HOW-TO GUIDE

A Guide to Applying Teacher-Led Innovation in Grade Seven

PRACTICAL EXPERIENCES

JULY 2026

01 Principles and Basis of Implementation

This guide is an education program designed based on assessment results (score 0.3 in geometry and 2.5 in chemistry).

Evidence-based: The student assessment results show that teaching in the classroom is not practical, and students are not learning well. So, this guide introduces practical teaching instead of only verbal teaching.

Inclusive approach: For students who have difficulty with advanced experiments, simple/basic activities are used together with more advanced chemistry activities.

Teacher-led: Teachers worked together as a school team and shared their experiences to create a practical teaching method.

02 Detailed Instructions for Classroom Activities

Section A: Literacy and Communication Workshop (45 minutes daily)

A.1 15-Minute Reading and Discussion Activity

Method: Students select a scientific or historical text from the school library.

Details: After reading, they write 3 key sentences and read them aloud to their classmates and share their ideas. This activity helps improve language and communication skills.

A.2 Word Structure Activity

Method: The teacher writes difficult words from chemistry and physics (such as molecule, force, density) on a flip chart.

Details: Students break the words into parts and then use them in a simple sentence based on their understanding.

Section B: Practical Mathematics and Geometry Workshop

B.1 Geometry Engineering

Method: Instead of drawing on the board, students use rulers, scissors, and cardboard to make physical models of shapes like triangles and squares. They also learn real measurements from the school environment.

Details: Students use a 30 cm ruler to measure the sides of models and real objects. They calculate length, area, and size in a practical way.

B.2 Market Calculations (Basic Math Operations)

Method: A small market is created inside the classroom. Students use real or simple items and money to practice multiplication and division of prices.

Chemistry equations: Students are given simple chemistry equations and work in small groups (2–3 students) to solve them.

Scientific report: Students prepare a short report based on how they solved the equations.

Presentation: Students present their work in the classroom.

02 Section C: Practical Chemistry and Physics Laboratory

C.1 Plastic Bottle Chemistry

Method: Use vinegar and salt in plastic bottles to show chemical changes.

Details:

- Students write a list of materials (elements and compounds)
- They observe and experience chemical reactions
- They write a simple report about the experiment
- They present their work in the classroom

C.2 Motion Physics

Method: Use small plastic cars on different surfaces in the classroom to understand friction and force.

Activities:

- Show and explain experiments
- Use questions and answers instead of memorizing

C.3 Biology

Activities:

- Use a human skeleton model to learn about bones and body systems by touching and observing
- Make simple biology models using waste or recycled materials
- Give small research topics to students and ask them to present in the class

04 Management, Sustainability, and Capacity Building

Learning circles: Teachers involved in this program share their successful experiences every week in meetings with other teachers in the school.

Student leaders: Students from this class will act as learning leaders next year and support new Grade 7 students.

Learning materials: Skeleton models, teaching tools, and other learning materials will be kept in the laboratory and library as permanent resources.

05 Impact Evaluation and Recognition of Innovators

Comparative assessment: Students present their scientific reports and presentations to the education authorities at district level.

Educational exhibition: At the end of Aqrab (November), a big event will be held. Students who improved from very low marks to high marks will be recognized and celebrated as learning champions.

FINAL RECOMMENDATION FOR TEACHERS

This is a great opportunity to improve students' learning outcomes. Use classroom time in the best way. Let students work with learning models, use the library, and do experiments with simple materials.

Students' success is the greatest reward for your innovation.