
EDUSCOPE
Smart Learning Solutions Pvt. Ltd.
learning by doing
A Star Exporter Manufacturing Company
Info@eduscopeindia.com | www.eduscopeindia.com

EDUSCOPE
Smart Learning Solutions Pvt. Ltd.
learning by doing

A Star Exporter Manufacturing Company

About us



Our Company:

Eduscope Smart Learning Solutions Private Limited (EduScope) is an innovation driven, ISO certified, international company developing, manufacturing and equipping schools with Portable Science , Math Labs, Astronomy Labs along with Virtual Labs with immersive technology as per latest state curriculum.

EduScope is working for simplifying the education system and making learning fun. It offers a wide range of perfectly blended, innovative, academic product mix that makes teaching & learning, a rewarding experience.

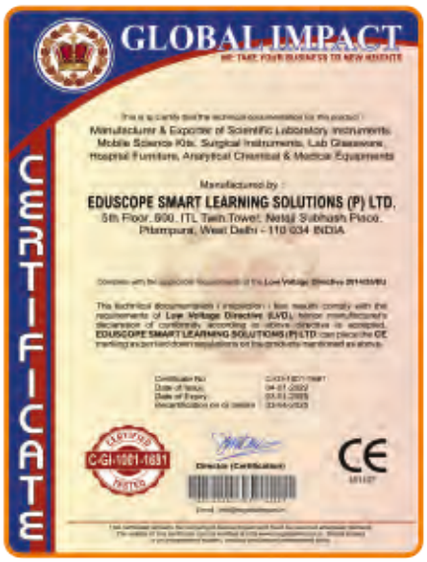
Our company was founded on the premise of improving children's ability to grasp, apply and retain concepts in their long-term memory.

The motto of the company is "Learning by Doing" We strive to create caring, competent and confident individuals, who ably cope with challenges not only in academics, but also in real life.At EduScope, our team consisting of Teachers and Trainers prepare students for this rapidly changing world by equipping them with Mobile Lab Kits that are engaging, and provide Learning by Doing which enhance the retention of the core STEM concepts. This refines their critical thinking skills, fosters creativity, hones systematic reasoning abilities and unlocks their innate potential while getting them ready .

Email id: info@eduscopindia.com
Website: www.eduscopindia.com

Contact us : +91-81680-86207

Certificates







worlddidac MEMBER

Certificate of Membership

This certifies that

Eduscope Smart Learning Solutions Pvt Ltd

110034 New Delhi

India

is a member of the

Worlddidac Association

Since 2023

(Member No. 4220)

Wolfwil, 24.05.2023

Dr Nadine Imani
President

Danny Gauch
Director General

This certificate is valid for one year and is renewed annually.

