



# TINKERFEST



"ATLs are opening doors to children from different socio-economic backgrounds, schools, NGOs, and ATLs are creating innovators."

Ramanan Ramanathan  
Mission Director, Atal Innovation Mission  
NITI Aayog  
Govt. of India

# ATAL TINKERING LAB

---

## SUMMER TINKERING FESTIVAL

Tinkering in schools has become a nationwide movement and NITI Aayog is pleased to announce the **ATL Summer Tinkering Festival** in celebration of this movement.

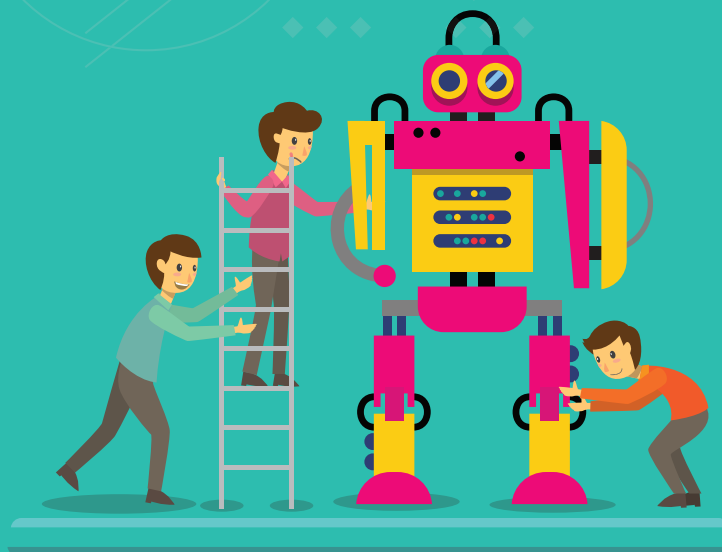
Tinkering Festival will be celebrated in Atal Tinkering Labs across the nation in the month of May, June and July. This time Tinkerfest becomes even more exciting with elements of Entrepreneurship, Creativity, and Innovation; creating a conducive environment for students to Innovate.

TinkerFest will introduce school students to new skills of innovation and entrepreneurship.

---

**Let us together unleash the innovator inside.**

---



ATL Tinkering Festival is a series of activities for students across the country to showcase their creativity during the final exhibition at the 48 hour TinkerFest.

### **TINKERING FESTIVAL SHOULD BE CONDUCTED IN 2 PHASES -**

Phase 1- Student Exploration @ Home or Outside ATL

Phase 2- 48 Hour TINKERFEST @ ATL

All ATL schools selected across India are required to conduct TinkerFest.

### **DATE**

Pick any 2 days in May, June, July – during summer vacation.

### **VENUE**

Your school's ATL.

### **SHARE WITH AIM, NITI AAYOG**

Schools can conduct and share the Facebook Live, pictures and videos of the event on:

**Facebook or Twitter using tags @atalinnovationmission  
@aimtoinnovate, @nitiaayog and #ATLtinkerfest .**

**AIM will be sharing your videos from AIM/NITI Aayog pages.**

# FOREWORD

As a child, one would easily get fascinated by different professions and streams. On one occasion, when one would attend a painting summer camp during summer vacation, one would want to become an artist, on another occasion, one would want to become a scientist, after reading series of science fiction novels. I had never really thought of becoming an innovator – entrepreneur, until I was exposed to the world of design thinking and innovation during my post-graduation. However, today with Atal Tinkering Labs, children as young as 12 years of age are becoming entrepreneurs.

Tinkering in schools is now becoming a nationwide movement, and Atal Innovation Mission, NITI Aayog is pleased to launch the ATL Summer Tinkering Festival of 2018, to allow children to unleash the entrepreneur within during their summer vacation. Students are encouraged to keep their boredom aside this summer break, and prove it to their family and to the world, that they can become a Studentpreneur or a Studentmaker while being at home.

So, dear Principals, Teachers, Students, Parents and Mentors, explore the world of Atal Tinkering Lab, and empower the young minds to innovate!

Happy Tinkering this summer 😊

Dr. Ayesha Chaudhary  
Atal Innovation Mission  
NITI Aayog  
Govt. of India



# STUDENT EXPLORATION @ HOME



## 1. I AM A STUDENTPRENEUR!

### WHAT?

Dear ATL Student innovators,

Grab your opportunity to become an entrepreneur. Take your ideas to the next level. Keep your boredom aside to create your own venture while being at home during summer break.



### HOW?

- Identify your teams, they can also be from different classes, different schools. You may include your neighbours and friends and introduce this new world of innovation.
- Identify a problem existing in your community/society. Conduct a survey around your neighbourhood and list down the pain points.
- Learn more about the problems you identified using sources like internet or newspapers etc.
- Develop a detailed problem statement with the help of your research. Ideate and brainstorm potential solutions.
- Bring your ideas to life. Create the prototype. Show it to the people who helped you in the survey.



- Identify potential customers. See if they will be willing to pay for your solution - if yes, find out- how much!
- Create a business plan (B-plan) for your solution.
- List down 3-5 customers who are willing to buy your innovation.
- Take feedback from your customers. Incorporate feedback and your entrepreneurial journey has begun.



