Duration of Unit:
3 weeks

Topic Sequence:
3 weeks

Student Friendly Learning Targets:
I can use inductive reasoning to make conjectures and find counterexamples.
I can identify the inverse, converse, and contrapositive of a conditional statement.
I can apply the Law of Detachment and Law of Syllogism in logical reasoning.
I can write biconditional statements.
I can apply Properties of Equality to algebraic proof.
I can write a two-column proof using deductive reasoning.

Common Core State Standards Addressed:
G.CO.9: Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints*.
G.GPE.4: Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).*
G.SRT.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Vocabulary:
Theorem, linear pair, vertical angles, supplementary angles, complementary angles, consecutive, non-consecutive, Law of Detachment, Law of Syllogism, side length, quadrant, midpoint, intersecting, inductive reasoning, deductive reasoning, conditional statement, biconditional statement

Materials and/or Technology Needed:
Smartboard, Holt-McDougal Geometry Textbook, Whiteboards, Protractors, Compasses, Straight Edges

Instructional Notes:
Instruction should integrate with the standards that comprise the Foundations in Geometry Reasoning Unit.

Instructional and Assessment Resources:
Formative Assessment Lessons: http://map.mathshell.org/materials/lessons.php Formative
Assessment Tasks: http://map.mathshell.org/materials/tasks.php
Illustrative Mathematics: http://www.illustrativemathematics.org/standards/k8
http://mathforum.org/, http://www.nctm.org/, http://plus.maths.org/content/,
http://www.pbslearningmedia.org/, http://www.mathwords.com/,
http://www.math.com/homeworkhelp/Geometry.html, http://mathworld.wolfram.com/,
http://nlvm.usu.edu/en/nav/vlibrary.html, http://www.purplemath.com/, Holt-McDougal Geometry
Textbook

Assessment Notes:
The Unit Topic will have three multiple choice questions on the proficiency assessment.
Foundational standards should be formatively assessed early in the cycle to identify foundational
gaps of students.