

ITL STEM LABS

Learn | Engage | Implement

To Help Educational institutions in promotion of Quality and Growth

About Courses offered:

- Adheres to the 5E teaching method of NASA education.
- Active exploration of real-world problems.
- Compliant with CBSE, NCERT and ICSE standards



Our Mission

To Help Educational institutions in promotion of quality and growth



We Provide:

- 2,3- and 5-days' workshop for 6th to 12th grade on aeromodelling, robotics, 3D printing, and cyber security.
- Stem Education based 40 weeks program, **STEM Studio** including course curriculum, lab equipment and teachers training.
- In Indicative list of ATL Vendors (Atal tinkering lab) providing ATL services and equipment.

Why We are here:

StemBridge Labs helps children develop

- Creative Thinking.
- Build confidence.
- Engagement in 21st century skills.
- Team Work & problem-solving skills.

We aim to expose kids to hands-on learning in STEM.

- **Experimental:** Aerospace Engineering, Science Concepts and Electronics, Civil Engineering.
- **Creativity:** Early Programming, 3-D Printing.
- **Play and Learn:** Mobile App Game Design.

Students Benefit:

- Build fully functional, interactive projects, explore robotics.
- Learn about connectivity and wireless communication via Bluetooth.
- Enhance problem-solving and teamwork skills.

Traditional Classroom



STEM Classroom



Scenario



Too focused on
textbook material

- Information Overload
- Lack of Critical Thinking



Little scope for
collaboration

- Lack of Social Skills
- Underdeveloped Leadership skills



Uniform evaluation
process

- Focused on information summarization
- Limited innovation

STEM STUDIO

Duration: (40 weeks)

Stem Studio our flagship program in which we will set up STEM LAB in the school. This STEM Lab is a tinkering lab which is based on Project Based Learning and real-world problems. It includes:

- ❖ STEM classes (Guided by trained instructors)
 - Course Curriculum
 - Assessment
 - Formative
 - Diagnostic
 - Instructions
 - Project Based Learning
- ❖ Lab Infrastructure (Optional)
- ❖ Lab Equipment



COURSE CURRICULUM

The course content has been divided into modules; each module helps to build a specific skillset and takes students closer to the overall objective of acquiring the appropriate skills and becoming a tinkerer – a creator, a maker - in simple words, a solution provider. Each of the modules has its own set of learning objectives and learning outcomes with a set of activities and resources for reference.

Module 1	Electronic Essential: Learn to develop own electrical prototypes
Module 2	Programming: Engage students in programming using scratch
Module 3	3D printing: In this module students will get to know one of the most trending technology of 3D printing.
Module 4	Aeromodelling: This module is aimed to help understand the basics of aeromodelling and thermodynamics concepts.
Module 5	STEM application kit: This module will help in the hands-on/DIY activities – explain how the ideas generated can be made into a real-time project
Module 6	Ideation and design thinking: The content of this module would help in the process of refining ideas and giving them a proper shape.
Module 7	Robotics: Make it yourself based Robotics project.
Module 8	Environment Science In this module projects will be related to our surrounding (like soil and water testing)

DIGITAL CONCEPT

TABLETS

- We provide tablets to group of students:
 - Used for organizing platforms like **Google Classroom**,
 - Create/View Presentations,
 - for conducting group Assessments.



ASSESSMENT

Instructional planning is divided into three components, which are approached as three separate, sequential steps. We have **Curriculum, instruction** and **assessment**. Assessment is the finish line. It is where we want the students to aspire to, the level we wanted them to reach at the end of their learning journey.

FORMATIVE/ DIAGNOSTIC ASSESSMENTS

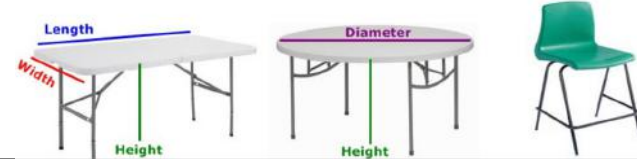
It occurs concurrently with instruction. These are ongoing activity monitoring activities that provide specific feedback to teachers and students. We are using online quizzes like **Kahoot**. While Diagnostic Assessment also known as Pre-assessments. We can typically use this type of assessment to check prior knowledge and skill. Pretests and Need to Know List.

LAB INFRASTRUCTURE

Tables and Chairs *

light weight chairs for flexible seating arrangements.

Dimension: 4*8, Shape: Rectangular, Quantity: Tables: 8,
Chairs: 45



Workstation: Dimension: 4*4, Shape: Rectangular,
Quantity: 3

Almira with glasses: Quantity: 2, Shape: Rectangular,
Dimension: 10*4



Equipment boxes:

It used to keep some devices and components which we are used on daily/weekly bases.



Laptops*

for video confessing and for software related tasks.

