1056-97-465   **Richard Millman*** (`richard.millman@ceismc.gatech.edu`), CEISMC, Ga Tech, 760 Spring St. NW, Atlanta, GA 303081028. *Examples of a Mathematical Habit of the Mind and its effect on Students.*

The approach of the mathematical habit of the mind (MHM) is one of the recommendations for future teachers of The Mathematical Education of Teachers (Conference Board of the Mathematical Sciences (2001)). It is used in some texts for future teachers and also as a way to encourage students to go into mathematics. We will look at a few examples from K-12 and undergraduate mathematics as a way to give insights into the nature of MHM. Giving problems that require significant thought (but not advanced methods) to our better students has them realize the attractive subtlety of the subject. For example, showing children that the product of even integers is even is easy and can lead, via MHM, to members of a class in middle school realizing that there is more—the product is divisible by 4. The (false) statement "If n = bc and p is an integer which divides n, then p divides either b or c" has sufficient subtlety that it provides a useful classroom discussion for preservice teachers. The need for a basis which is not i, j, k will be demonstrated using the differential geometry of curves and surfaces and this conversation leads to insights into the mixed geometric and analytic nature of results and techniques. (Received September 08, 2009)