SCALEOPAL LABS

COMPOSITE SKILL LAB

HANDS-ON LEARNING
FOR A BRIGHTER TOMORROW

A future-ready learning space to build real-world skills, creativity, and confidence in every student.







- Work With Life Forms
- Work With Machines & Materials
- Work in Human Services

EXPLORE | PRACTICE | CREATE | GROW

COMPOSITE SKILL LAB (CSL)

Turning Classroom Learning into Real-World Skills

SCALEOPAL LABS



What is a Composite Skill Lab?

A **Composite Skill Lab (CSL)** is a dedicated, hands-on learning space where students from Classes VI to X explore different vocational areas, work with tools and materials, and apply classroom knowledge to real-world challenges.

Aligned with the vision of the **National Education Policy (NEP) 2020** and **CBSE's skill education framework**, a CSL promotes learning by doing through practical projects, guided experimentation, and interdisciplinary activities. It helps students move beyond textbooks to discover their interests, develop practical abilities, and understand how skills are used in everyday life and the world of work.

Why Does Your School Need a CSL?

Make Learning Practical

Connect classroom concepts with hands-on experiences that make learning engaging, meaningful, and easier to apply.

Introduce Students to Vocations

Expose students to diverse skill areas, industries, and real-world applications from an early stage.

Develop Future-Ready Competencies

Build creativity, critical thinking, communication, collaboration, and problem-solving through project-based learning.

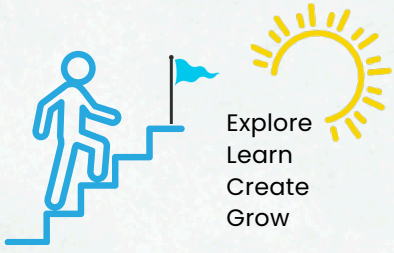
Encourage Exploration and Innovation

Give students opportunities to experiment, design, build, create, and learn from their experiences.

Prepare Students for a Changing World

Help learners develop practical confidence, adaptability, and an understanding of the relationship between education and careers.

A Composite Skill Lab is more than a room with equipment — it is a space where students discover their potential, develop practical skills, and turn knowledge into action.



A COMPLETE CSL ECOSYSTEM

SCALEOPAL LABS

Academic Planning. Practical Learning. Digital Enablement.

An integrated approach to implementing vocational and experiential learning across Grades 6-10.

Core CSL Services

01. Curriculum Mapping & Academic Planning

Grade-wise curriculum mapping, sector-wise learning pathways, and academic year planning.

02. Project-Based Learning & Practical Resources

Vocational projects, activity guides, and practical implementation resources.

03. Equipment & Learning Materials Planning

Sector-wise tools, equipment specifications, and inventory planning.

04. Teacher Orientation & Training

Teacher orientation, project demonstration, and equipment handling

05. Initial Implementation Support

Programme readiness, coordination, and initial operational handover.

06. Safety Equipment & Safety Corner Setup

Fire safety, first aid, PPE, safety signage, and dedicated safety arrangements.

07. Digital Learning Resources, LMS & Coding Application

Student resources, teacher PPTs, LMS, and mobile coding application.

Add-On Services

01. CSL Infrastructure Setup & Provisioning

Furniture, workstations, storage, and sector-wise lab configuration

02. Dedicated CSL Trainer Deployment

Dedicated trainer for theory, practical sessions, and project guidance

03. AI Learning Infrastructure Setup

Computing systems, AI software, coding tools, and computer workstations for AI and other computer-based projects.

