

# Asha Chennai Computer Science Education

## Proposal for Amazon - 23<sup>rd</sup> March 2022

### Background

Asha for Education is a worldwide action group formed to catalyse socio-economic change in India through education of underprivileged children. 'Asha' means hope — the hope that we aim to bring into the lives of these children.

Asha for Education was established in California in 1991 and has 55 chapters. Asha India started in 1998 and headquartered in Varanasi is a registered public charitable trust. Asha Chennai was founded in 2002 and is actively executing about 10 projects which together support more than 100 schools impacting about 7,000 students.

Asha Chennai focuses on government school education and digital literacy. We have gained the experience and expertise needed over the years. Asha Chennai is completely managed by volunteers with overhead costs generally borne by the volunteers.

CharityNavigator ranks Asha For Education consistently in the top tier. Asha for Education is also a recipient of the Times of India Social Impact Award.

### Our Philosophy

An equal education is an essential prerequisite to an egalitarian society. The mainstream schooling, when made accessible to all, can cover the educational needs of 90% of all the children. Government is the primary vehicle through which universal education can be delivered in a country like India. Every developing and developed nation that has achieved near 100% literacy has done this through public education. There is a social consensus that good education should be provided to all irrespective of their caste, economic status etc. Our efforts to assist the schools have found support from the people as well as the concerned government officials.

Asha Chennai focuses on improving education at government schools. We are focused on conceptual understanding of the subject matter. Rote learning and excessive focus on marks in examinations is destroying our education. We are doing our best to counter this problem. We have gained the experience and expertise needed over 20 years of working with children.

To learn more about Asha Chennai's specific initiatives with Government Schools, please see Appendix 1. For our orthogonal initiatives, please see Appendix 2.

### Our Geographical Spread

Asha Chennai currently supports 101 schools in Tamilnadu and 6 schools in Varanasi District of Uttar Pradesh. We typically work with remote rural schools. The need for our support is much greater in these places. In Tamilnadu we support schools in Thiruvallur (66 schools), Chennai (7 schools), Kancheepuram (3 schools), Chengalpattu (5 schools), Thiruvannamalai (3 schools), Viluppuram (6 schools), Thoothukudi (9 schools) and Tirunelveli (1 school) Districts. We have our field offices Kaivandhur in Thiruvallur Dist, Kayathar in Thoothukudi

Dist, and Seeyapoondi in Villupuram Dist. We also have our main office in Mylapore, Chennai. All the schools Asha Chennai supports currently are listed in Appendix 3.

## **Technology and Education**

Asha Chennai has been using technology to better education in many ways. We have developed Asha Kanini, an application to provide easy access to the best quality contents. We have packaged more than 65 packages of high quality contents to go with the application and the contents have been mapped to the Tamilnadu and UP state board curriculum. This is now being installed in schools that we don't support as well. We are in the process of training government teachers to use Asha Kanini in Thiruvallur District in partnership with IITM Pravartak.

We have been teaching computer science (digital literacy and programming) to children in all our supported schools through our computer teachers. A world class computer science curriculum for classes 1 to 8 has been developed by us for this purpose. A summary of this is presented in Appendix 4. We are also in the process of setting up Rural Technology Centres in partnership with IITM Pravartak to teach computer science to children in classes 9 to 12.

We also conduct assessments, the analytics of which are done to yield a better understanding of the factors affecting education. Visit our website [kanini.ashanet.org](http://kanini.ashanet.org) for more information about all our digital initiatives.

## **Proposal**

Asha is already supporting 100 schools in Tamilnadu spread across 7 districts. With support from Amazon we would be able to extend our support to cover 50 more schools in these same areas. The budget as written covers 50 new schools and 50 existing schools. The ramp up to hire all the new teachers and cover the new schools, may take a few months. We may be billing the existing teachers under this project till that time.