Industrie Baermli 3a
4628 Wolfwil
Switzerland

Tel: +41 31 311 7682
info@worlddidac.org

Heart & Lungs Model



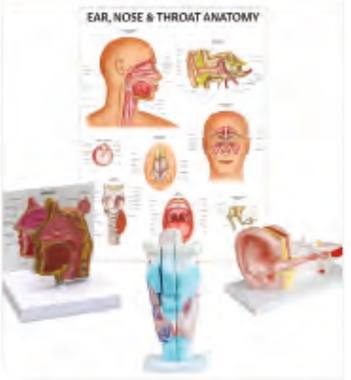
Skeleton Model



Dental Models



ENT Model



Nurse Training Manikin



Anatomy Set









Beakers



Distillation Apparatus



Micro filtration Assemblies



Hoffman Voltameter





Agate, Alumina Ware & Porcelain Ware

Crucible with Lid



Mortar & Pestle Agate



Mortar & Pestle



Mathematics

Math Lab Kit



Algebra Kit



Upright Abacus







Chemistry Equipments

Analytical Balance



Lab Chemicals AR Grade



Lab Plastic Ware



Boyles Law Apparatus



Spectrometer



Force Table



Optic Bench Kit



Newton's Colour Disc

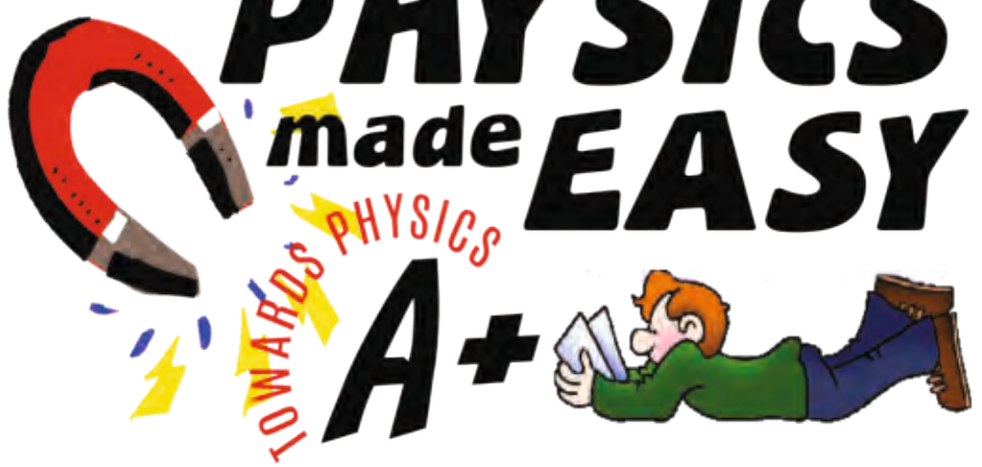


Light & Optics Kit









Digital Monocular Microscope



Student Microscope



Cordless LED Monocular Microscope



Dual View Teaching Microscope



Digital LED Binocular Compound Microscope



Penta Head Research Microscope





Dressing Trolly



Hospital Fowler Bed



ICU BED



Mercury Blood Pressure Machine



Bed Side Screens



Medicine Cabinet



Aneroid Sphygmomanometer



Wheel Chair Folding



Foldable Stretcher







Digital Turbidity Meter



Dissolved Oxygen Meter



Digital pH Meter



Digital UV VIS Spectrometer



Digital Salinity Meter



UV-VIS Spectrophotometer



Atomic Absorption Spectrophotometer



Water & Soil Analysis Kit



Differential Blood Cell Counter



Primary Electricity Kit



Human Body Kit



Science Trolley



Lab Science Kit



Light & Shadow Kit



Lab Science Kit





Subject: Setup and Operations of Astronomy Labs in Government schools

Respected Sir,

I am writing to propose a detailed program for an Astronomy Tinkering Laboratory in line with NITI Aayog mission, aimed at Government schools.

Science and technology form the foundation for a country's economic growth and development. With 50% of Indian population under 25 years of age, India's way forward is to empower her children with the ability to use and invent technology. The Govt. of India's Atal Tinkering Labs mission, a flagship program of the Hon'ble Prime Minister of India, under the aegis of Atal Innovation Mission, NITI Aayog, aims to create young innovators and entrepreneurs. The idea is to allow children to explore the world of innovation and research, and contribute towards nation development, by developing disruptive solutions to India's biggest problems. In this regard, Atal Innovation Mission, NITI Aayog is launched the ATL Space Module in 2018, to motivate students to explore and demystify the world beyond the earth.

Eduscope Smart learning Solutions Pvt Ltd, focuses on a wide range of topics in the domain of SpaceScience and Engineering and Astronomy. Our efforts encompass innovation, research, pedagogy and Astronomy outreach. The EduScope introduces schoolchildren to the exciting world of Astronomy andAstrophysics and inspires them to pursue careers in this field. Students from various schools of the country have been interacting with the faculty members, carrying out short-term projects and taking guidance for Astronomy and Astrophysics related inter/national level competitions like Astronomy Olympiad.

We have prepared a detailed proposal for setup and implementation of Astronomy Labs in Government schools (following the NITI Aayog mission attached as Annexure II) which involves procurement of Lab material, experimental kits and other gadgets, Teacher Training, 1 year support along with books as well as student assessment. The proposal is attached as Annexure –I for your kind perusal.

