This bachelor's thesis is focused on the adaptation of the chemical Battleships game and its use in the teaching of chemistry in elementary schools and upper years of multi-year gymnasiums. The theoretical part of the thesis focuses on the inclusion of the topic Periodic table of elements in curriculum documents and textbooks. Furthermore, in the theoretical part, a didactic game is defined as one of the activating methods, and in the conclusion, the concept of gamification and its use in teaching is defined. The practical part primarily includes a search of curricular documents and textbooks for elementary schools and higher years of multi-year grammar schools, which is followed by a search of games with the theme of PTP, which are found in theses and on freely available websites. The game Chemical Battleships, which uses PTP as a playing field, was adopted and modified from the conducted research. As part of the modification, Chance questions were added to the game, which aim to review the general chemistry curriculum. The game was pilot tested on 1st year students at the Prague grammar school with a very positive response.