### **Computer Teachers at Schools**

Each of our computer teachers will be visiting multiple schools. Primary and middle schools in rural areas tend to be small. Therefore one teacher will visit multiple schools in a weekly schedule. A small school with less than 50 children will require just one day a week. A middle school with say 80 children will require 2 days. Rare schools with 150+ children may require 3 days and so on.

The computer teachers will teach Maths, English, Science and other regular subjects for 50% of the time. In addition to learning these subjects better, for younger children playing educational games on the computer makes them comfortable with computers and teaches them digital literacy orthogonally. For the other 50% of their time, our computer teachers will teach our computer science curriculum which teaches the children digital literacy and computational thinking.

Our computer teachers are provided a laptop and other accessories like a mouse, speaker, pendrive, Wifi dongle to be able to connect the desktop systems in the school to a hotspot etc. Each of them has a Smartphone with a data plan which they use as a hotspot to connect the computers to the Internet as required. They will assist in maintaining the computers in the schools that they visit. They will coordinate with the systems engineer to get any servicing work done on the school computers.

Further our computer teachers will also be the focal point for our other works at the school. The material we

provide and our other support will be implemented and monitored by our computer teachers in conjunction with the coordinators.

### **Curriculum, Software and Content Development**

Asha has always taken the approach that the people who are developing content should not be removed from pedagogy. Only regularly using the contents themselves in the schools will give a content developer the understanding required to set the level of the curriculum and see what works and doesn't work in the classroom. While we have lead teachers who will lead the content development, they will also have to teach at least one day a week. They will also do observation visits to the schools where our other computer teachers are teaching to ensure that our curriculum is being taught the way it is intended.

Further, some of the computer teachers, depending on their skills, will also be given content development work. Teachers will be given one day of content development work. The content development work carried out will include,

1. Further enhancements to our CS curriculum for classes 1 to 8. This may also include work we take up in partnership with Code.org for translating their contents to Tamil.
2. Digital Lesson plans for Maths, English, Science and other subjects. Development of activities and worksheets for their subjects as well.
3. Mapping packages for Asha Kanini.
4. Preparing and grading assessments in CS and other subjects that we conduct in all the supported schools.

Software development for Asha Kanini is being carried out from our office in Mylapore. We will be continuing this development with further enhancements especially to make it capable of reaching scale. We are hoping to deploy at all Tamilnadu schools and also penetrate into a few other states. Assistance of software developers is also required for some of the projects taken up by the children.

### **Other Support for the Schools**

Given the poor state of these schools, we also need to provide some additional support to the schools to create a conducive educational environment. We provide some limited materials to the schools. These will include stationery materials, mats for the children to sit etc.

Government has provided computers to many of the schools. But in a typical school most of these computers will be under repair and not be used. Asha helps maintain these computers and ensures that all the computers that can be made usable are.

Asha has also worked with companies in the past to donate computers to schools that do not have any. These are also maintained by Asha. We employ a couple of full-time system engineers to service the Asha teachers laptops as well as the government computers.

We have also proposed support for the annual day functions at the schools and an excursion for the children. These are identified as optional. We believe that making learning joyful for the children is also very important.

### **Administration and Monitoring**

At every geographical location, we have a project coordinator. We have assigned two of the coordinators for this project. These coordinators and the lead teachers will monitor the performance of the teachers. Our offices in the various areas will serve as places for teacher meetings and training sessions. The attendance and schedules of the teachers are monitored.

## Evaluation and Impact Analysis

Asha conducts various assessments throughout the year.

1. Oral assessment for students in English, Tamil and Maths aligned with Pratham's ASER. This gives us numbers that can be compared across schools and across years to measure the progress of the schools at a very basic level.
2. Written assessments in English and Maths. These provide us a deeper understanding of the gaps that exists in their learning.
3. Assessments of the children in Computer Science conducted on a computer. This will help us understand their comfort with digital literacy and programming.
4. End of the year project. Entire Term III of their year will be devoted to project work. We believe this is the best way to learn practical subjects like computer science. These projects will also be reviewed by a group of volunteers. The best ones will be invited to participate in Asha Impressions, a contest where these teams will present their work to a group of judges from colleges (like IITM) and computer industry professionals. This helps them gain exposure in presenting their work and getting feedback from experts. We hope to hold Asha Impressions in two locations starting this year.

