This bachelor thesis examines the possibilities that computer assisted language learning (CALL) games might provide to learners of English as a second or foreign language in vocabulary learning. Since the prominent focus is on the practical part, only a limited selection of relevant theories and concepts about vocabulary learning and CALL technologies in general is provided in the theoretical part. The practical part introduces an originally designed and programmed CALL vocabulary game and audits its functionality and helpfulness in vocabulary learning process of high school English as second language students through an experiment and a questionnaire survey. The results are analyzed in the last chapter and improvements and further extensions to the game are proposed.