| CONNEAUT AREA SCHOOL DISTRICT<br>MATHEMATICS Adopted June 2019 | | |
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| UNIT OF STUDY: Coordinate Geometry and Right Triangles | COURSE/GRADE:<br>Applied Geometry | # WEEKS: 6 |
| Module 3 | | |
| Focus (emphasis) Standards/EC:<br>**G.2.1.1.1** Use the Pythagorean theorem to write and/or solve<br>problems involving right triangles.<br>**CC.2.2.HS.C.9**<br>Prove the Pythagorean identity and use it to calculate<br>trigonometric ratios.<br>**CC.2.3.HS.A.7**<br>Apply trigonometric ratios to solve problems involving right triangles.<br>**G.2.1.1.2** Use trigonometric ratios to write and/or solve<br>problems involving right triangles.<br>**G.2.1.2.1** Calculate the distance and/or midpoint between<br>two points on a number line or on a coordinate plane.<br>**CC.2.3.8.A.3**<br>Understand and apply the Pythagorean theorem to<br>solve problems.<br>**CC.2.3.HS.A.11**<br>Apply coordinate geometry to prove simple geometric<br>theorems algebraically.<br>**G.2.1.2.2** Relate slope to perpendicularity and/or parallelism<br>(limit to linear algebraic equations).<br>**G.2.1.2.3** Use slope, distance, and/or midpoint between two<br>points on a coordinate plane to establish properties<br>of a two-dimensional shape. | Technology/manipulatives:<br>Chromebook<br>Smart board<br>Electronic text book<br>calculator<br>Ruler<br>3 D figures<br>Nets<br>Dice<br>CAD program<br>Online videos for reinforcement<br>Studyzone.org<br>Studyisland<br>Firstinmath<br>National Library of Virtual Manipulatives |
| Important (reinforced) Standards/EC:<br>All items listed above to be reinforced throughout year.<br>Two parallel lines and transversal | Reading, writing, speaking strategies:<br>Word problems, journal writing, bell ringers, partner sharing, think aloud, paraphrasing, board work, sharing out to class, note taking skills development |

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| Vocabulary: alternate interior angles, alternate exterior, same side interior angles, same side exterior, corresponding angles, equiangular triangle, equilateral, exterior angle, polygon, regular polygon, remote interior angles, transversal, parallel lines, perpendicular lines, slope, distance formula, midpoint formula, Pythagorean Theorem, tangent, sine, cosine, elevation, depression, identity | Questioning and discussion techniques:<br>Real world problems/applications, bill ringers, exit tickets, journals, Frayer model, small group tasks, |
| Real life application:<br>Construction, roof truss, height of items in distance, airline industry, architecture, astronomy, traffic signs, farming equipment, amusement parks,<br>Career connections:<br>www.xpmath.com/careers/lite.php | Performance assessment: quiz, test, Studyisland, projects, homework, group discussion, water rocket project, rubber band cannon project |
| Computation:<br>One step algebraic equations<br>Two step algebraic equations<br>SOHCAHTOA and trigonometry calculations<br>Ratio and proportions<br>Pythagorean theorem<br>Supplementary angles<br>Slope, distance, midpoint | Accommodations/adaptations: Limiting , homework problems, guided problem solving, peer groups, tutorial time, needs based on IEP |
| SAS Module Resources:<br>http://www.pdesas.org/standard/PACore | |