SCALEOPAL LABS

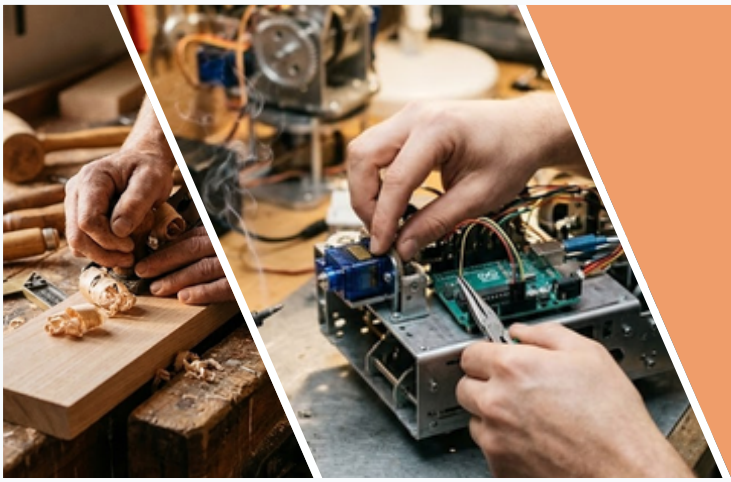
THE THREE WORK FORMS

The Core Learning Framework

Work With Life Form

- Agriculture & Gardening
- Hydroponics & Aeroponics
- Precision Farming & Rooftop Farming
- Food Production
- Basics of Cooking





Work With Machines & Materials

- Electronics & Mechatronics
- Carpentry & Woodwork
- IT, 3D Modeling & Animation
- Food Processing

Work In Human Services

- Business & Banking Fundamentals
- Retail & E-commerce
- Healthcare
- Media & Data-Based Services
- Presentation & Communication



One Learning Environment. Three Work Forms. Endless Opportunities To Learn By Doing.

GRADE 6

SCALEOPAL LABS

Work With Life Form



Agriculture

- Terrace Vegetable Garden
- Bottle Drip Irrigation
- Organic Waste-to-Compost Unit

Food Production

- Mastering Cooking Techniques
- Precision Cutting & Salad Making
- Fresh Fruit Juice Studio

