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Kathleen Ryan*, Department of Mathematics & Computer Science, 2755 Station Avenue, Center Valley, PA 18034, and **Vincent Coll, Jonelle Hook, Colton Magnant** and **Karen McCready**. *Forget Yellow: Follow the Properly Colored Brick Road Instead.*

An edge-colored graph is *properly connected* if there exists a properly colored path between every pair of vertices. In such a graph, we re-consider the notions of distance and diameter by requiring that only properly colored paths are traversable. (Sorry, Dorothy.) So in a properly connected edge-colored graph G , we say that the *proper distance* between two vertices is the length of the shortest properly colored path between them, and we define the *proper diameter* of G to be the maximum proper distance between any pair of vertices in G . Depending on the coloring of G , the difference between the diameter and the proper diameter of G varies, and we explore this difference for various graph families such as cycles, fans, complete bipartite graphs, and grids. (Received September 17, 2016)