A series of collaborative learning activities and accompanying text that develop the areas of molecular and atomic spectroscopy is provided. Chapters on basics of spectrophotometry, ultraviolet/visible absorption, molecular fluorescence, infrared, Raman and atomic spectroscopy are included. These activities are intended to be done in class by students working in groups, but can be modified for use as out-of-class exercises. Learning objectives and an instructor’s manual are provided as well. The instructor’s manual provides tips for how to use the in-class exercises, the types of responses that students often provide to the questions in the exercises, and how the instructor can build from these responses to develop the concepts.
3: Molecular Luminescence

4: Infrared Spectroscopy

5: Raman Spectroscopy
6: Atomic Spectroscopy

Thumbnail: White light is dispersed by a prism into the colors of the visible spectrum. (CC BY-SA 3.0; D-Kuru).