This research was conducted based on the background of the low critical thinking skills of students in the cell concept of class XI Science in Pasundan 1 Cimahi High School. This was because the learning process was still teacher-oriented and there are difficulties for students to visualize microscopic cell shapes. This study aims to obtain information on whether the implementation of guided inquiry models on cell concepts can improve students' critical thinking skills. The method used in this study was a Quasi-Experimental method with a Non-Equivalent Control Group Design research design. Research data obtained by pretest and posttest. The control class got an average N-gain of 0.5 with a medium category while the experimental class was 0.7 with a high category. This shows that the guided inquiry model can improve students' critical thinking skills highly. The instrument in this study was 8 essay tests. The data from this study were then analyzed using the help of the SPSS 20.00 software program which included a normality test, a homogeneity test, and a hypothesis test (t-test). Based on the results of the analysis and hypothesis the significant value with the t test is 0.000 or smaller than 0.05. Then the conclusions can be drawn that Ha is accepted and shows that the implementation of guided inquiry models can improve students' critical thinking skills on cell concepts.

Keywords: Guided Inquiry Model, Critical Thinking