A. ASTRONOMY

Astronomy is a natural science that studies celestial objects and phenomena. It uses mathematics, physics, and chemistry in order to explain their origin and evolution. Objects of interest include planets, moons, stars, nebulae, galaxies, and comets. Relevant phenomena include supernova explosions, gamma ray bursts, quasars, blazars, pulsars, and cosmic microwave background radiation. More generally, astronomy studies everything that originates beyond Earth's atmosphere. Cosmology is a branch of astronomy that studies the universe as a whole.

Astronomy is one of the oldest natural sciences. The early civilizations in recorded history made methodical observations of the night sky. These include the Babylonians, Greeks, Indians, Egyptians, Chinese, Maya, and many ancient indigenous peoples of the Americas. In the past, astronomy included disciplines as diverse as astrometry, celestial navigation, observational astronomy, and the making of

calendars. Nowadays, professional astronomy is often said to be the same as astrophysics.

Professional astronomy is split into observational and theoretical branches. Observational astronomy is focused on acquiring data from observations of astronomical objects. This data is then analyzed using basic principles of physics. Theoretical astronomy is oriented toward the development of computer or analytical models to describe astronomical objects and phenomena. These two fields complement each other. Theoretical astronomy seeks to explain observational results and observations are used to confirm theoretical results.

Astronomy is one of the few sciences in which amateurs play an active role. This is especially true for the discovery and observation of transient events. Amateur astronomers have helped with many important discoveries, such as finding new comets.

WHY ASTRONOMY LAB

Universe is an endless and we know so little about it. Space as a subject is as vast as the universe itself with limitless possibilities. There are many facets and aspects of astronomy. We aim to play our part in introducing these future artists, scientists, designers, pilots, astronauts and geniuses to the universe at an early age so that they can start dreaming about great things. The astronomy labs are designed to provide meaningful learning (Authentic Learning), Provoke thought process (Critical thinking) and inspire creativity and innovation.

Astronomy is a close-knit field where you will get the opportunity to work with many people. Professional astronomers are motivated by curiosity and a deep desire to understand some of the grandest and most beautiful phenomena in the universe, as well as a desire to share these wonders with others. Astronomy, if properly taught, can promote rational thinking, and an understanding of the nature of science, through examples drawn from the history of science, and from present issues such as pseudo-science. Astronomy can be used to illustrate many concepts of physics, such as gravitation, light, and spectra

Laboratory exercises include observations of the sun, moon, and daytime astronomical activity. Indoor exercises include analyzing stellar spectra, exploring the celestial sphere, and astronomical photographic analysis.

LEARNING OUTCOMES

Astronomy students study space, the history and future of the universe, and the objects within, such as planets, stars, and galaxies. Subjects of study include the evolution of stars, how the stars and planets move through space, chemistry, and advanced math.

Classify objects in the solar system as star, gas giants, terrestrial or other. Represent the size of

the planets and solar system in a model. Explain in scientific language the origin of the solar system. Students will recognize the relationship between light, the Sun and other stars. By studying the cosmos beyond our own planet, we can understand where we came from, where we are going, and how physics works under conditions which are impossible to recreate on Earth. In astronomy, the Universe is our laboratory!

Astronomy is the study of everything in the universe beyond Earth's atmosphere. That includes objects we can see with our naked eyes, like the Sun, the Moon, the planets, and the stars. It also includes objects we can only see with telescopes or other instruments, like faraway galaxies and tiny particles

- Learning the method of active experimentation and result analysis
- Evaluate, understand the concepts to learn solve real life problems
- Using critical thinking to understand astronomy concept in depth
- Apply learned concept to create a project to present it
- Using imaginative thinking to create an artifact
- Learners understand process of performing astronomical research
- Learners participate in problem solving and presentation process
- Participants will perform authentic learning by problem solving through research

INITIAL REQUIREMENT FOR SETUP OF ASTRONOMY LAB

For successful implementation of Astronomy Lab, the Government through SAMAGRA SHIKSHA should do the following :

- Select Senior Secondary Schools which has Physics as a subject
- Select Schools which have good infrastructure (Newly Built room with electricity connection and
- relevant lights and fans)
- The room needs to be cleaned and painted white with proper ventilation
- Seating arrangement/ 50 Chairs
- The schools selected must be on national and state highways
- The schools selected must have a regular physics lecturer/ teacher (PGT)

Components of Astrology Lab

The Astrology Lab to have 2 types of Experiments and related Equipments

Group Experiments

Below are the equipments and their related experiment. These are called group Experiments and not done individually.

