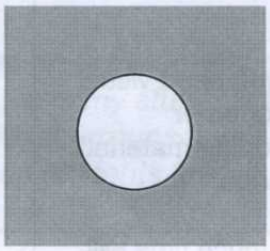
Engaging Students in Active Learning
MCS Graduate Orientation
August 24, 2016

1. Introduce yourself to a partner and discuss:
   a. How do you think you learn best?
   b. What are your previous experiences with "recitation" and/or "discussion" sessions?
   c. What do you think is the optimal use for recitation?
   d. How do you see your role as a recitation leader?

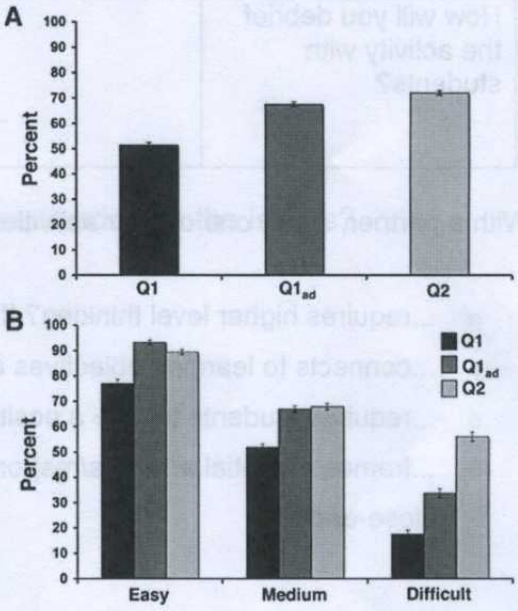
2. Envision a metal plate with a circular hole in the center:
   Then imagine you put it in a very hot oven (below the melting temperature of the metal).
   What happens to the hole?

   A. Hole gets larger
   B. Hole gets smaller
   C. Hole stays the same size
   D. I don't know



From Eric Mazur, Physics, Harvard University

3. Smith et al. (2009) Why peer discussion improves student performance on in-class concept questions. *Science* 323(5910):122-124.



4. Design an active learning activity for your class

	An activity for MONDAY	An activity for SOMEDAY
What is a concept or skill you want your students to practice or apply?		
Describe the nature of the activity (e.g., think-pair-share, concept map, clicker question, etc.)		
What is the prompt or question?		
Will you need visual aids or other supporting material? Describe.		
How much time will be allotted to each step of the activity?		
How will you debrief the activity with students?		

With a partner, share one of your activities. Together, discuss whether the prompt/question…

- ...requires higher level thinking? If it doesn't, how would you change it?
- ...connects to learning objectives and/or assessments?
- ...requires students to take a position or express a rationale?
- ...frames potential answers/responses that elicit discussion? I.e., is it open-ended or close-ended?

1. Implementing Active Learning

   a. *I'm trying to implement group activities and active learning techniques, but the same few students talk all the time, and some students consistently don't participate at all. What can I do?*

   b. *My instructor gave me 10 problems to cover in my 50-minute recitation. I barely manage to cover this many problems even when I lecture solidly for the entire recitation. How can I cover all this material and incorporate active learning?*

   c. *When I try to incorporate active learning in my teaching, I feel like I have no control over whether my students are learning what I want them to learn. How can I implement active learning methods without compromising my control over the recitation material?*

   d. *I have tried using group-based problem solving as an active learning activity in my recitation for an intro-level course. Since my students have various amounts of prior experience with the material, groups finish at different times. How do I manage this activity when students are all working at different paces?*

   i. What are the issues/problems associated with your scenario?

   ii. What are strategies that you might use to address the issues?