I argue for the unity of imagination in two prima facie diverse contexts: experiences of beauty and achievements of understanding. I develop my argument in three steps. First, I begin by describing a type of aesthetic experience that is grounded in a set of imaginative activities on the part of the person having the experience. Second, I argue that the same set of imaginative activities that grounds this type of aesthetic experience also contributes to achievements of understanding. Third, I show that my unified account of imagination sheds light on two puzzling phenomena, the aesthetic value of science and the cognitive value of art.