Size: 15.6-inch, Brand: Dell, Processor: i3+, Quantity: 3



Projectors*

It is used to explain things by visualizing concept

Brand: BenQ, Quantity: 01



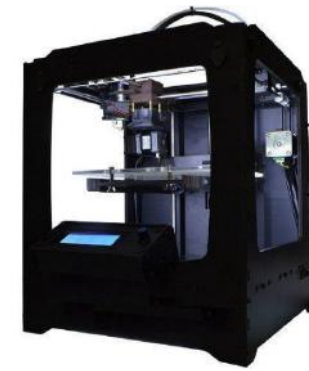
* Optional, not included in This quotation

LAB EQUIPMENTS

Name	Description	Quantity
Electronics, Robotics and Programming		
evive Starter Kit	6 Months Manufacturer warranty on evive brick, 1 year Warranty on Samsung Li-ion 2600mAh battery, no warranty on consumables)	15
Learning Modules	Robotics Arm, Agri Kit, Bio Medical Kit	6
Blix Building Kits	Zephyr Power Screw	5
Blix Building Kits	Zephyr Gear Box	5
Batteries	2000+ mAh Li Ion rechargeable battery	15
Battery Charger	iMax B3 Pro Li Ion Charger	5
Power Supply SMPS 12V 2A	Alpha Power, 1 year Manufacturer Warranty	5
RGB Led Strips	Waterproof, 5m Rolls, 60LED per meter	3
Miscellaneous Components	Sensors, IoT, Hobby electronics Components, Spare Motors, Power Banks, etc for 25 students	1
Consumable Electronics	Dupont Cables, Wires, LEDs, GPBs, Soldering etc	1



3D Printing and Tool		
3D Printer	AnyCubic I3 Mega	1
1 kg roll PLA Filament	Wanhao, 5 colors	5
3D Printing Kit	Tools, Backup power	1
3D Doodler Pen	3D Printing Pen (Chinese)	2
Exacto knife set	Generic	1
Miscellaneous Components	Craft and consumables	1

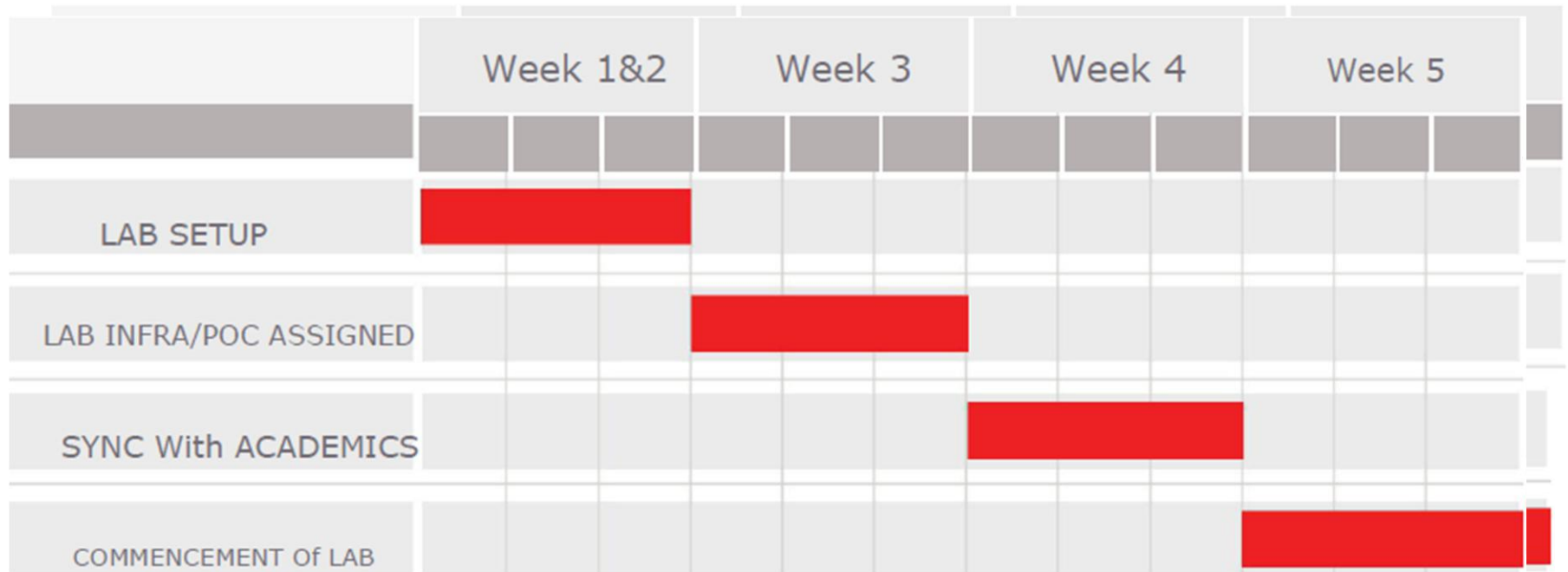


Mechanical Tool and Equipment		
Hammer	Taparia	2
Mallet	Taparia	2
C-Clamps	Taparia	4
Soldering Kits	Soldron	3
Electric Screwdriver Set	Bosch/Skill, 6 month Manufacturer Warranty	1
Jackley Set	Generic	4