Sr.	Name	Description
1.	**Geometrical Optics - (Lens, Resolving Power, Magnification, Pin Hole)**	1. Demonstration involving images (real and virtual image formation, magnification, usage for telescopes) 2. Lenses and Resolving power dependence. 3. How does a basic camera work.
2.	**Optical Telescope Reflector (6 Inch)**	1. Observing through an optica telescope 2. Counting sun-spots.
3.	**Astronomy Models & Demonstration CLEA + Universe Sandbox videos + mini Bluetooth enabled projector**	1. The Interaction between stars and a black hple. 2. Habitability in an exoplanet. 3. Binary stars and their dynamics. 4. Virtual observation of stars and photometry 5. Hubble's law
4.	**Two Reflector dishes demonstration**	To Demonstrate the antenna reception and transmission using simple wireless sound communication.
5.	**Solar Projector - eclipse events**	Measuring the size of sun
6.	**Satellite Dish + LnB + SDR**	Concept of signal receiving and operation of a receiver.
7.	**Iot Kit - Respi, Adruino**	To introduce the use of low-power sensor sand compact computation system to measure the temperature, pressure, humidity, position and orientation of the satellite.
8.	**Robotics Kit**	To simulate a manned mission. It should be Able to go to a specific site, extract a soil/rock sample, store it safely return to its start sport.
9.	**Ex Peyes _ one tablet + keyboard + mouse**	The aim of this experiment to make them familiarize with the concept of receiver components such as filter and signal.

Astronomy Models

Sr. No.	Particular	Astronomy
1.	**Floating Ball** Material : Acrylic, Plastic, Electronics components. PS 230 VAC USE : To understand the concept of Electromagnetism.	
2.	**Motorized Solar System:** Size: 18 x 18" Material : Metal, Plastic, Electric Motor Use : Astronomy Education Type : Model Size & Material : Dimension (LxWxH): 30x21x25cm, ABS Plastic, Fibre, Wood. A conceptual Chart in Gujarati Language of A3 size provided in 6 colour print on minimum 3mm PVC base having a QR code that linked to an application for seeing conceptual video. Use: This activity will help to understand 8 planets position.	
3.	**Atomic Model:** Size: 24x18" Use: to understand how energy production from nuclear chain reaction. Material : Wood, Electronics Components, Microprocessor circuit, PVC etc.	
4.	**ISRO Space Science Model Set** (Launching Pad, GSLV MK II, Aryabhatt Paper DIY, Mangalyaan Paper DIY, Space Shuttle Paper DIY	

Sr. No.	Particular	
5.	**Newton's 3rd Law Model** It is made of an odd number of identical steel balls, each suspended by a bifilar suspension through light weight cord from a sturdy frame. Completely assembled.	
6.	**ISRO Mars Mission - LED Moving Display Model:** Size : 36x48 inches to understand how ISRO rocket PSLV MK III travel and reached to MARS. How Mangalyaan rotate around the Mars. Internal construction of PSLV rocket with LED glowing. Step by step information of Mars Mission.	
7.	**ISRO GSLV Rocket Model:** Ready to display 1 inch height GSLV Rocket Scale Model.	
8.	**DIY Hanging Solar System Kit:** Featuring Original two side scale photograph of planet & sun. Children can make a real working model. Ideal as a school activity. Great gift for developing scientific creativity. Kits Includes : Solar System Hard Paper Board, Long & Small Pipes, Bobbin with Thread & Joins with Instruction Manual.	

