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Thomas W. Tucker* (ttucker@mail.colgate.edu), Mathematics Department, Colgate University, Hamilton, NY 13346. *Genus parameters and sizings of finite groups*. Preliminary report.

A setting is suggested for the study of genus (and other) parameters for finite groups. A *sizing* of finite groups, σ , assigns to each group a nonnegative integer such that if G is a subgroup of H , then $\sigma(G) \leq \sigma(H)$. Order, genus (all kinds), number of subgroups, Albertson-Boutin isometry dimension are sizings; rank, length of central series are not. As an example, the minimum Betti number over all Cayley graphs of a group is a sizing with gaps at $p + 1$ for all odd primes p . Asymptotics for comparing sizings σ and τ is viewed in terms of the accumulation points of the set of rational numbers $\sigma(G)/\tau(G)$, where $\tau(G) \neq 0$. (Received February 17, 2005)