Work With Machines & Materials



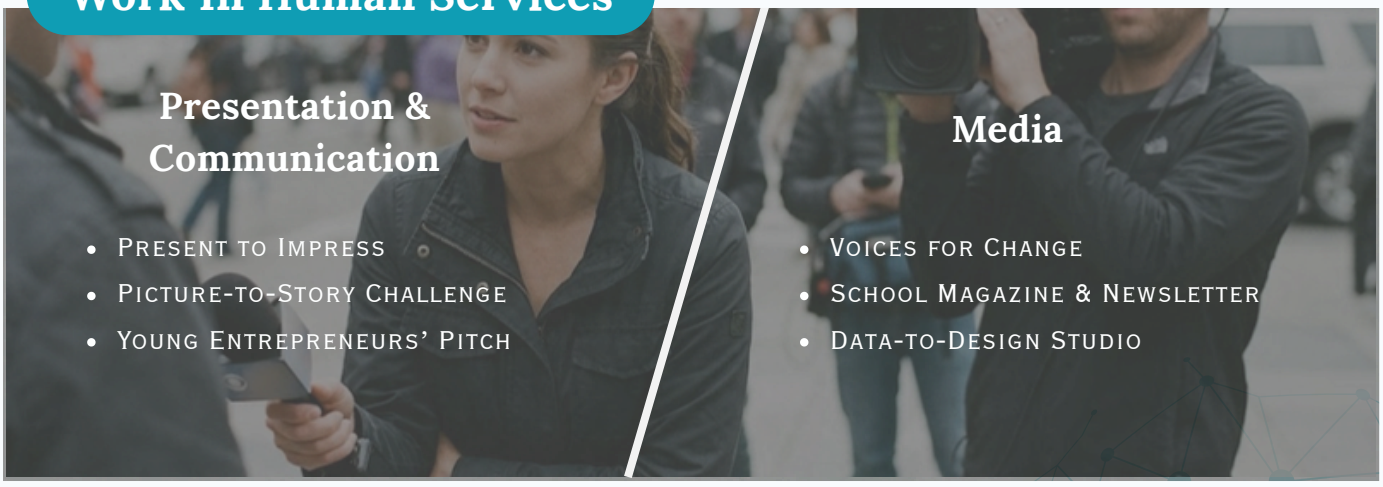
Electronics & Mechatronics

- Hands-Free Smart Bell
- Energy-Saving Street Lights
- Smart Living Model

Crafting

- Clay to Creations
- Build-a-Bridge Challenge
- Mini Makers: Woodcraft

Work In Human Services



Presentation & Communication

- Present to Impress
- Picture-to-Story Challenge
- Young Entrepreneurs' Pitch

Media

- Voices for Change
- School Magazine & Newsletter
- Data-to-Design Studio

GRADE 7

SCALEOPAL LABS

Work With Life Form



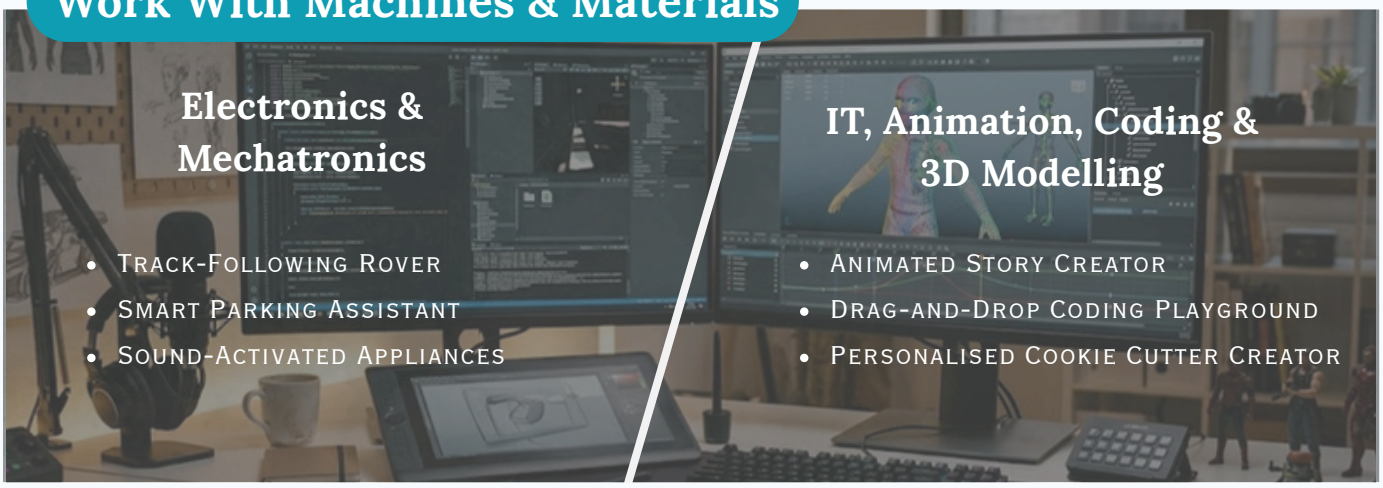
Food Production

- Creative No-Cook Kitchen
- From Milk to Paneer
- Refreshing Beverage Makers

Agriculture

- Soil-Free Gardening
- Seeds to Seedlings
- Seed-to-Seedling Nursery

