villagers.

Ramesh was happy that Agastya's Mobile Labs visit villages in the area spreading awareness and distributing medicinal plants free of cost. He himself has planted mango, *jamblum*, goose berry, and lemon grass, with seeds from Agastya, on his land. He has spoken to some headmasters to send their children to Agastya along with a teacher. Ramesh also helps Agastya staff members identify volunteers for the Operation Vasantha program. He follows up and ensures that children attend these classes.

In the 14 years of his association with Agastya, he has seen many changes in the children and their parents. Because of Agastya, daily wage labourers are getting employment and children attend science classes on campus every day.

All the parents also encourage their children to go to Agastya. Earlier children would fail in seventh standard and then would leave for Bangalore searching for daily wage work. He said, "Today, because of Agastya, the children are scoring high marks in their studies and many of them are opting for higher studies like teacher training, nursing, the army and even polytechnic colleges." He added "I even sent my nephew to Agastya every Sunday to improve his marks. Today he is in the army."

The teachers too are learning from Agastya, methods they did not learn in school or in their training courses. Teachers copy the Agastya instructor's style of teaching. They visit the campus to learn how to do experiments.

Ramesh says, "I like how Agastya's Mobile Labs go to schools to teach children science and also how they bring children to campus to learn new things. I want more children to visit the Agastya campus to learn." Ramesh also said, "Earlier no one knew of the existence of the villages of Kodathanapalli, Gudichembagiri, Gudupalli, Chinnagollapalli, or others. But today, if you go to other states, everyone knows these villages and it is all because of Agastya."

The journey from curiosity to creativity



## THE AGASTYA EFFECT



**PANCHAYAT**

### **Mr. P. Gopinath**

Ex *Sarpanch*, Kuppam  
and presently the  
Publicity Secretary,  
Kuppam constituency,  
Telugu Desam Party



**W**hen Mr. Gopinath first heard about Agastya Foundation, he was critical and unsure of their intentions. In time, Mr. Gopinath and his group saw that eminent people such as former President of India, Dr. Abdul Kalam visited the Agastya campus, and recognized the value of the work they were doing. As a result, Kuppam got a lot of visibility and this made their *Panchayat* very proud. They began to warm up to Agastya and appreciate its work. Mr. Gopinath says that he was grateful to Agastya for teaching science to poor children.

The public schools had no science labs and taught with text books. At Agastya however, children learn in a hands-on manner about scientific concepts. Besides educating the children of Kuppam, Agastya also benefits the community. They provide employment, and build awareness amongst locals in many different areas.

According to Mr. Gopinath, before Agastya set up their campus in Kuppam, children were very backward in their education. Now, children participate in science exhibitions and their interest in science has increased. Children from Kuppam have even gone to America to participate in science competitions

there, and demonstrate their knowledge of science. In conclusion he says, "If not for Agastya, how would our children get a chance to go to America? They don't even have the opportunity to go to Bangalore!"

Now that the children are going to the campus, the parents are taking more interest in their children's education, ensuring also that they dress and eat well. Today parents can see that the children's minds are expanding; they have started questioning their parents.

Earlier, the teachers did not impart any science knowledge to students. But after exposure to Agastya, the students would come to school and ask questions, which teachers struggled to answer. As a result, teachers themselves started visiting the Agastya campus to learn more about science. Mr. Gopinath said that unlike before, today there are science competitions held at the district headquarters where many schools participate. This is all due to Agastya and the interest they have instilled in science.

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## KNOWLEDGE IS [TAX-FREE] CAPITAL!



### Mr. C. Subramaniam

Gram Panchayat  
Secretary,  
Kodathanapalli and  
Agaram Panchayat

### PANCHAYAT



**M**r. Subramaniam's office also collects property tax. Mr. Balram from Agastya visited the Panchayat office in 2007 with regard to taxes. During his visit, he briefed Mr. Subramaniam about the history of Agastya and the work they did with under privileged children. When Mr. Subramaniam finally visited Agastya's campus, his immediate thoughts were, 'How can I mobilise children and teachers to come here, and how can I get people from nearby villages to take up daily wage work on this campus?'

According to Mr. Subramaniam, Agastya chooses one school every day and they transport the children from this school by van, to their campus. He says, "In school, the students only read books. But when they come to Agastya, they learn practically. Even the teachers learn this way of teaching from Agastya." While he does not know the specific names of the programmes conducted by Agastya, he nevertheless tells students and teachers to visit Kuppam campus and see everything they are doing there.

Mr. Subramaniam believes that children's behaviour has changed as a result of their exposure to Agastya. They speak better and speak English more fluently now. Teachers also visit

Agastya to learn how to teach science in a more practical manner. Parents are now aware that their children go to Agastya campus to learn lessons through experiments. "The parents do not know what experiments mean because they are illiterate, but they know that their children create different things in Agastya," he says. He is also pleased that Agastya children have won national-level science competitions. He was immensely proud of the children in his constituency when they performed in front of former President of India, Dr. Abdul Kalam, "It was a great, great feeling! I never imagined that our children would perform in front of such a great person."

As an officer who collects house tax, Mr. Subramaniam really appreciates the natural and beautiful manner in which Agastya's buildings have been constructed. He also likes the way Agastya educates children since they are, "taught to think practically." Mr. Subramaniam is of the opinion that in Agastya, children learn much more than what is in their text books, because they become skilled through experimentation. Agastya's model should therefore be replicated in other areas as well.

