Abstract: This article seeks to illustrate the analysis of episodes of chat sessions based on Charles Sanders Peirce's triadic sign relation. The episodes are from a project called 'Math-Chat', which is based on the use of mathematical inscriptions in an experimental setting. What is characteristic of this chat setting is that pupils are required to document their attempts at solving mathematical problems as mutual inscriptions in written and graphical form. In order to analyze the outline, as well as the use and development of mutual inscriptions, a suitable instrument of analysis must first be developed. For this purpose, an interactionist approach is combined with a semiotic perspective. Through the incorporation of a semiotic perspective into an empirical study on learning mathematics at primary level, the development and use of such an instrument are demonstrated. In this way, both the development and also the structure of 'semiotic process cards' are explained. In conclusion, my findings related to the use of inscriptions in general and the use of inscriptions in primary-classroom problem-solving processes are presented.