We present results (with examples) for a large class of sequences called nested radicals, which are generated by iterating a $k^{th}$-order, nonlinear function. We provide answers to the following questions: Under what general conditions do these types of sequences converge? Under what conditions do they asymptotically converge to a periodic orbit? What are the possible limits of these types of sequences? What are the possible attracting periodic orbits? Given a limit $L$, can we construct a sequence of this type that converges to $L$? Given a periodic orbit, can we construct a sequence of this type that converges to the given orbit? (Received February 01, 2019)