**Voila! You are a student-preneur.**

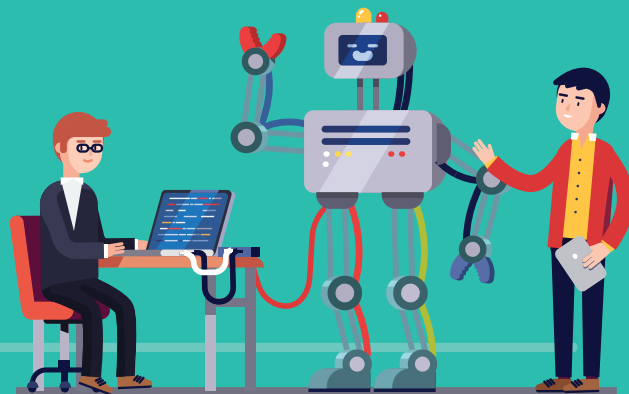
## WHY?

### SKILLS/ CONCEPTS LEARNT

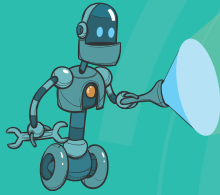
PROBLEM  
SOLVING

TEAM  
SPIRIT

EFFECTIVE  
PRESENTATION



## 2. UPCYCLING: I AM A STUDENTMAKER!



### WHAT?

Dear ATL Student Innovators,  
Look out for discarded material at your home, your relatives' home, your friend's place, or your parent's office or elsewhere, to create a useful product. Yes, you are right, we don't always need expensive and sophisticated material to innovate, we can do it with limited resources available around us. So, go out and prove it to your family and to the world, that you can be a Maker!



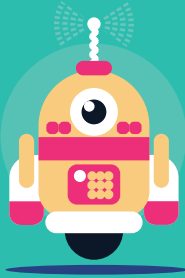
### HOW?

Students sometimes tend to get bored when they travel to their grandparents' place or travel around the country during summer vacation. It is the best time to tinker. Create your own lab wherever you go because all you need is a pen and paper. Engage in one/more or all of the following activities and **tell us who you became this summer.**

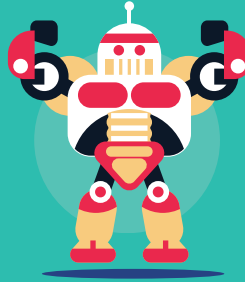




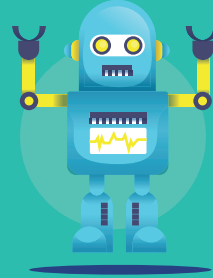
## I AM -



AN INFINITY  
INNOVATOR



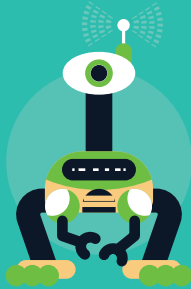
A ROBO  
WARRIOR



A MED-O-PRENEUR



AN AUTOMOBILE-ATOR



AN AGRO-VATOR



A DRON-TREPRENEUR

Open up your ATL kit, identify and list out the components of the kit. Identify materials available which can be used to replace components of the ATL kit, and use material to build your own kit.

Now think and explore if you can modify your existing kit and add additional functionalities/modifications to your existing kit. For example, you can modify the Drone Kit by attaching a proximity sensor to avoid obstacles.

**Voila! You are a StudentMaker.**

## WHY?

### SKILLS/ CONCEPTS LEARNT

RESOURCE  
MANAGEMENT

FRUGAL  
INNOVATION

TECHNICAL  
KNOW-HOW



# TINKERFEST@ATL

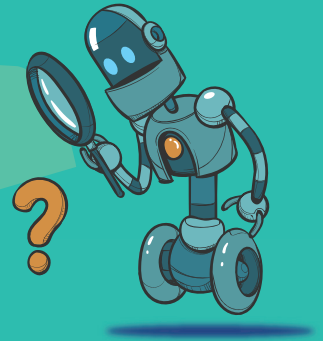
Once the students finish their exploration journey, schools will conduct a 2 day event in their ATL with the following tentative agenda.

48 hour Tinkerfest agenda		
Day	Time	Activity
Day 1	9:00am to 10:00am	Registration
	10:00am to 10:30am	Launch of Tinkerfest
	10:30am to 12:30pm	Know your ATL*
	12:30pm to 1:30pm	Lunch
	2:00pm to 5:00pm	ATL workshop/Mentor Session 1: Ideation, Design Thinking, Building a prototype using ATL equipment
Day 2	9:00am to 12:30 pm	ATL workshop/Mentor Session 2: Refining of Prototype, Creating a Business Plan and business pitch
	12:30pm to 1:30 pm	Lunch
	1:30pm to 2:30 pm	Student teams prepare for exhibition
	2:30pm to 4:30pm	Showcase and Exhibition for ATL, other schools and Parents
	4:30pm to 5:30pm	Prize distribution for best innovations

## \*KNOW YOUR ATL:

Introduce students to the different equipment available in the ATL.

- Randomly pick up a piece of equipment present in the ATL.
- Now do a quick internet search about the equipment that you are holding and find out what it does.
- Write this information down on sticky notes and paste them on the cardboard in a systematic manner.
- Try and write about all the equipment present in the ATL. By the time everyone is finished, the ATL will have details about all the equipment present in it for everyone's reference.



## KEY POINTERS FOR STUDENTS

- Students can work individually or preferably in teams.
- Students should present their innovation to an unknown audience that can help them validate it.
- Students should showcase their innovations and B-plan during exhibition at the TinkerFest.
- Students should capture their experience using videos and post them on Facebook.



**HAPPY TINKERING, THIS SUMMER.** 😊



**NITI Aayog**



ATAL INNOVATION MISSION