The journey from curiosity to creativity



## BRINGING OPPORTUNITIES



### PANCHAYAT

Around five years ago, a team from Agastya visited a school for the deaf and dumb with free plants. The students from the school also visited the Agastya campus and learnt how to use computers. Two girls, one from Poduru village and another from Nalagampalli village went to America to present a project. This news was published in the local newspaper. This is how Mr. Varadarajulu first heard about this foundation.

Mr. Varadarajulu said that students from different schools and villages board the Agastya bus and visit the campus to get more knowledge. He said, "It was because of Agastya that our children got the opportunity to visit America."

As the *Sarpanch*, Mr. Varadarajulu visited Agastya and was astonished by the various charts, models, and projects that the diverse labs have. He also observed the different methods that instructors use to teach. Agastya distributed free plants to schools in his village, and he learnt the importance of this activity. He is aware that Agastya provides scholarships for needy school students.

Mr. Varadarajulu's view is that before Agastya's arrival, children did not even know their alphabets nor were they even

interested in school. Today however, children are in the mood to study and stay in school. Not only has their performance in studies improved, they speak and behave better. Agastya has set up community centres in his *Panchayat*, and this has benefitted the children tremendously. Women in the village also attend the community centre to learn to read and write.

Earlier the parents were not keen to send their children to school and college to study. They wanted to get their children married as soon as they completed their tenth standard. But due to Agastya's influence, parents are taking an interest in their children's education and they want them to get good jobs.

Mr. Varadarajulu said that since schools in the area did not have models to show the students experiments, the teachers now travel to Agastya and learn how to do experiments and then teach their students. Now the teachers are showing more responsibility and interest in their student's education.

Finally, Mr. Varadarajulu explained that there is a person from his village who works at Agastya. He said that his *Panchayat* has many educated people and he wants Agastya to create more job opportunities for people from his constituency.

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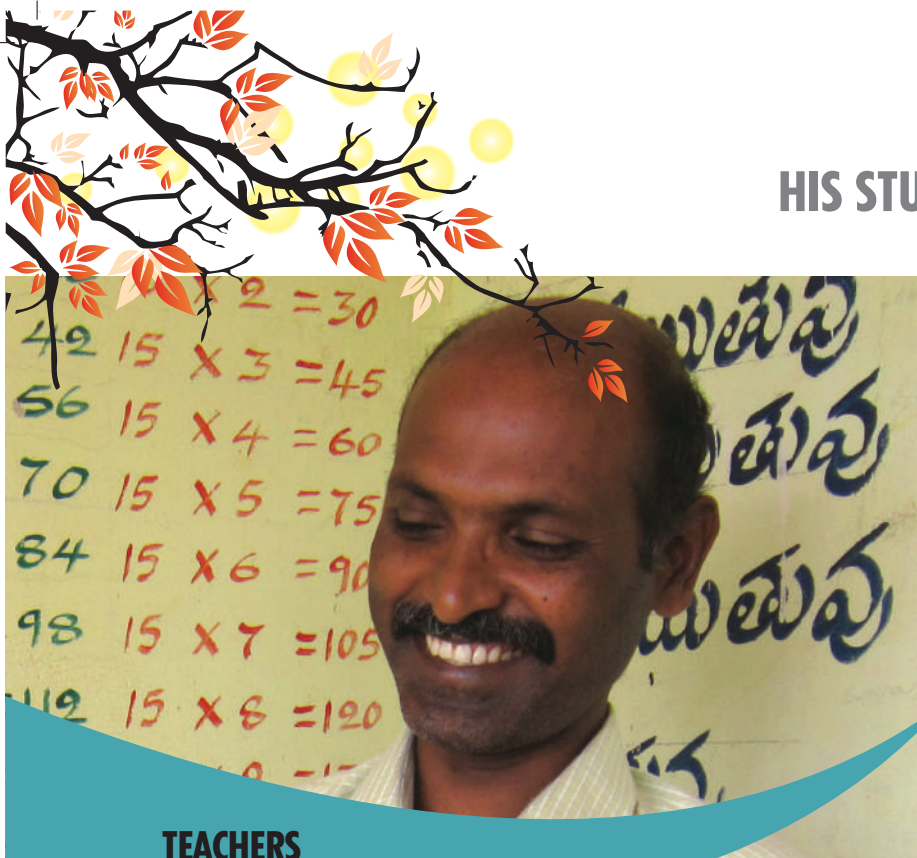
Innovation Fairs

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## HIS STUDENTS' STUDENT



### Mr. Chandrasekhar Reddy

Science and Mathematics teacher, Bissanatham Primary School

## TEACHERS

Chandrasekhar Reddy teaches science and mathematics at Bissanatham Primary School. When he joined the school, he was struck by the children's scientific aptitude and confidence. Unlike their contemporaries in other government schools that he had taught at, BPS students were already well-versed in various scientific concepts and experiments. They could understand material from their textbook not only because they had already been exposed to it, but also because their exposure had included hands-on learning. Sometimes they would teach him things. For example, when he had to explain how rainbows are formed, a few students said they had already learnt it at Agastya and insisted on explaining it themselves. Chandrasekhar was so impressed with the quality of their instruction, that he started using their approach to teach other students.

He learned the students' prowess was due to their involvement with Agastya. Mr. Reddy first heard of Agastya in 1998, when he was invited to a meeting in which Agastya showcased their low-cost, hands-on methodology to a large group of school teachers and government officials. He was introduced to interesting models that had tremendous potential for use in the classroom. It was only after joining BPS, however, that he participated in the Agastya programme.

In 2012, the Government of India introduced the INSPIRE awards. Every year, teachers in government schools nominate two students—one each from the sixth and the seventh standards—who are interested in, and have shown a flair for, science and mathematics. The school is then awarded Rs. 5000 per student, to help them develop and execute a science project, either on their own or in collaboration with organisations like Agastya. Chandrasekhar had visited Agastya and was eager to use their facilities to create models and experiments with his students. Since 2012, Chandrasekhar has mentored his INSPIRE awardees, with help from Agastya to craft models.

