# UNIT OF STUDY

<table>
<thead>
<tr>
<th>Title:</th>
<th>Subject/Course: Geometry</th>
<th>Length: 8 days</th>
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<tbody>
<tr>
<td>Topic:</td>
<td>Reasoning and Proof</td>
<td>Grade: 10</td>
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<tr>
<td>Designer:</td>
<td>Boyd</td>
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## UNIT GOALS AND EXPECTATIONS

### IMPORTANT CONCEPTS/UNDERSTANDINGS:
- Write Conditional Statements
- Make Conclusions from Conditional Statements
- Interpret Venn Diagrams
- Define and Perform Transformations including reflections, rotations, translations, dilations

### ESSENTIAL QUESTIONS:
- What are conditional statements?
- What is converse?
- What is contrapositive?
- What is inverse?
- How are Venn diagrams used?
- What is a translation?

### STUDENT LEARNING EXPECTATIONS:
- LG.1.G.1 Define, compare and contrast inductive and deductive reasoning for making predictions based on real world situations
- LG.1.G.6 Give justification for conclusions reached by deductive reasoning
- CGT.5.G.7 Draw and interpret the results of transformations and successive transformations on figures in the coordinate plane
- Translations
- Reflections
- Rotations
- Dilations

### SPECIFIC DECLARATIVE KNOWLEDGE – What I know
- Vocabulary words: conjecture, inductive reasoning, contrapositive, converse, inverse, if-then statements, Venn diagram, reflection, translation, rotation, dilation, origin, axis, deductive reasoning

### SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do
- Write statements into If-Then form
- Write the converse of a given statement
- Write the inverse of a given statement
- Write the contrapositive of a given statement
- Use conditional statements to make conclusions
- Draw and predict using Venn diagrams
- Sketch reflections about the axis
- Translate a point on a grid
- Rotate an object about the origin
- Dilate a figure

## UNIT ASSESSMENTS
(Include tasks related to Dimensions 3 and 4 and Bloom’s Taxonomy)
- Open Response Unit 2 question 2 reflections (application)
- Open Response Unit 2 question 1 distance formula (application)
### Traditional Assessments:
- Midpoint Quiz
- Unit 2 Quiz Converse, Inverse and contrapositives
- Unit 2 Unit Test

### Other Evidence of Learning:
- Homework
- Worksheet on Conditional statements
- Worksheet on bi-conditional statements
- Class work
- Transformation Worksheets

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<thead>
<tr>
<th>ACTIVITIES AND LEARNING EXPERIENCES</th>
<th>Resources</th>
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<tbody>
<tr>
<td>• Use real world situations to introduce conditional statements</td>
<td>• Textbook</td>
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<tr>
<td>• Define conjecture, inductive reasoning, contrapositive, converse, inverse, if-then statements</td>
<td>• Mastery math worksheets</td>
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<tr>
<td>• Student will create if-then statement and find converse, inverse, and contrapositive of it. Students will then trade if-then statements find conditional statements of other student’s statements.</td>
<td>• Venn diagram worksheets</td>
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<td>• Organize real world data in Venn diagrams and make conclusions</td>
<td>• Tape</td>
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<tr>
<td>• Define reflections, dilations, translations, and rotations using examples from their own experiences</td>
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<tr>
<td>• Model reflections, dilations, translations, and rotations</td>
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<td>• Use tiles on floor as a coordinate grid to model reflections, translations, and rotations</td>
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<tr>
<td>• Given a figure on a coordinate plane students will sketch the reflection, dilations, translations, and rotations</td>
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<td>• Reflections and axis of symmetry Activity</td>
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<td>• Use graph paper to model translations and Reflections</td>
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### Career Connections
- Advertising copywriters, coastal research, zoologist, auto racing, carpentry