Sr. No.	Particular	
9.	**Astronomy Space Science Kit:** 1. Telescope 2. Microscope 3. ISRO Gaganyaan Astronaut's Suit 4. Telescope Making Kit 5. ISRO GSLV Rocket Model Making Kit 6. ISRO Mangalyaan Model Making Kit 7. Sun Dial Model Kit 8. Galileo Crossword Puzzle 9 Tracing Star Game 10. DIY Hanging Solar System Kit 11. Planispere 12. DIY ISRO Aryabhata Settelite Model Making Kit 13. DIY Indian Remote Sensing Sattelite Kit 14. Cosmos Book 15. ISRO Cap 16. ISRO 3D Postcard 18. Solar Viewer	
10.	**Longitude-Latitude - Time Zone Earth Globe :** Show the direction of Earth rotation, the earth exis, the two poles, polar circle, tropic of Capricorn and tropic of Cancer, Meridian and paralled, latitude and longitude. Diameter : 32 cms	

Design/Branding of Astronomy Lab	Abstract
Structure	Astronomy theme-based approach to stimulate learning enviornment.
Graphics	
Astronomy Posters	
Constellation Arts	
Astronomy Models	

Training to Trainers/Teachers

3. Structure	Abstract
Hybrid Teacher Training	Our teacher training course comprises arigorous curriculum knowledge, pedagogical view of the subject with this , the teachers learn how to develop the competencies to teach astronomy. Developing aptitude to teach astronomy, they also pick up knowledge on problem solving, building an action plan concerning their student aptitude, inclusively, etc.
Teacher Newsletter	
Downloadable Resources	
Dedicated Teacher Training Platform	

Details :

Educator Training Ideology



We at astronomy lab train the trainer module using TPACK model. TPAK framework builds on Shulman's (1987, 1986) descrpitions of PCK to describe how teacher's understanding of educational technologies and interact with one another. By simultaneously integrating knowledge of technology, pedagogy and content, expert, teachers bring TPACK into play any time teach. There is no single technological solution that applies for every teacher, every course, or every view of teaching. Rather, solutions lie in the ability of a teacher to flexibly navigate the spaces defined by the three elements of content, pedagogy and technology and the complex interactions among these elements in specific contexts. ignoring the complexity can lead to over simplified solutions or failure, Thus, teachers need to develop fluency and cognitive flexibility not just in each of the key domains (T,P and C), but also in the manner in which these domains and contextual parameters interrelate, so that they can construct effective solutions. This is the kind of deep, flexible, pragmatic and nuanced understanding of teaching with technology we involved in considering TPACK as a professional knowledge construct for the astronomy train the trainer program.

PORTABLE KITS

- PHYSICS
- BIOLOGY
- CHEMISTRY
- MATHEMATICS



PORTABLE KITS



EduScope Science Kits are innovative kits that are designed exclusively to mix and blend education and fun. These kits are mainly designed to impart knowledge because they provide detailed and subtle facts on various aspects of life and physical sciences.

They are mainly popular among the students who learn science and are curious to experiment on various scientific facts and data. A student is able to explore different branches of Science including Chemistry, Biology, Physics, Ecology and Mathematics using our Kits. Not only children enjoy using science experiment kits, EduScope kits are even very helpful for the teachers.

They are a superb way for teachers to explain different science concepts to their students. These kits are a great help for parents who teach their children at home by themselves and want to make the topics interesting. EduScope Science kits make use of real life investigations that help kids to think about what they have learnt and how to apply it when they go outside to discover, or while they are in the classroom.

Overall, EduScope Educational Kits will teach a child science concepts that they can apply to the world around them, and help them think outside the box. Teachers and parents find these kits very useful in educating their children because these kits help teach both the in-depth principles of science and the hand-on learning of Science and Mathematics.

Atal Tinkering Lab

Advanced & Futuristic Educational Kits

- *Trained over 1,00,000 Youths in last 3 years*
- *Technology Partner 'Eduscope' smart learning systems*
- *100+ Training centers in India*
- *Bench Strength of over 50 trainers*
- *Affiliated with 26 sector skill councils*
- *Implemented Tinkering Labs in 50+ schools*



Advance DIY Kits



Beginner's STEM Kit







Tinkering Lab Equipments



AI & Robotic Kits



AI & Coding Application

STUDENT LEARNING PROGRAMS



EDUSCOPE
Smart Learning Solutions Pvt. Ltd.
learning by doing

Eduscope Smart Learning Solutions Private Limited

806, Pearls Business Park, Pitampura,
New Delhi - 110034, India

Info@eduscopeindia.com | www.eduscopeindia.com

Contact : +91-81680-86207