Every month, he attends one day of in-service training delivered by Agastya, at their Kuppam campus. Teachers are shown how to make their subject interesting by incorporating new methods and models.

When asked if his students' precociousness has ever bothered him, Chandrasekhar merely laughs. As long as he is learning something new, it does not matter where he is getting the information from, he says. He is happy to blend Agastya's teaching methods with his own. It gives him great joy, when students take charge, since that is precisely what he believes teachers should aim for.

The journey from curiosity to creativity



## “EDUCATION HAS BECOME EXCITING”



**Ms. K.S. Jayabaduri**

Teaches Hindi at  
KGBV, Shanthipuram

### TEACHERS

Outposts of the government's public school system, KGBVs are residential higher secondary schools for girls from poor and remote rural backgrounds, who would otherwise have little access to a secondary education. Jayabaduri finds that Agastya's vision reinforces and strengthens KGBV's mission, which is to mainstream children from marginalised communities by guaranteeing them an education. Agastya's presence in their lives has benefited her students, by whetting their appetite for learning, while helping her grow as a teacher and a community leader as well.

Jayabaduri emphasize that, when students visit Kuppam, they are exposed to adults and children from different backgrounds who speak different languages. As a result, the children's interest in learning and speaking new languages has grown. As their communication skills and confidence have developed, Jayabaduri's students have started speaking in whole sentences, instead of just a few words. Her students' interest and prowess in Hindi have forced Jayabaduri to improve her own knowledge of the language.

As she puts it, “Without Agastya these children wouldn't have developed this well, this fast. This is a 'backward' region. Children are doing as well as they are only because of Agastya.”

Many KGBV kids are ex-dropouts who decided to return to—and stay in—school, because of Agastya. “They see all these exciting things; *education* has become exciting.”

Jayabaduri recounts the story of three sisters. Their father is a recovering alcoholic who was violent and forced the girls to work instead of going to school. After coming in contact with Agastya, the girls decided that they were going to enrol in the local KGBV. They encouraged their mother to leave town and find work in Bangalore, and gave their father an ultimatum: sort himself out or get out of their lives. Eventually his condition improved; he returned home and asked his family to take him back. “They had this courage,” Jayabaduri says, “this ability to communicate with their father, to speak up because he was doing something wrong. This knowledge came from their exposure to different types of people in Agastya. This is where they got their skills.”

Agastya has inspired Jayabaduri to encourage drop-outs to return to school. In fact, Jayabaduri is paying fees for two young students who lost their parents to AIDS and were being shunned by locals. She is clearly deeply loved by her students, who cluster around her whenever she's around.

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## "AGASTYA: GOD'S GIFT TO US"



**Mr. R. Ravi Kumar**

Headmaster,  
ZPHS, Chinnagollapalli

### TEACHERS



**R**. Ravi Kumar is a busy man. As a 'gazetted' Headmaster (HM) he oversees the running of all high schools within a six kilometre radius. He believes that Agastya is "God's gift to us." It has made his job as HM, which is to support teachers and motivate children, more manageable since, "Half of my work has already been done by Agastya; they tackle the children and I can focus on motivating staff." Thanks to Agastya's efforts, students have become much more proactive. For example, during the daily assembly sessions these days, students "are willing to come onstage and speak boldly without fear." Ravi Kumar ascribes these changes to Agastya's Young Instructor Leader (YIL) programme.

When he approached Agastya for ideas on how to get students to take responsibility for various school-based activities, they referred him to the school's YILs. The YILs organised themselves into four houses, each manned by a captain. Members of each house take turns conducting morning assembly, teaching moral studies and cleaning the school premises. As Ravi Kumar sees it, the ability to organise, to form groups whenever they are given specific tasks, to work as a unit, and to solve problems through discussion and dialogue are the broad benefits that his students receive from the Agastya programme.

YILs take their role as mentors very seriously. Ravi Kumar recounts one particular incident. A tenth standard YIL was late coming to school one day. He approached Ravi Kumar after that morning's assembly to apologise for being late. He told Ravi Kumar that he had visited a friend that morning, who had been absent for a couple of days. Afraid he would stop coming entirely the YIL had spoken to him and urged him to return. After some persuasion, the friend relented and accompanied the YIL to school. Ravi Kumar says that the dropout rate is now negligible because both he and the school YILs actively encourage student enrolment and attendance.

Ravi Kumar also speaks with quiet pride about some of his YIL students who participated in the Google Science Fair. While the students are smart and capable, they would not have even known about the competition if it hadn't been for Agastya. Kuppam district is, he cautions, "a very remote area; it is developing slowly. Most of our government school students have never even seen a laptop in person. Now, Agastya is helping to improve the calibre of government school students."

The journey from curiosity to creativity



## TEACHING THE AGASTYA WAY



**Mr. M.R. Ramachandra**

Mathematics teacher,  
APMS, Gudupalli

### TEACHERS



An ex-Agastya employee, Ramachandra currently teaches science in standards six to eight at the A P Model School (APMS). A Trained Graduate Teacher (TGT) in Mathematics, Ramachandra counts the two-and-a-half years that he worked at Agastya as some of his most formative. He created new models, particularly for the teacher training programme in Constructivism, and wrote the accompanying instructional literature. Ramachandra credits Agastya with helping him learn how to teach using an interactive, hands-on approach. He also learned the importance of a holistic approach to any subject: "In schools, when teaching subjects like biology, we *only* taught biology; in physics *only* physics. We wouldn't go beyond that. At Agastya, on the other hand, the approach is integrated; we interlink subjects. You can take one topic and use it to explore multiple subjects."

