The cellular respiration process is a crucial subject in biochemistry learning. The use of ludic tools appears to be a good strategy in education intensifying the teach and learning process. The aim of this work was to create and introduce a game as educational tool helping the students to construct the knowledge. This work was accomplished in UFC involving three groups of 5 students of Introduction to Biochemistry discipline from Food Engineering course. It was developed a board game entitled: The dynamics OX1-REDOX in Respiratory Chain. The game consisted in a board with the scheme of the respiratory chain, chips to complete the gaps and 12 question cards. The students had previous classes about the subject and a survey right before playing the game. The monitor explained the rules and the wrong answers of the students to question cards. During the game it was observed mistakes in the answers of the students to question cards and either regarding placing the chips representing the reactions of the respiratory chain. The monitor stimulated the discussion among them and elucidated the doubts. The students demonstrated motivation and interest during the game. The majority of the students found it easy to play and confirmed that it facilitate the learning process. The application of the same survey after the game showed that they understood the respiratory chain and the grades were at least 50% higher after the game. This game reveals itself a dynamic and constructive tool for the learning process in biochemistry.