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## (EEIP Lv2) Experiment Empowered Introductory Physics

Sept 2024 Version

### Goal and Motivation

This program aims to offer students in middle school and junior years of high school an introduction to high school physics from the experimental perspective. Physics education in high school tends to have a strong focus on theory. However, students often learn physics better when it is taught with experiments. The Experiment Empowered Introductory Physics (EEIP) series is suitable for all students interested in physical science and engineering. EEIP Level 2 introduces a range of topics from rotation, oscillation, waves, fluid mechanics, thermal physics.

### Prerequisite

- Grade 10 or equivalent math
- Completed EEIP Level 1
- Grade 11 or equivalent physics recommended

### Textbook

Fundamentals of Physics 10th Edition by Halliday and Resnik This is one of the most renowned books for introductory physics. EEIP Level 2 will cover **Chapters 10 - 20**. Certain sections will be skipped and revisited in later levels.

### Date and Time

**Concept Lecture:** Odd Number Weeks, Saturday 1:00 PM - 3:00 PM, in-person at SciTechnia Lab (time to be finalized based on student request)

**Experiment Session:** Even Number Weeks, Saturdays 1:00 PM - 3:00 PM, in-person at SciTechnia Lab (time to be finalized based on student request)

### Tuition

\$1750 (19 weeks, 38 hours total)

## Schedule

Week	Date	Topic	Experiment
1, 2	Sept 7,14	Rotational Motion	Hoop Race
3, 4	Sept 21, 28	Rolling Torque and Angular Momentum	Fidget Spinner Gyroscope
5, 6	Oct 5,12	Gravitation	Measure Density of Materials
7, 8	Oct 19, 26	Fluid	Heron's Fountain
9, 10	Nov 2, 9	Oscillation	Mass spring oscillator
11, 12	Nov 16, 23	Waves 1	String Instrument
13, 14	Nov 30, Dec 7	Waves 2	Organ Pipe
15, 16	Dec 14, 21	Thermal Physics 1	Measure Specific Heat of Water
17, 18	Jan 4, 11	Thermal Physics 2	Measure Latent Heat of Water
19	Jan 18	Buffer time, review	

## Registration, Contact, and Payment

**Registration:** Send an email to [info@scitechnia.org](mailto:info@scitechnia.org). Please include the student name, grade.

**For inquires:** Please email [info@scitechnia.org](mailto:info@scitechnia.org)

**Payment:** e-Transfer to [info@scitechnia.org](mailto:info@scitechnia.org).