For the past year a group at Cornell has been experimenting with ways to change how we ask students to spend time in class. Research has shown what most experienced mathematics teachers know: students can do well in a course and still exhibit surprising deficiencies in the understanding of concepts.   Our goals are to create a more active learning environment and to raise the visibility of the key concepts. The essence of the approach is "good questions"—questions that reflect the essential role of student prior knowledge and misconceptions in building a conceptual structure; questions that stimulate students' interest and raise their curiosity; questions that help students monitor their understanding; questions that provide students frequent opportunities to make conjectures and argue about their validity; questions that provide me with frequent formative assessments of what our students are learning and that help guide us in how we spend time in class. The project is developing both questions for in-class use, and questions to deliver via the web to use as pre-class warm-up questions. What does it take to craft such questions? How are the students responding? What technological challenges do we face? We offer a report from the field, and demonstrate the technology we use in our in class polling. Support for the *Good Questions at Cornell* project is provided by the National Science Foundation's Course, Curriculum, and Laboratory Improvement Program (grant DUE-0231154) .