All these together will help us understand the actual learning that is occurring and the impact of our work.

## Broader Outreach to Government Schools

While the program we have proposed above provides a strong foundation in Computer Science and ability to handle technology to the 7000 students in the 100 schools that we support, we recognize that this is still a very small fraction of the total pool of students in Tamilnadu or even the students who attend government schools. Amazon's "Explore" activities are meant to reach a much wider audience and open them to the idea of technology education.

Asha has been having a program to train all government school teachers in Thiruvallur District in Asha Kanini and get them to effectively use technology in their classes. Our teachers typically train the teachers, ensure their computers are working properly, install Asha Kanini and other required software on their computers on their first visit. They will then monitor their usage of Asha Kanini remotely and visit them to assist them with any problems they may be encountering. We will employ a similar approach to exposing the teachers and children to Computer Science and programming.

Contents:	We will expose the children to the Cyber Robotic Challenge, the Hour of Code activities and some unplugged activities. As Asha Kanini is available with them, the teachers will also have access to the full Asha computer science curriculum for classes 1 to 8.
Teacher Training:	We will also teach the children some digital literacy and explain to them the benefits of activities such as these. I.e. Computational thinking helps them in learning language, mathematics etc. as well. The hope would be to get the teachers to run some of these activities on their own with the children even when the Asha teachers are not there. We will monitor this to evaluate the program effectiveness.
Which Schools?	We will focus on middle, high and higher secondary schools with computers. This will be about 30 schools per block. We will do this in about 10 blocks.
Which Students?	We will focus on children in classes 6 to 9. In classes 10 to 12, the focus of the school shifts to board exams and therefore it will be difficult to get their time.
How often?	With about 30 schools, our teachers will be able to visit each school some 5 times during the year. Our teacher will teach the children during these visits. Further the teachers will also be able to check if the children got any computer time for any other activities in their absence.
Event Participation	While the desired goal would be to get these students to participate in "Hour of Code"

week etc., we will take this up in as many schools as possible during the first year.

## Budget

The following table shows the budget for the computer science instruction and support at 100 schools.

SNo	Budget Item	Budget 2022-23
<b>Learn - Computer Teacher Support at 100 schools for 7000 children.</b>		
	No of Schools	<b>100 schools (50 new and 50 existing schools)</b>
	No of Students	<b>7,000</b>
	Teachers	<b>18 existing + 22 new of which 4 lead teachers and rest computer teachers. We are adding 4 more computer teachers than required so that some of their time can be devoted to content work.</b>
	<b>Coordinator + System Admin</b>	<b>2 coordinators + 2 System Admin</b>
1	Computer teachers. Salary + Conveyance about 11,000 per month and 5,000 Deepavali bonus for 16 teachers who have completed one year	4,832,000
2	4 Lead Teachers + Coveyance about 15,000 per month and 5,000 bonus for 2 teachers who have completed one year	730,000
3	System Engineers salary. One new. Rs 20000 per month plus 5000 bonus for the existing engineer.	485,000
4	Coordinator Salary - One new. Rs 30000 per month plus 5000 bonus for the existing coordinator.	725,000
5	Stationery and other Materials - Rs 100 per child. May also include materials for the school like paper, pen, notebooks, charts, mats etc.	700,000
6	Repair costs for computers (school and old teacher computers) - assume approx Rs 1400 per computer per year * 250 computers.	350,000
7	Printing supplies, Xeroxing, laminating etc. of study materials, worksheets for classroom use. Rs 1000 per school.	100,000
8	Laptop and accessories (speaker, bag, Wifi dongle, pen drivem hotspot etc. as reqd) for all the new teachers (22) and staff (2) at Rs 40000 per set.	960,000
9	Hardware accessories for teaching physical programming to middle school students. We hope to start it this year at 10 middle schools at about Rs 20000 per school.	200,000
10	Data plan for all teachers and staff (44). Assuming about Rs 250 per month which is the current price.	132,000

