Teaching at K

As a chemistry professor I believe that my job is to, in part, help my students understand that chemistry is not a theoretical science but that it is rooted in things that can be measured (i.e., it’s an experimental science). Much of what I “teach” is, however, invisible and therefore often inaccessible to my students. I therefore find “play” and “activities” in the classroom a must to my teaching and to my students’ learning. Game play is a big part of what happens in my classrooms.

One example is using pipe cleaners and empty paper towel rolls to help my students understand the role that intermolecular forces (or IMFs) play in the stability of functional proteins. IMFs are a foundational topic that students are exposed to in general chemistry. In biochemistry they need to utilize knowledge of IMFs to understand and explain how proteins fold. To help with this very abstract concept, the students are put in groups of four, and each group is given the necessary play components as well as a handout with directions and discussion questions. The goal of the activity is for the students to “experience” how IMFs stabilize a structure by creating a protein using the pipe cleaners’ components given. This activity involves a lot of colorful things that look like toys, and a lot of laughter and discussion.

—Regina Stevens-Truss Chemistry