STEM EDUCATION FOR 21 CENTURY SKILLS

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Students age 10–16 + Teacher | **Group size: 10–30 students** | **Duration: 2 days**

Day 1

Part 1 — School Introduction

Better understanding of the school context, student level and local needs.

Part 2 — Train the Teacher

Intro to Micro:bit and lesson plans. Teachers gain confidence to run extra workshops independently.

Day 2

Student Workshops

Hands-on intro to Micro:bit. First coding success within 5 minutes. Environmental coding connecting STEM to sustainability.

Needs & Outcomes

NEEDS

Devices with internet access (phones, laptops, tablets)
Stable internet connection
Translator if needed

OUTCOMES

Students code successfully within 5 minutes on Day 2.

New STEM skills gained and ready for extended lessons.

Teachers confident to run independent workshops.

Programme: First steps with the Micro:bit and environmental coding

1

Digital Storytelling

GAME-BASED · CULTURAL · INTERACTIVE

GNH
Pillars
culture · wisdom

→

Narrative
Design
create · build

→

Interactive
Worlds
explore · share

Students co-create stories rooted in Bhutanese wisdom

2

Smart-City Simulations

GELEPHU MINDFUL CITY · DIGITAL MODEL

Energy | Water | Biodiversity | Mobility | Wellbeing

3

Technology Innovation

HANDS-ON · PROTOTYPE · INVENT

Sensors

Climate & mobility data

3D Printing

Prototype smart solutions

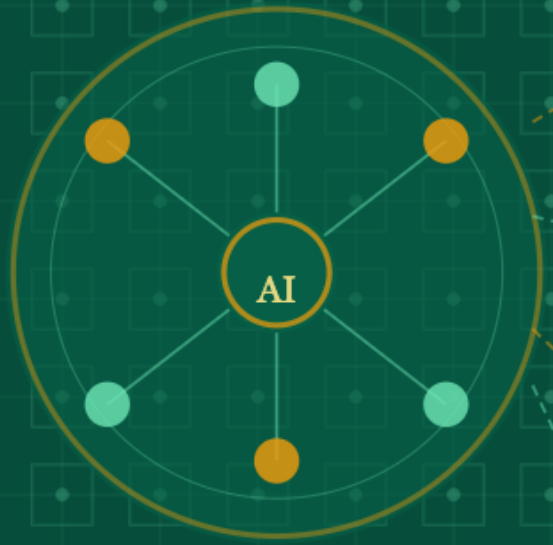
Platforms

Code, simulate, design

Students prototype smart mobility & climate solutions

AI & 21st Century Skills

MINDFUL · ETHICAL · HUMAN-CENTERED



GNH guided

- **Design & Data Analysis**
- **Storytelling & Simulations**
- **Mindful Technology Use**
- **Ethical AI Citizenship**