1138-05-106   **Elizabeth J Hartung*** (`e.hartung@mcla.edu`), 375 Church St, MCLA, North Adams, MA 01247-4124, and **Jack E Graver**, **Jennifer Edmond** and **Joshua Fenton**. *The Fullerene Project.* Preliminary report.

A *fullerene* models a pure carbon molecule and is a 3-regular plane graph with only hexagonal and pentagonal faces. A *Kekulé structure* is a perfect matching of the edges, and corresponds to a double bond structure of the molecule. The *Clar number* of a fullerene is the maximum number of independent resonant hexagons over all Kekulé structures (the maximum size of an independent set of hexagons with 3 of their bounding edges in the perfect matching). A higher Clar number is correlated with higher molecular stability. We have begun a "Fullerene Project" with the goal of finding the Clar number for all highly symmetric fullerenes. Results will be discussed, as will opportunities for research, including at the undergraduate level. (Received February 04, 2018)