Work With Machines & Materials



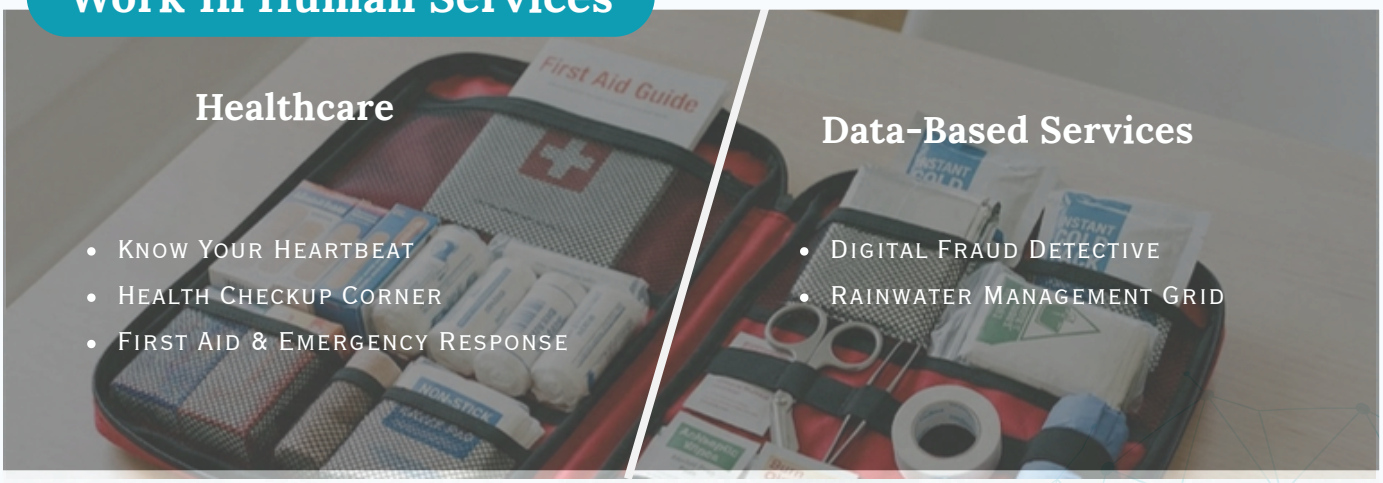
Electronics & Mechatronics

- Track-Following Rover
- Smart Parking Assistant
- Sound-Activated Appliances

IT, Animation, Coding & 3D Modelling

- Animated Story Creator
- Drag-and-Drop Coding Playground
- Personalised Cookie Cutter Creator

Work In Human Services



Healthcare

- Know Your Heartbeat
- Health Checkup Corner
- First Aid & Emergency Response

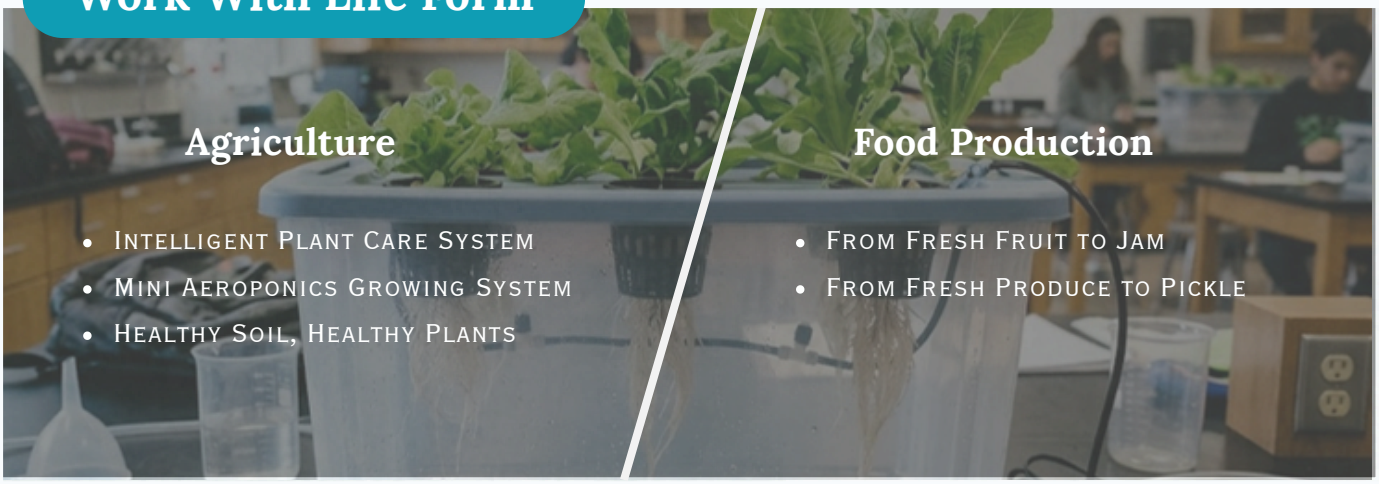
Data-Based Services

- Digital Fraud Detective
- Rainwater Management Grid

GRADE 8

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Work With Life Form



Agriculture

- Intelligent Plant Care System
- Mini Aeroponics Growing System
- Healthy Soil, Healthy Plants

