Abstracts of Workshops for Teachers

Primary

P1 - Developing mathematical reasoning – The role of calculators
   by A/P Ng Swee Fong
   The introduction of calculators in 2007 as a teaching and learning tool in primary five
   and six mathematics classes means that we no longer need to be bogged down with paper
   and pencil calculations. Rather the use of calculators provides teachers and students
   another avenue to explore mathematical reasoning. In this workshop, I will share with
   teachers ways they can use calculators to develop mathematical reasoning.

P2 - Using short open-ended questions to develop and assess mathematical
      reasoning by A/P Foong Pui Yee
   Participants will explore short open-ended tasks for developing reasoning in primary
   mathematics. They will take traditional closed problems that expect one right answer and
   one method of solution and turn these into rich learning tasks that encourage pupils to
   take an open approach, reasoning and thinking deeply about mathematics. They will also
   be introduced to appropriate rubrics for grading pupils’ work. Samples of pupil work will
   be shared and experiences of teachers who have used open problems will also be
   discussed.

P3 - Enhancing mathematical reasoning through journal writing in the primary
      math classroom by A/P Douglas Edge & Mr Eric Chan
   In this workshop, participants will i) address the shift towards children’s writing in
   mathematics and the benefits thereof ii) examine, critique and create journal prompts with
   respect to different domains and iii) assess pupils’ sample responses and how to help
   pupils extend their reasoning and thinking.

P4 - Games in primary mathematics classrooms
   by A/P Koay Phong Lee
   This workshop will explore the use of games and puzzles to help primary school pupils
   improve their mathematical reasoning and problem solving skills.

P5 - Generating mathematics investigative tasks from a given stem
   by Miss Chua Kwee Gek
   Mathematics investigation (MI) task by its very divergent nature requires much
   reasoning. Reasoning entails the hierarchy of thinking ranging from basic through
   critical to creative thinking. Teachers will be given an opportunity to generate creative
   MI tasks. In the process of searching for solutions to these tasks, reasoning is fostered.