

Ensure Students Are Learning: Faculty Descriptions of Innovative Teaching Practices

Game-Based Learning for Oxidation-Reduction (Redox) Reactions

Innovative Teaching Practice Description:

A chemistry instructor uses a relay activity to introduce a fun and competitive gaming element to the course. Students are divided into four teams. To work through balancing an oxidation-reduction (redox) reaction, each team is given a set of redox cards and a dry erase board (or section of one). Each team must complete the steps of the solution, writing out their reaction on the board, with each team member solving a different step until the reaction is balanced. Students are allowed to coach their team members. The members of the winning team receive extra credit points, and the runner-up team members receive some extra credit points, though fewer than the winning team. Members from the other teams receive inexpensive tokens, such as chemistry-themed buttons.

The Kahoot! platform provides another game-based approach to content review. The instructor uploads multiple-choice items to their free Kahoot! account. Students connect to Kahoot! using their cell phones and respond to the questions as the instructor projects the questions on a screen. This can be done in an individual or team format.