Biology teachers in introductory and upper-level high school courses generally present principles of taxonomy as part of the curriculum. Students learn about classification systems that categorize species into recognized taxonomic groups based on their degrees of structural divergence or derived ancestral traits. References made, hereafter, to specific higher taxa do not assign a particular ranking (e.g., kingdom, phylum, class), because the designation of status or ranking to such groups is in a state of flux. Previously recognized phyletic patterns may already be outdated as taxonomists, working from different perspectives (e.g., traditional, cladistic), analyze new types of genetic data to establish current facts, interpretations, and classification schemes (Starr & Taggart, 2001). Despite the ongoing questions about hierarchical ranking, teachers can introduce representative groups to students through purposeful activities that are planned within the limits of required curricula and available instructional time. What constitutes an effective instructional approach for both teachers and their students?

One teacher may elect to have students conduct a concise survey of groups that illustrates a recognized taxonomic scheme. Another teacher may prefer that students explore select higher taxa in more depth. As part of a single unit on classification and biodiversity, students in my advanced level high school course examined the characteristics and representatives of traditional phyla and kingdoms. This conventional and methodical textbook approach proved, however, to be instructionally ineffective as students reported reaching a point of information overload. An alternative approach allows students to investigate higher taxonomic groups, not exclusively as part of a distinct unit on classification, but rather inclusively as support for other biology subject matter taught during the course. This strategy not only provides a base for an instructional plan that integrates the exploration of taxa with...