1107-05-410 **Tom Enkosky***, tenkosky@gmail.com, and **Branden Stone**. *M-sequences, the Fibonacci sequence, and integer partitions.*

We found a connection between M-sequences, the Fibonacci sequence, and integer partitions into distinct parts. A *multicomplex* $\mathcal{M}$ is a set of monomials in d variables closed under division. Let m_i be the number of monomials in $\mathcal{M}$ of degree i. The associated *M-sequence* is $(m_0, m_1, m_2, \dots)$. Let L_n be the number of M-sequences where the terms of the sequence sum to n. That is, L_n counts the number of multicomplexes with n monomials. The first terms of the sequence $\{L_n\}_{n\geq 0}$ are $1, 1, 2, 3, 5, 8, 12, \dots$. We used a Fibonacci recurrence to show that this sequence is bounded above by the Fibonacci sequence. We restricted to the case $m_1 = 2$ to show that the sequence is bounded below by the number of integer partitions into distinct parts. (Received January 19, 2015)