11	Teachers training expenses -- travel, conveyance and food during trips to Chennai and conveyance and refreshments/food during local teacher meetings Rs 10000 per month. Two bigger meetings in a central location at Rs 5000 per staff.	340,000
12	Teacher Uniform kits - 2,000 per teacher and staff.	88,000
13	Rent + Electricity for two offices at Rs 6000 per office per month.	144,000
14	Assessment and evaluation of children: Printing papers, cost of execution (stationery materials, conveyance, etc.), bonuses for teachers who do extra grading and data entry work, etc.	60,000
15	Asha Impressions. See appendix 5.	220,000
16	Administrative expenses and Miscellaneous (emergencies, services, etc.)	32,000
<b>Optional items that Amazon can consider funding.</b>		
17	Excursion for 1000 students at Rs 500 per student (see appendix 5)	650000
18	Support for annual day and other functions at the schools. Rs 10000 per school for about 50 schools.	500,000
19	Excursion for staff at Rs 3000 per person.	132,000
<b>TOTAL</b>		<b>11,380,000</b>

The following table shows the budget for the Explore activities at 10 blocks with 10 trainers.

SNo	Budget Item	Budget 2022-23
<b>Explore - Trainers at 10 blocks with about 30 schools and 5000 students each.</b>		
	<b>No of Blocks</b>	<b>10 blocks (expect 30 middle/high/higher sec schools each).</b>
1	Trainers -- 10 * Rs 16000 per month incl conveyance bonus etc.. Note conveyance will be much more and we also have to incentivise them to travel the longer distances. Further the best computer teachers will be selected for this role.	1,920,000
2	Lead Trainer -- Rs 25000 per month incl conveyance bonus etc.	300,000

3	System Engineers salary. Rs 35000 per month incl conveyance bonus etc	420,000
4	Repair costs for computers (teachers and school computers). Note there will be way too many computers here. We will only do servicing for most parts and not bear costs of the spares. Minimal things like mouse, Wifi dongle, cables etc. will be purchased.	100,000
5	Devices for trainer. 1 Laptop w accessories and 3 tablets at Rs 80000 per set. For 5 continuing trainers only 40000 for 3 tablets. Also a laptop for system engineer.	640,000
6	Asha Impressions like event for the Hour of Code submissions from children. See appendix 5.	200,000
7	Scooter for Coordination, Projector, Miscellaneous	200,000
<b>TOTAL</b>		<b>3,780,000</b>

**Total Cost of the Learn and Explore activities with the optional items: Rs 1.52 Crores.**

# Appendix 1

## Asha Chennai Initiatives

We typically do the following work at the schools we support,

1. Provide a regular teacher where the teacher student ratio warrants it.
2. Provide a computer teacher. Depending on the size of the school we typically provide a teacher for 1 or more days a week to work at these schools providing curriculum and computer literacy education to students.
3. Maintain the computer labs at these schools.
4. We constantly train our teachers.
5. Provide contents that are aligned to the lessons in the curriculum to improve the education. We would provide contents suitable for primary schools with particular emphasis in English and Maths.
6. Support the schools in conducting annual day functions.
7. Provide laptops for our teachers. Train the teachers on using the laptops.
8. Provide Internet enabled Wifi hotspots to the teachers along with data plans so that they can all use the Internet. Provide Wifi dongles for the computers in the schools so that they can also access the Internet
9. Conduct annual oral and written assessments to benchmark the schools and identify potential areas of improvement.



