Sensitive dependence on initial conditions, typically a topological notion, is one of the most common characterizations of a chaotic dynamical system. In 2006, the SMALL Ergodic Theory Group at Williams College introduced measurable sensitivity, a measure-theoretic notion of sensitive dependence on initial conditions. We study a stronger notion of measurable time-restricted sensitivity, which is closely related to the measure-theoretic entropy of a dynamical system. This talk is based on work done by the 2008 SMALL Ergodic Theory group. (Received September 12, 2008)