Some time ago, I examined several textbooks for the undergraduate number theory course. I was struck by how few illustrations were in many of those books. A number, specifically a positive integer, can represent many things: the cardinality of a set; the length of a line segment; or the area of a plane region. Such representations lead to a variety of visual arguments for topics in elementary number theory. Since the undergraduate course usually begins with properties of the positive integers, the texts should have more pictures. In this talk I will present a sampler of some visualization ideas useful in the undergraduate course. No prior experience with number theory is required.