## Appendix 2: Asha Chennai's Orthogonal Initiatives

1. Asha Kanini - Technology in education has become pervasive across the world. The lack of resources in India threaten to diminish our ability to stay current with the changing education ecosystem. At Asha Chennai, we have developed Asha Kanini, a software package that facilitates teaching using the best available content around the world to teach specific concepts to children. There is an abundance of high quality free content available from organizations like Khan Academy, University of Utah, University of Colorado, Azim Premji Foundation and others. Asha Kanini has packaged these contents and made it easy for teachers to identify specific passive content like videos for conceptual clarity, active content like games for practice and mastery over a concept and simulations for practical applications.
2. Computer Science - Asha places emphasis on Digital Literacy and Computer Science Education. We have created our own curriculum for Classes 1 thru 8. We have a modified version of the curriculum created by code.org to suit Indian conditions. We also use the latest technologies available including Scratch, Blockly, OpenOffice, gCompris, etc. We place a lot of value in educating using projects that the students create.
3. Asha Impressions - At the end of the school year we expect the children to have gained enough knowledge through our computer curriculum that they can create a project using that knowledge. This gives the children the opportunity to showcase their prowess in computers. We conduct a competition with judges from the computer industry for them to do presentations on a topic of their choice or create a programming project of their choice to demonstrate their technical and presentation skills.
4. Asha Assessments - At Asha, we feel that it is imperative that we measure the children's competence against an established set of learning objectives. We conduct 3 separate assessments with differing objectives:
  - a. Oral Assessments - To create a statistical comparison of Asha supported schools in relation to other schools across the country we use assessments created by Assessments by ASER with some slight modifications to improve the quality of the testing. The test includes English, Mathematics and a local language.
  - b. Written Assessments - For each class, we follow the established learning objectives and test the children on each of the concepts in English and Mathematics. Every concept is scored independently, so we can create a report for the schools showing them how they compare to other Asha supported schools and other schools in general. The report goes on to emphasize the methods to teach specific concepts where there may be a disconnect.
  - c. Computer Assessments - We conduct a practical exam for our computer curriculum that tests what the students are expected to learn during the course of the year. The test has interesting questions like a treasure hunt to test computer literacy relating to file management, operating system functions, document management, spreadsheets, and presentations. We also test programming skills for those who have been taught programming.
5. Data Analysis - Asha collects data on the students at schools we support and try to understand some of the factors that determine student learning and success. Some of the factors that we take into consideration are:

- a. Class size - Student teacher ratio
  - b. Breakfast and food habits of the students
  - c. Parents' education levels
  - d. Economic status of the student
  - e. Social Status of the student
  - f. And 15 other criteria
6. Mini Schools during the Pandemic - As the students have been deprived of education for an extended period of time during the Coronavirus crisis, Asha has started to run mini-schools in the villages that our teachers live in their own homes or public locations like schools or libraries. We conduct the schools on rooftops or other spaces that are conducive to social distancing. We do our best to follow a mask mandate, washing hands and other precautions. We run about 45 such mini-schools.
7. Infrastructure Improvement - Although Asha tries to stay away from infrastructure development we have found some of the basic needs in certain villages are not being met. In such instances Asha has helped build new or renovate existing bathrooms, build and enhance libraries, paint blackboards, repair roofs and so on.
8. Training and RightStart - Asha considers teacher training as one of the most important initiatives for providing quality education. Asha conducts a 3 day training program at the beginning of each trimester and a 5 day training program called RightStart before schools start after the summer vacation. RightStart is held in May for the teachers of Asha Chennai from all the projects as well as teachers from partner organisations. The training includes 2 days of English, 2 days of Mathematics and 1 day of Computer Science training. The training is focused on pedagogy and the most efficient methods of teaching with focus on conceptual understanding. The teachers stay together for 5 days and get to know each other and improve communication between projects. In addition we provide online coaching and assignments every week through a mentor program. There are also classes in English, Mathematics and Computer Classes on an ongoing basis throughout the year.
9. Lesson Plans - Asha provides digital lesson plans for all of the lessons in the curriculum for Maths, English and Science. This is integrated with the Asha Kanini package that we have developed. The primary goal of this is to provide a curated list of best digital content that could be useful in explaining and practicing the concepts in a lesson. Specific gaps that we notice in the schools in terms of good graded worksheets to give to children with different abilities and classroom activities associated with every lesson for teachers to perform that will move the education beyond the standard rote learning.
10. Village Development -- While our focus is on supporting and developing the education at the government schools, we also look at other aspects of village development related to education. We often support feeder Balwadis and Kindergarten from where the children come to these government schools. We run 7 libraries in villages where we have these schools. These libraries cater to the children coming to these schools as well as provide resources for the adults in the village.

