Inside the atomic nucleus there are not just protons, neutrons and a few pions, but hundreds of strongly interacting particles, collectively known as "hadrons". Almost all the hadrons that have been observed so far can be understood as made up of more fundamental objects we call quarks. This idea led to the quark model and in turn to our theory of the strong interaction, quantum chromodynamics (QCD). We will discuss what the simple quark model is, when it works, how this is related to QCD and to its non-trivial vacuum. There are hints that there exist hadrons that go beyond the simple quark model. Indeed, QCD predicts just such a richer spectrum of hadrons. Verifying these predictions is a major goal of Jefferson Lab for 2020 and beyond.