1145-51-1997   **Derek Smith*** (`smithder@lafayette.edu`), Math Department, Lafayette College, Easton, PA 18042, and **Ethan Berkove** (`berkovee@lafayette.edu`), Math Department, Lafayette College, Easton, PA 18042. *Short Paths in the Sierpiński Carpet and Menger Sponge.*

The two-dimensional Sierpiński carpet S^2 and three-dimensional Menger sponge S^3 are two fractals that have been studied from many points of view. In this talk we address questions related to moving from one point to another within these two fractals and also within members of a family $\{S^n\}$ of higher-dimensional generalizations. Inspired by Cristea's study of path distances in the Sierpiński carpet, we determine the shortest taxicab distance $d_T(s, f)$ between any two points $s, f \in S^n$, and we study its relationship to the Euclidean distance between these points. As an application, we then determine the diameter of the Sierpiński carpet. (Received September 24, 2018)