## Appendix 3: List of Currently Supported Schools

### Thiruvallur District

#### Poondi Block

1. PUMS Ramancheri
2. PUPS Pudhur Ganthigram
3. PUPS.Thomur
4. PUPS Kuppammal Chathiram
5. PUPS Thirupachur
6. PUPS Thirupachur Periya Colony
7. PUPS Old Thirupachur
8. PUPS Kanagavallipuram
9. PUPS Pattaraiperumbudur
10. PUPS Kuppathupalayam
11. PUMS Kunnavalam
12. PUMS.Manjakuppam
13. PUPS Kosavanpalayam
14. PUPS Nemiliyagaram
15. PUPS Melvilagam
16. PUPS Varathapuram
17. PUPS Narayanapuram
18. PUPS Ellapanaidupettai
19. PUPS Ammambakkam
20. PUPS Katchur
21. PUPS Allikuzhi
22. PUPS Pondavakkam
23. PUPS Thirupair
24. PUMS Anantheri
25. PUPS Kammavarpalayam
26. PUMS TB Puram
27. PUPS Rajapalayam
28. PUPS Kottaikulam
29. PUPS Sathurangapettai
30. PUPS Puthukandigai
31. PUPS Gengulukandigai
32. PUPS Kalkalodai
33. PUPS Placepalayam
34. PUMS Odhappai
35. PUPS Siruvanur Kandigai
36. PUPS Mettupalayam
37. PUPS Greenvelnatham
38. PUPS Valliyamapettai
39. PUPS Perittuvakkam
40. PUPS Mambakkam

- 41. PUPS Mambakkam Periya Colony
- 42. PUPS Velagapuram
- 43. PUPS Velagapuram Mettu Colony
- 44. PUPS Nandhimangalam
- 45. PUPS Perunjeri
- 46. PUPS Goonipalayam
- 47. PUMS Vellathukottai
- 48. PUMS Nelvoy
- 49. PUPS Kunjaram
- 50. PUPS Melakaramanur
- 51. PUPS Mylapore
- 52. PUPS Seethancheri
- 53. PUPS Sriramakuppam

#### **Ellapuram Block**

- 54. PUMS Soolaimeni
- 55. PUPS Palavakkam
- 56. PUPS Kannigaipair
- 57. PUPS Guruvoyal
- 58. PUPS Annanagar
- 59. PUPS Arkampat
- 60. PUPS Ariyapakkam
- 61. PUPS Athivakkam
- 62. PUPS Thandalam
- 63. PUMS Neyveli

#### **Thiruvallangadu and Kadambathur Blocks**

- 64. PUMS Athipattu
- 65. PUMS Polivakkam
- 66. PUMS Valasavettikadu

#### **Kancheepuram District - Sriperumbudur Block**

- 67. PUPS Bakthavachalamnagar
- 68. PUPS Sengadu
- 69. PUPS A.N.Kandigai

#### **Chengalpattu District**

- 70. ADWMS Nandhivaram
- 71. PUPS Nandhivaram
- 72. PUMS Gooduvancheri
- 73. PUMS Orathur
- 74. PUPS Katankolathur

