

Chapter 23 The Transition Elements and Their Coordination Compounds

This chapter covers properties of transition metals which are important in the AP curriculum, in particular Period 4 elements in which the $3d$ electron orbitals are being populated with from zero to ten electrons. The irregularities of the Cr and Cu electron configurations in the free atoms are reviewed and are the result of the relative energy stability of these configurations. The chapter helps students learn both the common oxidation states and colors of period 4 transition metals. Formulas for common complex ions formed by these elements are addressed as well and are often tested on the AP Exam.