Echoing teachers like Usha Rani, he continued, "At school the goal is only to cover the syllabus. If you draw on other subjects, those subject teachers take it personally. Here I am forced to focus on the syllabus because that's what the officials assess when they come down." This results in a controlled, rigid classroom environment that discourages freedom of expression, and inhibits student participation. Agastya, in stark contrast, has a stress-free, encouraging attitude that nurtures students' hidden potential, and gives them the scope to express

their desires and thoughts. As a result, their communication and interpersonal skills flourish.

Ramachandra says that the nearly 65 Young Instructor Leaders (YILs) in his school have a scientific attitude that is unique and above average. They attend science workshops and meet practicing scientists which allows them to develop a nuanced and discerning world-view. Quick to respond to questions and eager to help their peers, the YILs' enthusiasm is boundless. Each time they learn something new, they share it with their teachers and schoolmates. The school now has a special lab allotted to YILs, where they can recreate and then demonstrate models and experiments for their peers.

Ramachandra is convinced that, "If Agastya didn't exist in this area the public school system would be 10 years behind the rest of the country. Schools still don't have basic equipment like test tubes. Even in the district headquarters, Chittoor city schools lack these facilities. [Moreover] this model school [government schools that other schools emulate] has greater potential for development than model schools in other areas only because of Agastya's influence."

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Young Instructor Leader

Innovation Fairs

Young Innovator

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## AGASTYA'S PRINCIPAL FAN!



**Ms. Usha Rani**

Headmistress and  
Teacher,  
MPPS Gudupalli

### TEACHERS



**U**sha Rani, Headmistress and teacher, cherishes her school children like they are her own. Over the years, she has witnessed firsthand, Agastya's impact on students and teachers alike. Meant for standards six and above, Agastya also welcomes small children. Taught to draw and paint, they develop their fine motor skills, and learn about space, shape, and form. The older children conduct experiments and explain scientific concepts which they share quite eagerly with their teachers and peers.

Agastya gives students the kind of one-on-one attention that they crave but can't receive in India's understaffed government schools.

Parents too have noticed their children's enthusiasm for school; this has led to a decline in child labour and a near 100 per cent student enrolment and retention rate. Once sceptical, "parents now have awareness; they work hard and don't want their children to struggle like them when they grow up. They want their children to get an education because they feel that their kids are actually learning something at school, children come and share what they have learned at Agastya and at school with their parents."

Agastya's Operation Vasantha, an afterschool programme, is conducted from 5 to 7:30 pm every day. A volunteer, typically an

ex-Agastya student, oversees the classes. This programme creates an environment where students can review lessons, complete assignments, and clear doubts. Before Operation Vasantha, children either worked in the fields, or watched television at home. Parents employed in Bangalore return well after dinner time leaving their daughters to cook dinner and feed their siblings. These gendered expectations are evaporating, with Operation Vasantha presenting a viable alternative.

Other programme outcomes include improved personal hygiene since children now cut their nails, comb their hair, and wash their government issued uniforms daily. Without Agastya, says Usha Rani, "The schools in Gudupalli wouldn't have this standard. Now 'C' and 'B' grade students can get the help and attention they need. So 'C' students are becoming 'B/B+s', and 'B' students have become 'A/A+s'. At least 80% of our students have become 'A' grade students."

Teachers too benefit. They learn to link theory with practice, and use experiments to make their teaching more effective. Spread thin, a government school teacher's goal is to complete the year's lessons; dispensing with depth and creativity. Agastya lightens teachers' burdens by covering portions of the syllabus during demo classes.

The journey from curiosity to creativity



## GREEN AMBASSADOR



**Jhansi Rani**

2<sup>nd</sup> year B.Sc  
Horticulture, Nellore

### AGASTYA ALUMNI



This carpenter's daughter transformed into a nature lover and an ambassador to fight Global Warming thanks to her exposure to the thought processes of Agastya. From the very young age of 11 years when Jhansi was in the sixth standard, Agastya started inculcating a love for trees in her and other students.

"I am not a bad student but I learnt ten times more by watching, observing and doing things rather than sitting in a classroom, thanks to Agastya," says Jhansi Rani, who aims to become a horticulturist and plant trees wherever possible. "It is not just the way of teaching that I like in Agastya, but also their way of thinking. It moulds our thought process and the way we think and act for the good of society. The positive aspects of living and learning are now etched in my mind. That is what shapes the future citizens, not just passing out from school or getting degrees," she asserts.

Thrilled by the hands-on experiments and the innovative way of teaching and learning, Jhansi was addicted to the Agastya style of thinking, and she opted to attend summer camps. "Unlike the regular visits, summer camps provide us with a lot more time to learn. I really enjoyed spending my holidays at the campus and those were some of the best days in my life," she declared.

Exposure to the Agastya way of learning has had a deep impact on her goals and life. She was selected for the IRIS National Science Fair along with another Agastya student, Roja. They travelled to Kolkata in 2008 where their project on Global Warming was selected from over a thousand submissions. She reflects, "Getting selected itself was a big achievement. The preparation, learning to speak in English and the long travel with a lot of hope was a life-changing experience."

After finishing her B.Sc., Jhansi Rani wants to teach other children about the effects of Global Warming and how to make small changes in their own lives to protect the environment from deteriorating.

