

LEARNING PLAN

Diane Leary, Lawrence Steiner

<p>Exploratory Activities Rules of Patterns Corners of a Triangle <u>If You Give a Mouse a Cookie</u> by Laura Joffe Numeroff Class syllogisms</p>	<p>CONCEPT Foundations of LOGIC 5-7 days; 10 days for student projects</p>
<p>Concept Development Activities</p> <ul style="list-style-type: none"> • Venn Diagrams • Paper Folding activity; page 18, <i>Geometry</i>, McDougal Littell • Big Sky Airlines • The Big Picture (SCIMAST) • Logic Puzzles - Attribute Shapes (Geometry for All Institute) • Logic Puzzle - Six Caps (www.eddept.wa.edu.au/Gifttal/activities/sixcaps.htm) • Mad as a Hatter or Hat as a Madder (http://www.tenet.edu/teks/math/clarifying/geometry/madhatter.pdf) • Conditional Statements in Ads • Logical Puzzle Project 	<p>Materials and Resources</p> <p><i>Geometry: Explorations and Applications</i>; McDougal Littell</p> <p><i>Geometry: Integration Applications Connections</i>; Glencoe</p> <p>www.ctap295.ctaponline.org/~matarangak</p> <p>TEXTEAMS Geometry for All Institute</p> <p>http://www.tenet.edu/teks/math/clarifying/geometry/madhatter.pdf</p> <p>www.eddept.wa.edu.au/Gifttal/activities/sixcaps.htm</p> <p>http://www.intsoft.com/powers2.html</p> <p>http://pbskidsorg/zoom/activities/phenom/paperfold.html</p> <p>SCIMAST</p>

<p>Basic Facts and Standard Algorithms Formalized</p> <ul style="list-style-type: none"> • Translate statements into conditionals in if-then form • Identify hypothesis and conclusion of a conditional • Construct converse, inverse, and contrapositive of a conditional • Determine if a converse, inverse, or contrapositive is true/false • Link conditionals to form syllogisms/logical arguments • Distinguish inductive and deductive reasoning • Translate statements into Venn Diagrams and vice versa 	<p>Originality and Creativity <i>Student Products</i></p> <p>Written Write a book using syllogisms (similar to <i>If You Give a Mouse A Cookie</i>)</p> <p>Verbal Create a video tape of a commercial using at least four conditionals</p> <p>Kinesthetic Develop an original board game, using conditionals</p> <p>Visual Create an advertisement for an imaginary product, using conditionals</p>
<p>Assessment</p> <ul style="list-style-type: none"> • Student products • Create a Venn diagram and then formulate a conditional, converse, inverse and contrapositive statement using its information • “Logic Puzzle Project” 	
<p>Related TEKS</p> <p>TEKS Gb1A The student develops an awareness of the structure of a mathematical system, connecting definitions, postulates, logical reasoning, and theorems. (Conjectures, Conditionals, Syllogism, inductive reasoning, deductive reasoning)</p> <p>TEKS Gb2A The student uses constructions to explore attributes of geometric figures and to make conjectures about geometric relationships</p> <p>TEKS Gb3A The student determines if the converse of a conditional statement is true or false</p> <p>TEKS Gb3B The student constructs and justifies statements about geometric figures and their properties.</p> <p>TEKS Gb3C The student demonstrates what it means to prove mathematically that statements are true.</p> <p>TEKS Gb3D The student uses inductive reasoning to formulate a conjecture.</p>	
<p>Related TEKS, continued</p> <p>TEKS Gb3E The student uses deductive reasoning to prove a statement</p> <p>TEKS Gc1 student uses numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons, ratios in similar figures and solids, and angle relationships in polygons and circles.</p>	

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