Food Production

- From Fresh Fruit to Jam
- From Fresh Produce to Pickle

Work With Machines & Materials



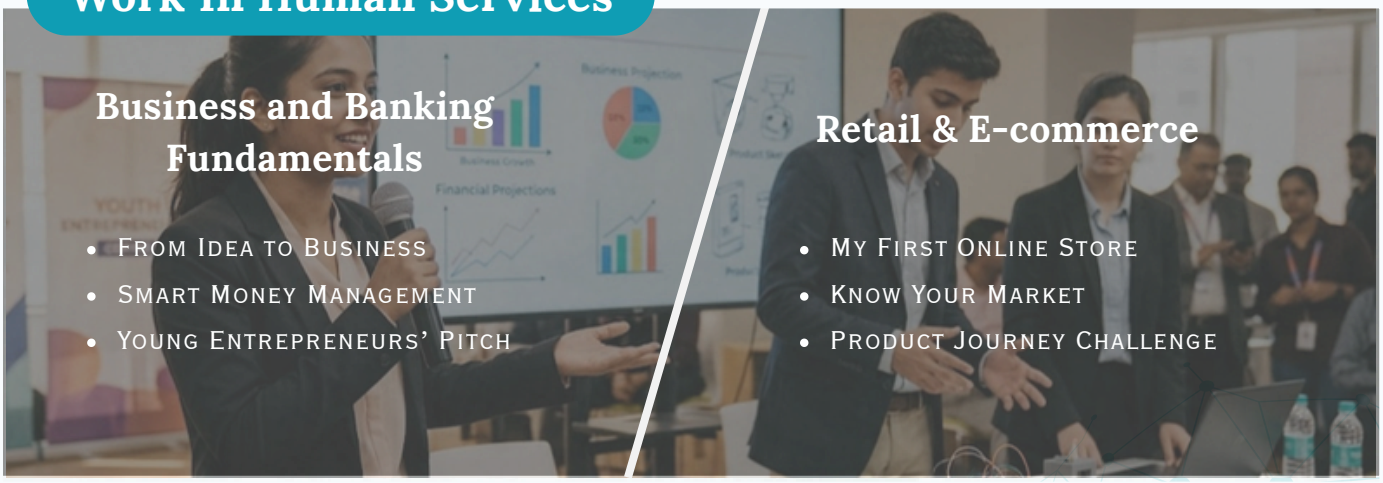
Electronics & Mechatronics

- Bluetooth Rover Challenge
- Driver Alertness Monitoring System
- Internet-Connected Safety Monitor

3D Modelling, IT & Carpentry

- Create in 3D
- From Digital Model to Real Object
- Mini Furniture Makers

Work In Human Services



Business and Banking Fundamentals

- From Idea to Business
- Smart Money Management
- Young Entrepreneurs' Pitch

Retail & E-commerce

- My First Online Store
- Know Your Market
- Product Journey Challenge

GRADE 9

SCALEOPAL LABS

Work With Life Form

Introduction to Agricultural Practices
(MANDATORY)

- Soil Testing & Comparison Station
- Seed Quality & Germination Lab
- Vermicomposting & Organic Waste
- Grow & Drip Garden

Precision Farming

- Smart Soil Moisture Irrigation System
- Farm Climate Monitor
- AI-Powered Soil & Crop Advisor

Work With Machines & Materials

Shaping Material
(MANDATORY)

- Build Your Desk Organiser
- Clay Craft Workshop
- Design, Fold & Pack
- Gear Design & Printing

Food Processing

- Tomato Sauce Production & Packaging
- From Whole Spices to Powder
- Healthy Bites Production

Furniture Making

- Build Your Own Bookshelf
- Mini Wooden Stool Workshop
- Smart Storage Solutions
- Key & Essentials Organiser

Work In Human Services

Personal and Lifestyle Services
(MANDATORY)

- Ask Your School Bot
- Smart Feedback System
- Smart Spending Tracker

Healthcare

- Digital Heart Rate Monitoring Station
- ECG Awareness & Monitoring Lab
- Water Quality Monitoring System