Jhansi Rani feels that there is a definite change in the way she thinks and behaves. "A scientific and positive approach to many small things around us, brings about a great impact on our lives and the lives we touch. I overcame fear and learnt leadership qualities to lead a value-based life. Now I want to teach and spread the message," concludes the Young Instructor Leader from Chittoor district.

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## FROM KUPPAM TO PITTSBURGH



### Jyothsna

1<sup>st</sup> Year of B.Sc in  
Mathematics, Physics  
and Chemistry  
Vikas Junior College

### AGASTYA ALUMNI



**B**efore she visited Agastya in the fifth standard, Jyothsna had neither seen a model nor done any experiments. All this changed once she became an Agastya Young Instructor Leader, and participated in the IRIS National Science Fair, which eventually took her halfway around the world.

For IRIS, Jyothsna and her friend Bhargavi chose to determine which plants, when planted in the dividers along the national highways, could best convert carbon dioxide into oxygen. They named their project “A study for growing oxygen on highways”, and started off by selecting six plants—three shrubs and three trees. They took one fresh and one dry leaf from each of the sample trees and shrubs, and soaked them individually in a tightly lidded glass jar full of water. They then exposed all twelve jars to three hours of sunlight each, after which they examined the number of bubbles in each jar, to gauge the amount of oxygen produced. The more the bubbles, the greater the amount of oxygen produced.

The Singapore Cherry Tree and the *Vitex Negundo* (Five-leaved chaste tree) shrub were the most effective. IRIS chose the girls' experiment awarding them the Broadcom Masters International Award in the Junior Category, and thus gave them a chance to go to Pittsburgh, U.S.A.!

Over the next six months, Jyothsna learned how to present herself and worked on her English and communication skills. Jyothsna's trip to the other side of the world took 18 long hours via Delhi, Dubai, and Atlanta. Since it was Jyothsna's first time flying, she found the landing and take-off really scary!

Jyothsna found that Pittsburgh was very cold, very clean, and had very tall buildings. During her seven days there, she made good friends with children from China, Saudi Arabia, and Mexico! She was able to see lots of different projects and do many experiments with her peers.

Jyothsna's ambition is to find a cure for AIDs, which she hears from various media, is a big problem in India. In the mean time she wants to do her masters in physics, since everything we see in our daily lives can be understood through physics.

If it weren't for Agastya, Jyothsna would never have had the chance to participate in IRIS and travel to America. Her school life would have been ordinary and her confidence would have been low. Now she can speak freely with everyone, and is able to think deeply about everything.

The journey from curiosity to creativity



## AN INEXTINGUISHABLE FLAME



### AGASTYA ALUMNI

#### C. Poornima

1<sup>st</sup> Year of B.Sc in  
Mathematics, Physics  
Chemistry

IRM Degree College



Poornima was first exposed to Agastya in the fifth grade, when the Mobile Labs came to visit her school. It was that summer, during Agastya's summer camp, that Poornima realised that she could learn a lot more if she actually got her hands dirty.

Once she became a Young Instructor Leader (YIL) in the seventh standard, Poornima noticed a gradual but definite change in her personality. The YIL programme's emphasis on peer teaching, in addition to all the encouragement she received from Agastya, helped her grow more self-confident. Her English started to improve and so did her newfound sense of self-assurance.

As a YIL, Poornima counselled many dropouts and their families. One of her friends' parents, for example, wanted their daughter to stop going to school and work instead. Getting wind of this, Poornima and a group of her friends went to the girl's house and urged her parents to send her back to school. Poornima points out that in villages parents don't think there is any need for girls to study. They focus on getting them married instead. Some of Poornima's relatives also told her to stop studying and get married fast. Poornima's father refused and stated clearly that she can study for as long as she wants.

In the ninth standard Poornima and her friend Nandhini came up with an idea to make a low cost fire extinguisher. Agastya instructors helped them develop their ideas and to test bottles of different shapes; varying syringe sizes and distance between the syringe and the wire above it. Their model used a spirit lamp to heat the air. They submitted their project to IRIS, and were selected to present it in Mumbai.

Poornima and Nandhini received the National Award for their project. Poornima cried tears of pure joy when she was called up to receive her prize. At home, Poornima was greeted by her overjoyed parents, relatives, and teachers. At school, she was praised by her peers with her headmaster publicly commending her achievements.

Her ambition now is to become a physics lecturer and to help support her family. Poornima is grateful to Agastya for exposing her to such great things.

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## AGASTYA ALUMNI

## THE POLITICIAN

### Raj Kumar S.

2<sup>nd</sup> year of PUC

MFC Government  
Junior College,  
Kuppam



**R**aj Kumar first came to Agastya in the sixth standard and still remembers his excitement prior to each Kuppam campus visit. The beauty and greenery of Kuppam campus stirred his interest in environmental studies.

Raj participated in a number of competitions as an Agastya student, including quizzes and Science Fairs. He fondly remembers a model that he got to display at a Science Fair in the eighth standard, which was a two-dimensional depiction of urban areas and forests. He showed how human activity creates trouble for the environment, with urban centres releasing pollution into rivers that cause the fish to die. His model showed one side as a forested area and the other as urban.

He is now studying CEC (Commerce, Economics and Civics) in second PUC (pre-university college) because he wants to become a politician. In normal jobs, only the individual benefits. Raj believes that if he becomes a politician, or a *Sarpanch*, he will be in a position to benefit the whole community by solving his constituents' problems. He is inspired by the story of Alexander the Great, who loved a girl whose father despised Alexander because he had a small kingdom. Alexander nevertheless, grew into the most powerful man of his time.

