Mathematics

Unit/Timeframe: Vector and Matrix Quantities / 10 days	Grade Level: 9, 10, 11, 12
Content Standards	**2017 MA Literacy Framework**
AII.N-VM.A.1 (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v, |v|, ||v||, v). AII.N-VM.A.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors. AII.N-VM.C.6 (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network. AII.N-VM.C.8 (+) Add, subtract, and multiply matrices of appropriate dimensions. AII.N-VM.C.12 (+) Work with 2 x 2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.	Speaking and Listening Standard: Comprehension and Collaboration 2. Reason abstractly and quantitatively 3. Construct viable arguments and respond to the reasoning of others. Writing Standard: Text, type and purposes 1C. Use words, phrases and clauses with precision.

Essential Questions	Skills/Knowledge
How can you use a matrix to organize data? How can you use a matrix to model a real life situation? How can a matrix represent a transformation of a geometric figure in the plane?	Students will use matrices to compare data. Students will add, subtract and multiply matrices. Students will solve systems of equations with matrix equations. Students will use matrix operations to transform geometric figures.

Common Resources	Common Assessments
Algebra II text and available resources	..

Vocabulary
Tier II: Tier III:

Additional Notes