

Key Messages

Mathematics

- Mathematics is a mode of thinking, a powerful means of communication, a tool for studying other disciplines and an intellectual endeavour.

Aims of Mathematics Curriculum

- To develop students' ability to conceptualise, inquire, reason, communicate, formulate and solve problems mathematically; and their capability of appreciating the aesthetic nature and cultural aspect of mathematics.

Emphases of Mathematics Curriculum

- To focus on fundamental knowledge and skills, capabilities to learn how to learn, think logically and creatively, develop and use knowledge, analyse and solve problems, access and process information, make sound judgement and communicate with others effectively
- **To focus on both content and process as thinking skills cannot be developed in a vacuum**
- To develop students' confidence and positive attitudes towards mathematics learning
- To **encourage due amount of practice** which is always required to help students master the basic skills, but **discourage meaningless and over-drilling**

The Central Curriculum of Mathematics Education: An Open and Flexible Framework

- The central curriculum, in the form of an open and flexible framework, sets out what schools are encouraged to help learners develop:
 - Subject knowledge and skills as embodied in the learning targets under the Learning Dimensions and in the learning objectives;
 - Generic skills (through learning & teaching strategies); and
 - Positive values & attitudes.

Learning and Teaching of Mathematics

- During the process of mathematics learning, our students are expected to
 - understand mathematical concepts and related skills;
 - understand symbolic treatment of mathematics;
 - apply mathematical knowledge in real-life situations;
 - develop thinking abilities and foster positive attitude towards mathematics learning;
 - show and maintain interest in learning mathematics; and

- participate in mathematics-related activities and hence broaden their perspective in the field of mathematics.
- During the process of teaching mathematics, our teachers are expected to
 - discourage students to do meaningless drilling;
 - adapt the mathematics curriculum to cater for student diversities and flexibly use the curriculum space created for consolidation and enrichment;
 - encourage more teacher/student interaction in class to enhance students' thinking and communication skills; and
 - use diversified learning activities and tools (including project learning and using information technology) and diversified assessments (including classroom observation, questioning, open-ended questions and projects) for improving learning and teaching.

Connecting School-Based Curriculum Development to Central Curriculum

- For school-based curriculum development, schools could vary the organization of
 - content, contexts and examples;
 - learning and teaching strategies;
 - pace of learning and teaching;
 - modes of assessment, etc.

Assessment

- To obtain a comprehensive view of students' achievement and performance, a balanced and diversified assessment is helpful. Some common assessment activities in mathematics include:
 - Class discussion or oral presentation
 - Observation of students' performance in class
 - Classwork and homework
 - Project work
 - Short quizzes
 - Investigations
 - Tests and examinations

(Refer to *Basic Education Curriculum Guide (CDC, 2002)* for more information on various curriculum matters.)