



From Darkness to Light

# Jyoti Central High School

Jyoti Kalyan Evam Shiksha Sansthan

# ATAL

# TINKERING LAB

## **GUIDELINES FOR ATL (Atal Tinkering Laboratories)**

Comprehending the necessity to inculcate scientific temper and foster curiosity, creativity and imagination in young minds and imbibe skills such as designing mind- set, computational thinking, adaptive learning, and physical computing etc., the Government of India has set up the **ATAL INNOVATION MISSION (AIM)** at NITI Aayog. Atal Innovation Mission (AIM) proposes to support establishment of a network of **Atal Tinkering Laboratories (ATLs)** which is a novel concept for our country to provide a work space where young minds can give shape to their ideas through hands on (do-it-yourself mode) and learn innovation skills through hows and whys of **STEAM (Science, Technology, Engineering , Arts and Maths)**.

### **OBJECTIVES OF ATL**

The objective of setting ATL Lab in the schools is to “cultivate one million children in India as neoteric innovators”. Creating a pool of future-ready talent, by exposing young innovators to essentials and getting them to think out of the box breaking boundaries owing to their high levels of curiosity has been the hallmark of ATL. The following activities are conducted at ATL to nurture inventiveness among students:

- \*Provide space to transfer the idea from paper to a model that can replicated and used on a large scale. To utilize technology (STEAM) to give it shape and create a new entity, local or global in nature.
- \*Tinkering lab has a directional curriculum which is not restrictive and provides students with the scope to create and innovate.
- \*Tinkering experiments with various electronic, robotic and technology tools.
- \*Think out of the box and create a culture of innovation.
- \* Recognition of various platforms where students can showcase their projects and “work in progress” plans.

### **THE IMPACT OF ATL ON ITS RECIPIENT SCHOOLS –**

To promote a culture of innovation and entrepreneurship in India, ATLs are instrumental in shaping the innovative prowess of the students of our nation and to tinker to bring about a positive change in the not too distant future. It is also imperative to provide opportunities and facilities to the youth and empower them with these futuristic skills i.e. - problem solving, critical thinking, creativity, decision making and service orientation. We, at DPS aim to -

\*Construct research platforms wherein the students, the scientists, the industry and the community interact and contribute substantially to each other.

\* Generate aptitude of thinking and coming up with unique solutions and responses.

\* Provide facilities to work with latest technologies and tools such as electronics, sensors, 3D-printers etc.

\* Disseminate knowledge and resources from STEM education.

\* Enable students to build and make new solutions to solve challenges they see in their communities.

## **OPERATIONAL PROCEDURE OF ATL:**

\* The Lab is officially introduced to the local schools by organising a launch ceremony.

\* All experiments are conducted under the guidance of the ATL Advisory Board.

\* During the working hours, specific time periods are allocated in grades IX to XII (from the host school) to introduce the concept of tinkering laboratories and allow students to experiment on projects approved by the advisory board.

\* ATL activities for selected projects are conducted during Wednesday club, Thursday Activity, Assembly periods and on Saturdays.

\* Students from other local schools as well as the host school can experiment and tinker after the working hours of the school i.e. 1pm to 2.30 pm.

\* On Saturdays the lab will be available for all during the approved working hours.

## **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,

1) Annual implementation report providing information on the activities conducted

2) 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.

## **ACTIVITIES TO BE CONDUCTED UNDER THE ATL:**

ATL Lab is envisaged to be the hub for innovation, invention, making, tinkering and giving shape to ideas solving local and global problems using technology. To create a work space where young minds can learn innovation skills and sculpt ideas through hands on and do-it yourself. The activities being conducted are as follows:

- 1) Monthly programs to teach and explain to students about different concepts ranging from ideation, design, proto-typing, networking to physical computing.
- 2) Periodic exhibitions, fairs, carnivals.
- 3) Host regional/ national level competitions (Robofest, Techfest).
- 4) Workshops on problem solving, designing and fabrication of products.
- 5) Interaction with the mentors, students from other schools, colleges and universities.
- 6) Screening of films and organising popular STEAM and entrepreneurship talks by reputed speakers.
- 7) Organizing summer and winter camps.

## **THE LAY OUT**

ATL plays the role of incubators of ideas and inspires the young students of our country to step out of their comfort zone and work on novel concepts, embrace future skills as well as develop confidence and personality skills.

The lab is provided with various features:

\* An interdisciplinary cum multidisciplinary teaching area cum a laboratory where experiential learning is taking place.

\* Flexibility of Design

- a) 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
- b) Common instrumentation on a central work