Raj has some interesting ideas about corruption in the corridors of power. He plans to play the game of power in order to vanquish those in power. In keeping with the monarchical analogy, Raj Kumar believes that there are two types of kings, the honest kind and the untrustworthy kind, and since "the bad guy has more power; you need to join forces with the bad guy, and dismantle his kingdom from within!"

He is glad he actually got to see and hear ex-President Dr. Abdul Kalam, who came to inaugurate an Agastya programme in Bangalore. He had always wanted to meet an honest leader, and was pleased to have been able to do so.

Despite his political ambitions, Raj Kumar's interest in the environment has not diminished. In the seventh standard, Raj Kumar planted Guava trees—which now bear fruit—and some shrubs outside his house, in what was once barren land.

When he finally becomes an MLA, he plans to help fund Agastya's programmes.

The journey from curiosity to creativity



## BACTERIA BUSTERS: A LOW-COST HAND SANITIZER



### H. Sivananda

1<sup>st</sup> year of PUC  
Biology, Physics and  
Chemistry

Gudupalli College

### AGASTYA ALUMNI

Sivananda is proud to be a Young Instructor Leader (YIL) as “there is a special status attached to it.” This bright young man with humble roots interacts with local government officials and participates in the affairs of his village in order to effect lasting change.

Sivananda also has a very creative scientific imagination. The birth of his nephew inspired Sivananda to develop an organic, low-cost hand sanitizer. Sivananda noticed that his sister and her newborn were bathing in water infused with guava and hibiscus leaves. When he questioned his aunt about it, she told him that herbal baths were customary for new mothers and their babies. Dissatisfied with the answer, Sivananda approached an Agastya instructor, and asked for an explanation. She mused that the herbal paste probably had anti-bacterial properties, since babies and their mothers are vulnerable to infection.

Determined to test this hypothesis, Sivananda approached his friend Mani for help. The two boys decided that they would acquire samples of two widespread and highly contagious bacteria to test the anti-bacterial potential of Guava and Hibiscus leaves.

After procuring bacterial samples, they cultivated two pairs of each bacterium in petri dishes. They then created two different

herbal tinctures by steeping the leaf samples in ethanol in order to extract their juice. Small discs cut out of filter paper were then soaked in the leaf extracts and placed in the petri dishes. After 24 hours the duo noticed a circle appear around each disk, indicating that the bacteria lining the perimeter had been killed. After measuring the width of the gaps, Sivananda and Mani found that the Guava leaf tincture had precipitated the widest circle in both the bacterial samples.

With their findings, the two boys decided to create an affordable hand wash. They combined rose water, soap nut, glycerine, ethanol, and guava leaves to make their low-cost hand sanitizer. While the average hand sanitizer costs about Rs. 40-50, the boys say it cost them under Rs. 20 to make their version. Sivananda and Mani are justifiably proud of the special mention award for their entry at the 2012 IRIS competition, held in Delhi.

When he grows up, Sivananda wants to become a genetic engineer. Having lost his mother to a heart attack, he wants to reengineer the faulty gene that triggers cardiac arrests, and transform them into 'good genes.'

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## LEADER AND THINKER



**Johnson. Y**

B.Com,  
Kuppam

### AGASTYA ALUMNI



From being a silent, shy boy to an articulate thinker and leader was an eight-year journey that began when Johnson was exposed to Agastya's methods of teaching in 2006 along with fifty other eighth standard students from his school.

"I had a lot of stage fear. I had a lot of doubts. Every time I had to talk, I would be gripped with fright. Sitting in a classroom in school I found it is very difficult to express myself. However, when we went to the Physics Lab in Agastya's Kuppam campus, we did things differently and found the teachers very friendly. So I was able to ask a lot of questions and many visits later, my stage-fear vanished and I am very confident now," says Johnson, with a proud smile.

Another instructor, helped him lose his inhibitions and learn English. "Right or wrong, unless you start speaking you will never learn English," is the message Johnson, the son of a carpenter, says he will never forget. "We had English speaking classes before we went to the first Nationals, a Science Fair

called Initiative for Research and Innovation in Science (IRIS) in Kolkata. We also learnt a lot of small but very useful things like talking to the judges, being precise and to the point while speaking, etc.," he adds narrating the learning that laid the foundation for his spoken language skills.

Johnson has completed his B.Com and is now working as an accountant in an NGO. He helps his father in carpentry during his free time as he loves to keep himself busy, a trait that got ingrained during his Agastya days. "Coming from a rural village I know the drawbacks that have to be overcome. But thanks to my Agastya experience, I have become confident and creative. I have learnt to think big and the teamwork and values I learnt will stand me in good stead in my job. I want to serve society and in my own way I want to make a difference in the lives of the poor and marginalised," he says.

The journey from curiosity to creativity



## LEARNING MATH CAN BE FUN



### Varaprasad Karnam

Studying Chartered  
Accountancy in Bangalore

### AGASTYA ALUMNI

Varaprasad lost his father before he was two-years old, and was brought up by his mother (a nurse) and grandmother. No different from any other student studying in a Telugu medium government school, it was the visit of an Agastya Mobile Lab that changed his life. "When I was in the eighth standard, there was a campaign in which the Mobile Lab was the star attraction. Later, we students were taken to the Agastya campus. I was afraid but once the teaching started, I relaxed. The atmosphere was so congenial and the teachers so sensitive that my fear vanished. I made four trips to the Agastya campus that year and anxiety and fear turned into interest and curiosity," says Varaprasad, who is now on a career path to become a Chartered Accountant.

