

PEER-LED TEAM LEARNING LEADER TRAINING

CHEMTwister

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Introduction

The use of games such as CHEMjeopardy, CHEMTwister, and CHEMtaboo motivate the learning process in a chemical context and provide insight into the topics that are being taught in the class.



Twister is a great way to utilize active learning. The mat can have colored subdivisions relative to aspects of a broader category, for example, basic types of chemical reactions, with subdivisions being acid-base, precipitation, combustion, and redox reactions. The object of the game is to determine the type of reaction and be the “last man standing.”

Rules:

- ❖ The referee spins the spinner, then calls out the body part and the reaction that the arrow corresponds to.
- ❖ For example, the referee may call out: “ $2\text{H} + \text{O}_2 \rightarrow \text{H}_2\text{O}$.”
- ❖ Each player must try to place the called-out body part on a *vacant* circle of the called-out reaction.
- ❖ For example, if the referee calls out “right hand” and the above reaction each player must try to place a right hand on any vacant “redox” circle.
- ❖ If your called-out hand or foot is *already* on a circle of the called-out color, you must try to move it to another circle of the same color.
- ❖ There can never be more than one hand or foot on any one circle.

- ❖ If two or more players reach for the same circle, the referee must decide which player got there first. The other player(s) must find another vacant circle of the same color.
- ❖ Never remove your hand or foot from a circle unless you're directed to by the referee after a spin.
- ❖ *Exception:* You may lift a hand or foot to allow another hand or foot to pass by, as long as you announce it to the referee *beforehand*, and replace it on its circle immediately afterward. If all 6 circles of a color are already covered, the referee must spin again until a different color can be called out.

Using Activities for Learning

By using familiar games (ChemJeopardy, ChemTaboo, and ChemTwister), students engage in active learning while staying within their comfort zone. Some students tend to lose interest in quantitative and conceptually challenging science classes. Difficult subjects become more approachable by presenting the topics in a competitive manner via games. Students are intellectually stimulated without realizing that they are learning. Games facilitate the building of fundamental correlations better than memorizing specific facts from a text. These games motivate students to think critically in a comfortable environment where students are more apt to acquire knowledge. Further, students work in teams, thus allowing them to help each other. Correlating chemical content to the rules and format of the games requires (develops) creativity on the part of the Peer Leader.

At the University of Texas at El Paso, the general chemistry classes are composed of two hours of lecture and mandatory two hours of workshop. In the first hour, students work in a lab and engage in Explorations in order to experience “wet” chemistry. In the second hour students work in groups in order to understand the chemical concepts; this is where activities, such as games, come in. Games are a great way for students to collaborate and cooperate with each other and as a result learn a seemingly difficult subject. The use of games such as CHEMjeopardy, CHEMtwister, and CHEMtaboo motivate the learning process in a chemical context and provide insight into the topics that are being taught in the class.

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