Data-Based Services

- Digital Weather Dashboard
- School Attendance Data Dashboard

GRADE 10

SCALEOPAL LABS

Artificial Intelligence (AI)

- Computer Vision
- Natural Language Processing (NLP)
- Machine Learning & Statistical Data
- AI Ethics & AI Project Life-cycle

Information Technology (IT)

- Digital Documentation
- Spreadsheets & Data Analytics
- Database Management

Data Science (DS)

- Use of Statistics in Data Science
- Distribution in Data Science
- Identifying Patterns in Data

Agriculture

- Agriculture Producton & MAnagement
- Production & Management of Horticultural Crops
- Post-Production, Handling, Packaging and Processing of Food Products
- Seed Production & Nursery Management

Food Production

- Introduction to Cookery
- Methods of Cooking
- Vegetable & Fruit Cookery
- Soups, Salads & Sandwiches

LEARNING OUTCOMES

SCALEOPAL LABS

Domain	Core Student Learning Outcomes
Work with Life Forms	• Test soil quality (pH/texture), seed viability, and manage vermicomposting units. • Build and maintain hydroponic, low-cost aeroponic, and drip irrigation systems. • Deploy sensor-based automated irrigation and climate monitoring systems. • Process and preserve food products (paneer, jams, pickles, ground spices) with food safety and retail packaging
Work with Machines & Materials	• Build functional circuits using LDRs, sound, and ultrasonic sensors for smart automation. • Program line-following and Bluetooth-controlled rovers alongside IoT safety monitors. • Design 3D CAD models and fabricate functional mechanical parts, gears, and enclosures. • Practice woodworking joinery, measuring, and safe tool use to construct furniture and organizers. • Apply computational logic, drag-and-drop programming, and sprite animation
Work in Human Services	• Monitor vitals (pulse, BP concepts, ECG traces) and test water quality (pH/TDS). • Execute basic first aid protocols and emergency response procedures. • Manage personal budgets, understand banking workflows, and spot digital fraud. • Conduct market research, map supply chains, set up online storefronts, and deliver venture pitches. • Create data dashboards (attendance, weather) and design rule-based school chatbots.

AI-POWERED COMPOSITE SKILL LABS

SCALEOPAL LABS

From AI Awareness to Real-World Innovation

Prepare students for a world shaped by Artificial Intelligence through hands-on, interdisciplinary, and project-based learning.

Our AI-enabled Composite Skill Labs integrate AI literacy, data science, coding, robotics, and responsible technology use into meaningful vocational projects. Students progress from exploring everyday AI applications to developing and evaluating AI-enabled solutions to real-world challenges.

A PROGRESSIVE LEARNING JOURNEY Grades 6–10

Grade 6 — Discover AI:	Understand AI, explore everyday applications, and practice safe, responsible digital use.
Grade 7 — Experiment with AI:	Explore patterns, classification, and learning from examples.
Grade 8 — Build with Data:	Develop data literacy, coding and introductory AI and sensor-based projects.
Grade 9 — Apply AI:	Design AI-enabled solutions to practical problems and evaluate their performance.
Grade 10 — Innovate with AI:	Build, test, and present AI prototypes supported by data and evidence.

AI MEETS REAL-WORLD SKILLS

Students explore AI through interdisciplinary projects spanning agriculture, sustainability, food production, design, manufacturing, entrepreneurship and digital services.

Examples include smart-garden monitoring, waste classification, product design, market-data analysis and intelligent prototypes.

AN INTEGRATED AI INNOVATION ENVIRONMENT

Our CSL infrastructure brings together:

- AI and digital learning tools
- Coding and data-analysis environments
- Robotics, sensors and electronics
- Design, making and prototyping resources
- Responsible AI practices and guided project learning

BEYOND LEARNING ABOUT TECHNOLOGY

Students develop critical thinking, creativity, collaboration, data literacy, problem-solving and responsible technology habits while learning to question AI outputs, test ideas and improve their solutions.

The CSL Advantage: Learn by Doing. Build by Thinking. Innovate with AI.

Transform Your Campus Today.

Book a quick walkthrough to see how our ecosystem fits your classrooms.

Book A Meet Now

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