Though Varaprasad started with the Science Lab, it was the Mathematics Lab that caught his interest. He visited the Agastya campus over 20 times in the ninth standard as he became a Young Instructor Leader (YIL). "Usually all our learning in school is theoretical. But children are very creative and they get a lot of ideas which are brushed away as childish thoughts. For want of right tools and teachers, gifted students are lost in schools. I was fortunate to get the support of Agastya, who creates a lot of interest in students to become creative while the models and

various tools in the Lab makes one yearn to do something to learn. Hands-on learning instead of just reading is fun and effective," says Varaprasad.

Along with two other students, he took part in the prestigious National Science Fair, IRIS, in December 2008. Their project 'Cooling effect of bottles' was one that got selected for the Fair from over a thousand projects across India. "Teachers in our education system usually bulldoze and dump information into the minds of students and the teaching is mostly one-way traffic. I was lucky to have an instructor like Mr. Natesh in the Science Lab. My first incident at the Physics Lab which will be etched in my mind forever is the Theory of Rhombus. So many times I tried to do it and understand it, but in vain. But the way he taught, I understood it immediately and I will never forget it in my life. Then I realised, even in mathematics, we can do things scientifically and in an easy way," he excitedly quips as he talks about his role model.

"Without the encouragement from his mother (a nurse) and the fellowship from Agastya, I would have never realised my dream of pursuing a career in Chartered Accountancy," he concludes.

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## AGASTYA INSPIRES BIG DREAMS



### PARENTS

#### Father

**C.K. Sivamani**

School Teacher, MPPS  
Vanadapalli Kuppam  
Mandal

#### Mother

**S. Sheaneej**

Lecturer, MFC  
Government Vocational  
Senior College

#### Daughter

**Jamila**

According to Jamila's parents, their daughter Jamila has been progressing in leaps and bounds since her exposure to Agastya. Mr. Sivamani has visited Agastya's Kuppam campus many times and says that the environment that Agastya has created is ideal for learning. The children are keen to visit Agastya, because they use models to teach difficult concepts that students normally struggle with at school.

During her time at Agastya, Jamila has grown increasingly more interested in science. These changes have positively affected their home life as well, says Jamila's mother Sheaneej, who is a lecturer at MFC Government Vocational Senior College. Jamila did a project on how best to reduce heavy metals in the Kolar Gold Fields. She would come home every day and discuss her project with her parents. The family is now against mining as a practice as a result of which Sheaneej has even stopped buying gold. Jamila's interest in the arts has grown as well. Now, on holidays, Sheaneej and Jamila visit Agastya's Art Lab and create small decorations together. These occasions provide the pair good opportunities to bond.

Her parents note that Jamila is first to stand up and explain concepts as well as answer questions in class, while her

confidence and interaction with her peers has increased. Having met former President of India, Dr. Abdul Kalam and Dr. Anil Kakodkar (former chairman of Atomic Energy Commission) at Agastya, Jamila has grown ever more enthusiastic about science. Sheaneej adds that Jamila sat and cut out all the articles she could find on both these inspiring scientific leaders and she could see the admiration in her daughter's eyes.

Agastya has even started to change the way the community thinks, says Jamila's mother. She and her daughter visited one of Agastya's Science Fairs and saw a project on biodiversity. That project talked about conserving the environment by following good waste and water management practices. The project also showed how to save cooking gas. Sheaneej befriended a number of parents at the Science Fair, and discussed these issues with them. They decided to make a concerted effort en masse, to use everything they bought henceforth, to its fullest and only then throw it away.

Mr. Sivamani, who teaches lower primary school students at MPPS Vanadapalli in Kuppam Mandal, adds that his pedagogical approach has been influenced by Agastya's approach. He now attempts different and more creative methods of teaching.

The journey from curiosity to creativity



## VILLAGE ORGANISER AND PROUD GRANDMOTHER



Grandmother

**Ratnamma**

Granddaughter

**Suvarna**

### PARENTS

Ratnamma's son, Anand Kumar, who used to work in the primary school as a Vidya volunteer first told her about Agastya about four years ago. Ratnamma has observed that students who visit Agastya's Kuppam campus regularly, are changing for the better. Ratnamma, whose own granddaughter is a student of Agastya, believes that overall, "The education levels have improved, and children are now actually interested in going to school. Because of Operation Vasantha [Agastya's community out-reach program], they have also started studying well." These children want to improve their education levels, which is why they visit Agastya.

They have also begun to improve their environments, as they are now learning how to plant trees and keep their surroundings clean. In her opinion, Agastya's Operation Vasantha programme has brought about an improvement in the status of girls' education. It is, moreover, a huge boon to teachers because children are able to do their homework correctly and regularly.

During her frequent visits to school, Ratnamma observed that teachers too are more committed to their jobs, and show a greater interest in ensuring that even the younger children come to school. They go door to door, and often escort children to school as well as help them with their studies. Agastya has

been influential in making parents and teachers more aware of the importance of education. Ratnamma says that, government high school and primary school teachers have started visiting students' homes and telling them about a whole range of government programmes that complement Agastya's work.

Teachers tell children they will not be allowed to visit Agastya's campus if they fail to attend school regularly. Ratnamma says that this is a huge motivator. If she spots children in the village who have not gone to school, Ratnamma gives them quite an earful! She also questions the parents as to why they are not sending their children to school.

On days when Agastya holds a programme or event for the children, Ratnamma notes their tremendous excitement. They wear new clothes and flowers in their hair.

What she loves most about Agastya is that after each visit children are eager to share with everyone, what they have learned. Ratnamma says, "If they are studying well they can go anywhere they want to go." Her eleven-year-old granddaughter Suvarna, keeps telling her to visit and learn from Agastya, says Ratnamma with a smile.

