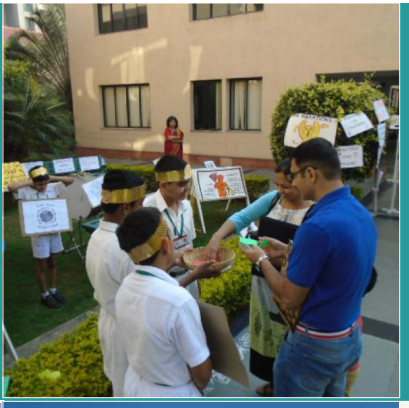
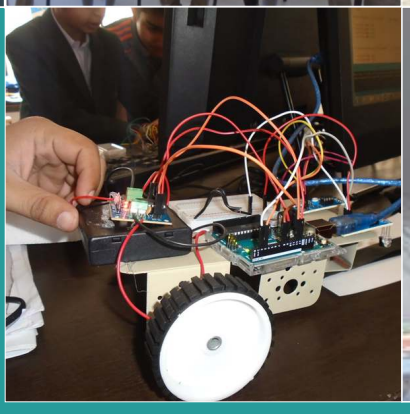
takshila
& DPS SOCIETY
INITIATIVE





ATAL TiNkeRiNG LAB

DELHI PUBLIC SCHOOL **PUNE**
Nyati County, Vill. Mohammadwadi, Pune 411060

Atal Innovation Laboratory (ATL)

The Government of India has setup the Atal Innovation Mission (AIM) at NITI Aayog. Ascertaining the need to create scientific temper and nurture the spirit of curiosity and innovation among young minds, AIM proposes to support the establishment of Atal Tinkering Laboratories' network (ATL). The Atal Innovation Mission (AIM), shall be established in schools in order to give teachers ideas for exciting and engaging kinesthetic activities that ignite students' imaginations and translate those ideas into exhilarating experiences in the classroom.

Objective of ATL in school

ATL is a work space where young minds can give shape to their ideas through hands on do-it-yourself mode; and master innovation skills. Young children will get an opportunity to work with tools and equipment so as to comprehend the concepts of STEAM (Science, Technology, Engineering and Math). ATL will have educational and learning 'do it yourself' kits and equipment on – science, electronics, robotics, open source microcontroller boards, sensors and 3D printers and computers. Moreover, the other desirable facilities are meeting rooms and video conferencing.

In order to foster inventiveness among students, ATL will conduct different activities ranging from regional and national level competitions, exhibitions, workshops on problem solving, designing and fabrication of products, lecture series etc. at periodic intervals.

The Impact of ATL on Its Recipient Schools

Don't we all feel empowered when we learn something new all by ourselves? Yes, it is this empowering feeling of self-accomplishment that also leads to confidence building in the long run. This is a unique element of 'self-learning' or 'do it yourself' approach of Tinkering Labs, which might seem directionless to some of the conventional practitioners of education. With Atal Tinkering Labs, Atal Innovation Mission is set up to redefine education in order to encompass several facets of learning basic science, math and other subjects. It also includes elements of moral values, behavioural aspects, building social and cultural relationships, communication aspects, thereby leading to an overall innovator and entrepreneurial mindset development as the final outcome.

Reporting Schedule

- The advisory body shall meet thrice in a year to plan the agenda for the session and to compile its report for submission to the AIM Directorate.
- Meetings to be held on the first Saturday of April, September and March.

- The advisory body of the ATL shall upload the following in the prescribed pro-forma, to Atal Innovation Mission, NITI Aayog at the end of each financial year as well as at the time of seeking further instalments of the grant,
- Annual implementation report providing information on the activities conducted
- Utilization Certificate of the GOI Grant
- The lab I/C shall maintain separate accounts for the grant and contributions received from other sources. The funds released should be kept in a bank account earning interest; the interest earned should be reported to the AIM, NITI Aayog and the same will be treated as a credit to the organization and will be adjusted towards further instalments of the grant, if any

Lab Activities

The range of activities is diverse and will affect the way in which the lab is designed. Some of these activities are:

- Demonstration: As a first step after developing the project completely, teams to invite teachers, school Principals, parents and neighbourhood schools to share their ideas and become actively involved in shaping the proof of concept/prototype demonstration. Subsequently these projects are to be further developed.
- Use of ICT: Children have access to lab computers, internet, and subject videos to illustrate particular aspects of the chosen project idea. A copy of the project done will be maintained by in the lab. A video projector is used for group demonstrations.
- Discussion and note making: Students to maintain their own workbook, group discussions are to be conducted and facilitated by ATL I/C. using presentations.
- School encourages to conduct more workshops at their levels: curriculum sessions, intra-school events, inter-school events, guest lectures, hands-on workshop and demo of projects by students.
- Monthly programmes to teach and explain students about different concepts – ranging from ideation, design, proto-typing, networking to physical computing.
- Display of work done by student groups selected for working on a pertinent theme at the end of the session, amalgamating the CONCEPT during SUPW in the month of February.
- Science club/Electronic club to prepare models/presentations on an identified theme in the month of December.
- Popular STEAM and entrepreneurship talk by reputed speakers/eminent faculty from diverse fields to be organised in both the semesters.
  Periodic screening of STEAM films

- Host a regional / national level competition (Robo fest etc).
- Summer Workshops on problem solving, designing and fabrication of products.

The Layout

ATL would be a hub for Project-Based Learning and Performance-Based Assessment of students thus the space would be an engaging and stimulating arena.

The lab would have the following features:

- An interdisciplinary cum multidisciplinary teaching area cum a laboratory where experiential learning shall take place
- Flexibility of Design
- Table top work shelf for small groups with both a white board and soft board, computer with internet facility and all the other necessary paraphernalia for experimentation
- Common instrumentation on a central work shelf
- Teaching area to be equipped with enhanced communication capability for interactive online sessions with proficient faculty.
- Appropriate storage area.

ATL Advisory Board

	DPS, PUNE
Chairperson	Mrs. Neelam Chakrabarty
Teacher I/c._Convener	Ms. Manisha Kandhare
Representative from local industry / community/ young innovator/academia alumni	Mr. Atul Yadav (CEO, Heramb Maker lab Pune) Vivek Swami (Vice President - KUKA India, Director Automotive – Asia Pacific)
Parents of school students	Mr. Clifford Nicholas (Director Human Resources NVIDIA GRAPHICS) Mr. Amit Agarwal System Executive - QEROS CONSULTING SERVICES

Annual Report for ATL

❖ Events & Trainings

- ATL Community Day organized in the month of April
- Tinkerfest – A workshop for unleashing the entrepreneurship and inventiveness of budding scientists in month of July
- Srjna Teach Fest for teachers training in month of July
- Advance level teachers Training by Srjna in the month of January
- Srjna Teachfest in month of March

❖ Projects Piloted in the ATL

- *Smart Ambulance using RFID*
- *Automated Weather Report*
- *Smart Bus Stop*
- *Garbage Sorter*
- *Teaching Aid using 3D printer*
- *Projects using Paper Circuit*
- *Soil Irrigation System*
- *Noise Level Pointer using GSM module*
- *Line follower Robot*
- *Substitution Software*
- *Electricity generator using Piezo*