This presentation provides examples on how multiple-choice questions (MCQs) can be designed to assess students’ comprehension of assigned reading of math texts, conceptual understanding, and/or ability to apply their knowledge. How these MCQs can foster higher-order thinking and mathematical reasoning will be illustrated. Implementation strategies will be shared. For example, students have three boxes to enter their answer(s) for each MCQ; they can enter the same choice (e.g. C-C-C) if they are confident of a particular answer or a combination of choices (e.g. C-B-E) if they are uncertain. After working on the MCQs individually, the same MCQs can be used to engage students to work in a small group, communicate and exchange ideas, evaluate each others’ reasoning, address discrepant ideas, and gain consensus. An IF-AT form, with a thin opaque film covering the correct answers, provides students with immediate feedback as to whether their answer choice is correct. Students can keep scratching until they find the star which denotes the correct answer. This presentation offers practical tips on how to design engaging MCQs and how to use MCQs to engage students and foster mathematical thinking and learning. These MCQs are used in a math course for pre-service EC-8 teachers. (Received September 05, 2013)