## **Chennai District**

- 75. CPS Shastrinagar
- 76. CPS Canal Bank Road
- 77. CMS Thiruvalluvarpet
- 78. CPS Odaikuppam
- 79. CPS Indiranagar
- 80. CMS Kottur

## **Villupuram District**

### **Senji Block**

- 81. PUPS Gengavaram
- 82. PUPS Nallan Pillai Petral
- 83. PUPS Kamagaram
- 84. PUMS Kaatu Sithamboor
- 85. PUPS Nagalampattu
- 86. PUMS Melmalayanur

### **Melmalayanur Block**

- 87. PUMS Melmalayanur

## **Thiruvannamalai District - Kilpennathur Block**

- 88. PUPS Kanniyampoondi
- 89. PUPS Kolathur
- 90. PUPS Karikalampaadi

## **Thoothukudi District**

### **Kayathar Block**

- 91. PUMS Nagalapuram
- 92. PUMS Panikkar Kulam
- 93. PUMS Kumaragiri
- 94. PUMS Koppampatti
- 95. PUPS Chidambarampatti
- 96. PUPS Karadikulam Colony
- 97. PUMS Karadikulam
- 98. PUPS Kallurani
- 99. PUPS Govindanpatti

### **Kovilpatti Block**

- 100. PUMS Athikinaru

## **Thirunelveli District - Manoor Block**

- 101. PUPS Koovachipatti

## Appendix 4: Asha CS Curriculum

### 1st to 3rd Standard

1. Help children become familiar with using the keyboard and mouse and to use the computers.
2. Use packages like gCompris and TuxPaint to play educational games, to draw and paint.
3. Start teaching them computational thinking skills with offline games.

### 4th and 5th Standard

1. Fundamentals of Operating Systems Usage
2. Provide the ability to use the File System and the ability to create, save and delete documents.
3. Teach them the components of a computer and differentiate between input and output devices.
4. Creating Documents and making them pretty using OpenOffice Document.
5. Creating Spreadsheets and managing data using OpenOffice Spreadsheet.
6. Creating snazzy presentations to communicate your ideas and thoughts using OpenOffice Impress.
7. Conduct a competition called Asha Impressions at the end of the year for students to demonstrate their skills in creating presentations

### 6th to 8th Standard

Asha uses Scratch from MIT to teach programming. Scratch is the easiest way to introduce programming to children with a simple visual interface. We teach the children to create:

1. Digital stories
2. Computer Games
3. Animations and
4. Music

Scratch promotes computational thinking and problem solving skills; creative teaching and learning; self-expression and collaboration. Asha Impressions competition at the end of the school year will provide a platform for the students to showcase their programming skills by creating a project during the last 3 months of the school year. These projects are usually done by teams of 5 to 8 children. This method promotes peer learning and collaboration in addition to enhancing presentation skills and public speaking.

## Appendix 5: Expense break-ups

Here is the break-up of the expenses for conducting two Asha Impressions competitions.

SNo	Item for Asha Impressions	Cost
1	Shamiana rental and other arrangements at all locations	40000
2	Lunch, tea and water for all participants, teachers, judges, volunteers. Rs 150 per person.	60000
3	Prizes, certificates for winning teams - 12 teams at Rs 5000 per team.	60000
4	Travel, gift and arrangements for 20 judges and guests at Rs 3000 per person.	60000
	<b>Total</b>	<b>220000</b>

Here is the break-up of the expenses for conducting excursions for 1000 children.

Expense	Count	Cost per unit	Cost
Buses - Assume 50 children + 5 teachers per bus.	20	17500	350000
Tickets - Teacher/Volunteers - 10% of children.	1100	100	110000
Food	1100	160	176000
Miscellaneous			14000
<b>TOTAL</b>			<b>650000</b>