The objectives of this master thesis are ways of designing problem-based exercises in the subject matter of electrotechnics and their integration in the education in elementary schools.

Firstly, in the theoretical section, there are several concepts such as "problem", "problem situation" or "problem-based education" explained. Out of these concepts, it is possible to divide separate types of problem-based exercises, models and processes, which are in progress when being solved by pupils. There are also the processes of a standard educational unit and a problem-based educational unit described.

Secondly, in the experimental section of this thesis, options of designing problem-based exercises in the subject matter of electrotechnics in elementary school are implied. By means of these exercises, the influence of problem-based education upon the success of subject matter mastering in the field of electrotechnics is being examined. Further in this master thesis, there are possibilities of developing pupils' technically oriented creativity being verified. It is done by means of using problem methods in connection with electrotechnical brick-box.