Abstract: In this talk, we will define a new invariant for finite groups, called the action-genus. Let $G$ be a finite group. Among all graphs $\Gamma$ whose automorphism group is isomorphic to $G$, define the action-genus of $G$ to be the minimal genus of a closed connected orientable surface on which $\Gamma$ can be cellularly embedded. Here, we will elucidate some basic properties for the action-genus of a finite group, establish the action-genus of a few infinite families of finite groups, and then conclude with some open questions about the action-genus of finite groups in general.