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**"WE ARE LUCKY AGASTYA IS CLOSE TO OUR HOME!"**



Mother  
**Lakshmi**  
Daughter  
**Suma**



## PARENTS

**W**hen Suma was in the sixth standard, she started attending Agastya and was subsequently chosen to be a Young Instructor Leader (YIL). Lakshmi had already had good reports about Agastya's Kuppam campus, that they taught science and mathematics there, and also conducted hands-on activities with children to help them learn. She had also been told that the campus was beautiful with plants, trees, and sculptures. Spurred by her daughter's glowing reports about the campus, Lakshmi went herself and saw her first planetarium, an experience that left her awestruck.

Lakshmi is elated that Suma participated in the IRIS competition where her project studied how plants release water. While she was disappointed that Suma did not win, it did little to dampen the sense of accomplishment she felt on her daughter's behalf. According to this proud mother, Suma has also learnt to sing and dance in Agastya's Summer Camps. It was a proud moment for her when Suma performed for former President of India, Dr. Abdul Kalam.

As a result of Suma's exposure to Agastya, Lakshmi believes that her communication skills have vastly improved. In fact, the

reason that Suma speaks English so well, in Lakshmi's opinion, is that many foreigners visit the Agastya campus and Suma has the opportunity to converse with them. Lakshmi tells all the parents she meets that they must send their children to Agastya. Lakshmi is also very appreciative of the fact that Agastya also serves their community by giving people jobs.

Since people have to travel from far away to visit Agastya, Lakshmi states unequivocally that, "We are very lucky to have Agastya so close to our home."

There is a lot of debate and laughter about what career Suma should follow when she grows up. Lakshmi wants her to be an aeronautical engineer or join the army. Suma wants to be a scientist. After all the mock arguing, Lakshmi finally says that she will support whatever Suma decides to do, and that Suma will be able to accomplish anything she sets her mind to, if she studies hard and is disciplined.

The journey from curiosity to creativity



## EDUCATION: A POWERFUL ANTIDOTE TO POVERTY



Father  
**K. Nagaraju**  
Mother  
**N. Kantamma**  
Daughter  
**Uma Maheswari**

### PARENTS

Uma's parents, Kantamma and Nagaraju, epitomize the fierce ambition parents have for their children, humble circumstances notwithstanding. They have struggled against many odds and have educated Uma to be the software engineer that she is today. Agastya played a pivotal role in encouraging and supporting them through this struggle.

With Uma being one of its first students, Kantamma explains her family's enduring bond with Agastya. It began when the exemplary performance of Uma and her brother caught Agastya's notice. When Uma was in the seventh standard, Agastya staff members Jayamma and Manjula, visited their home to inform them that Uma had been selected as a Young Instructor Leader (YIL). Two years later, Ramji Raghavan, the founder of Agastya, also visited their home, offering financial support for Uma's education. Kantamma recalls that, "At the time, we lived in a hut, under the same roof with our cattle." Laughingly, she remembers telling Mr. Raghavan in no uncertain terms that once her daughter was finished with the tenth standard, she would get her married. Mr. Raghavan managed to convince them to allow Uma to study instead, and reaffirmed his offer of financial help. Uma went on to get a rank in the Common Entrance Exam and was allotted a free seat at

Padmavathi Women's Polytechnic College in Tirupathi. This exempted Uma's parents from paying a donation.

Mr. Raghavan held fast to his promise, and Agastya paid half of Uma's college fees for two years. Uma has now completed her B. Tech and wants to study further. Nagaraju is a farmer and cultivates four acres of land. Due to a severe drought however, the couple have been left with no money—every spare paisa of which has gone towards educating their three children. Nevertheless, both Kantamma and Nagaraju are very proud of their daughter's achievements. With Agastya's help, this family has undergone a massive reversal of fortune.

Nagaraju's eyes shine with pride when he speaks of his daughter's hard work. He is thankful for all the support they have received both from Agastya and Uma's school headmaster. Now he wants to see his daughter in a good position.

Uma sums it all up by saying, quite philosophically, "My parents are my weakness and my strength." With her educational qualifications, Uma will be able to protect and shield them both

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## AGASTYA BENEFITS HER



Mother  
**S. Vani**  
Teacher,  
MPPS Kotapalli

Daughter  
**Pavani**

### PARENTS

This jolly mother of one says that not only has Agastya helped her child, it has also helped her as a teacher and as a mother. Vani first visited the Kuppam campus with her school children and was surprised to find that it catered extensively to underprivileged children.

Her only daughter Pavani, has benefited a great deal since going to Agastya. Vani says she has become more interested in science and has also become a more active student. Pavani is so enthused that she even wants to visit Agastya during the holidays, and is glad that Agastya's summer camps give her the opportunity to do so. As for her own growth as a teacher, Vani believes that Agastya has been enormously helpful. As her children's prowess has increased, so has hers. Since they think more creatively now, and are able to link things together in their heads, Vani has resorted to using new techniques and methodologies to help her children understand better.

Vani used to initially teach in high school before she came to Kuppam district; now however, she teaches the third, fourth

and fifth standards. At first this proved a challenge but her visits to Agastya helped ease her transition. She now visits Kuppam campus at least once a month with her school, and takes part in Agastya's Teacher Training programme. The training has exposed her to different styles of teaching and given her the resources to develop creative ways of teaching difficult concepts. It has also taught her to share ideas with the children she teaches, and to be more open with them. As a result of this program, Vani says that her demeanour in the classroom has changed and that her students seem to grasp concepts faster and more easily now.

Children, her daughter included, are taking part in cleaning drives and have cleaned up whole swathes of their village. Vani believes that Agastya has had a positive impact both on her daughter as well as on the larger community.

The journey from curiosity to creativity



