

Facilitating Voting Card Questions

What to Say	What to Do	Reasons for This Step
Nothing.	<p>Turn toward the question and read it silently, slowly pronouncing all words inside your head. Work out the solution's logical steps and find the correct letter and color.</p> <p>Do not allow students to communicate with each other. Have them do their own thinking.</p>	<p>If you read the question to the class, students will reread it to themselves after you finish. By quietly reading it yourself, you model the desired behavior while giving them space to think.</p> <p>This step helps them remember that their own learning is a personal responsibility and cannot be achieved for them by the instructor or their neighbor.</p>
<i>Does anyone need more time?</i>	Turn toward the class as you ask. Look for students still obviously deciding. If more time is needed, turn back toward the question and slowly count to ten. Listen for paper-folding to settle down. Turn toward the class again.	If you ask, "Is everyone ready?" then you will always receive an unhelpful affirmative answer from part of the class.
<i>Prepare your votes and vote on three. One, two, three!</i>	Scan the colors, not the letters. Look for the level of correctness overall, but also look for pockets of wrong answers and take note of any predominate wrong answers.	<p>Students become accountable showing you their answers.</p> <p>Voting cards give you unique data about the physical distribution of answers. You may wish to direct the students to discuss their answers based on concerning groupings of wrong answers in the back or where students of a certain major or clique tend to sit.</p>
<i>Turn to your neighbor and convince them that your answer is correct! Give your reasoning. You may have had the same answer for different reasons. Thirty seconds. Go!</i>	<p>Unless you want to make students aware that there was a real lack of consensus for the sake of sparking discussion, there is no need to preface this with anything about the level of correctness or which answers were popular. (I would not say more than, "Wow, a rainbow!" or, "Hmm....," before having them turn to their neighbors.)</p> <p>Regardless of how much time you think they will need, always say "thirty seconds." Listen to the students' discussions, walk around the room to hear different groups (if possible), and have them re-vote when things die down or get off-topic.</p>	<p>As students turn, their voting cards are still being held to their chests, which communicates their answer to their neighbor and helps start the dialogue.</p> <p>Defending answers allows students to process what they are learning out loud, which is good practice in building (and communicating) logical arguments. It is important to motivate them early in the course with the understanding that correct reasoning is far more important than correct answers. (The question will be different on the exam, but the reasoning will be the same.) This step will reinforce that truth while</p>

	<p>If you wish to guide the discussions, give the students a couple vocabulary terms/concepts that they must use.</p>	<p>encouraging students to put the course material into their own words and analogies for one another.</p>
<p><i>Let's re-vote. Prepare new votes and vote on three. One, two, three.</i></p>	<p>If the re-vote's results are unsatisfactory, now is the time to ask students for their reasons for a certain answer or for their reasons against one.</p> <p>Do not do a second re-vote.</p>	<p>After the convince-your-neighbor and re-vote steps, you know that at least half the class has practiced giving an explanation out loud (and everyone else heard someone's explanation). Therefore, students should be more confident in speaking to the whole class about what they or a neighbor said.</p>
<p><i>The correct answer is ... (students verbally respond).</i></p>	<p>If you have a large class, you can have your students respond out loud with the letter of the correct answer before it is revealed. I do not recommend this for small classes (less than 20), since individual voices are too distinct. Only do this if you are sure that the combined voices of the students with the right answer will drown out the voices of the students with wrong answers.</p>	<p>If students hear their peers collectively respond with the correct answer before it is revealed, then it becomes clear that (1) the correct answer was within reasonable reach and (2) answering wrong is a sign of falling behind the majority of the others on this concept. This is a reality check for students who may otherwise have a false perception that the whole class struggles exactly as they do.</p>
<p>Debrief.</p>	<p>Either you or a student should summarize the reasoning leading to the correct answer and, perhaps, the false reasoning that would lead to the wrong answers.</p>	<p>Now that students have made a personal investment in this question, they have a compelling reason to actively listen to the explanation.</p>