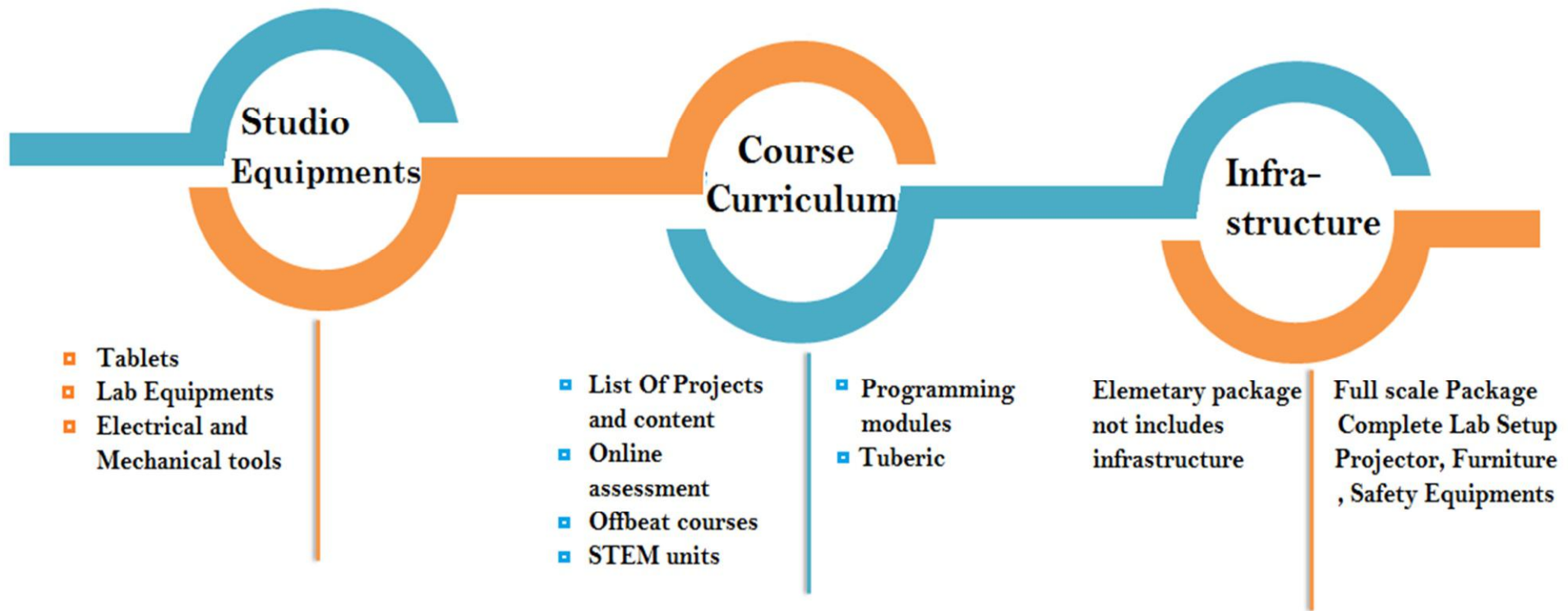


Skill Handheld Drill Set	Bosch, 1 Year Manufacturer Warranty	1
Nose Pliers	Taparia	5
Normal Pliers	Taparia	3
Strippers	Generic	5
Digital Multimeter	Mastech, 6 months Warranty	2
Glue Gun	Stanley 30W, 240V	4
Glue Stick	Generic	50
Hacksaws (Big, Small)	Generic	4
File set	Taparia	1
Spanner set	Taparia	1
Measuring tape 3M	Stanley	5
Spirit level	Stanley	2
Rainbow wire 100m	Generic	1
Nuts+Bolts assortment	Generic	1
Extension Cords	4 Plug, 1.5M Cable, With Fuse, Anchor	5
Tool Hanger	Generic	2
Nut Bolts Set	Generic	20
Cable Ties Set	Generic	1
Sand Paper Various Grits	Generic	12
Standard First Aid Kit	Bandages, Cotton, Ointments (Burns, Cut, etc) Spr a	1
Safety Goggles	3M	15





PROJECT TIMELINE



STEM STUDIO Offering

Problems our solution solves:

- Raising Quality Standard of School education.
- Enhancing Knowledge based education system rather than conventional information based existing scenario.
- Creating platform for digital learning opportunities.
- Student Centered approach to learning

What makes us different?

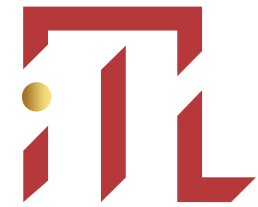
- Our Product and services provide solution for entire spectrum of School education.
- We focus mainly of In-School activities hence easy reachable to our customers in more effective and affordable way
- The way In which we are providing our solution is unique by implementing extensive enquiry and project based learning concept to increase students engagement and competitiveness to broaden thinking capacity of young minds
- Our Offering includes all lessons aligned to the **NCERT, CBSE, and NGSS (Next Generation Science Standards)**. These are very extensive lesson plans and easy to implement for teachers. They will also be aware of the global standards while doing these.

Our Supporters

#startupindia



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