Biology and mathematics professors collaborate to increase student engagement and conceptual understanding across STEM courses to increase student retention within the discipline. The faculty examined temperaments and learning/communication preferences as barriers to student success, and developed ROMP as a solution. ROMP is an acronym for the temperamental learning questions as used by each group: Relevance, Objective, Mechanism, and Pattern. Each “learning question” category of ROMP appeals to a different temperament and engages students according to their learning style. By consciously addressing these four preferences, the faculty attempted to increase student engagement, conceptual understanding of key scientific and mathematical topics, inform students about different learning styles, and empower them to develop personal learning strategies. Faculty also constructed lectures and class activities to divide class instructional time to engage each of the learning styles. This presentation will cover the background research into temperament and learning styles, differences in brain function between the types, and outline the initial implementation of ROMP in college algebra, pre-calculus, and other STEM courses, as well as lessons learned. Preliminary data will be presented. (Received September 10, 2014)