WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Mathematics – Grade 7

Course Number: 00204

Course Prerequisites: Completion of Mathematics – Grade 6, 60% year average and basic operations w/o calculator usage

Course Description: (Include "no final exam" or "final exam required")

In Grade 7, instructional time will focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. A final exam is given.

Suggested Grade Level: Seventh Grade

Length of Course: _____ One Semester X Two Semesters _____Other

(Describe)

Units of Credit: 1 **(Insert *NONE* if appropriate.)**

PDE *Certification and Staffing Policies and Guidelines (CSPG)* Required Teacher Certification(s)

(Insert certificate title and CSPG#) CSPG #53 Middle Level Mathematics, CSPG# 50 Mathematics (7-12)

CSPG #70 Grades 4-8 (All subjects 4-6, Mathematics 7-8)

Certification verified by WCSD Human Resources Department:

X Yes _____ No

Board Approved Textbooks, Software, Materials:
Title:
Publisher:
ISBN #:
Copyright Date:
Date of WCSD Board Approval:

BOARD APPROVAL:

Date Written: Spring 2014

Date Approved: _____

Implementation Year: 2014-2015

Suggested Supplemental Materials: **(List or insert** None**)**
Geoboard, tangram pieces, attribute blocks, probability dice, spinner, calculator, ruler and formula sheet.

Course Standards

PA Common Core Standards: (List by Number and Description)
2.1 Numbers and Operations
2.2 Algebraic Concepts
2.3 Geometry
2.4 Measurement, Data, and Probability

WCSD Academic Standards: (List or **None**)
None

Industry or Other Standards: (List, Identify Source or **None**)

Common Core Standards

WCSD EXPECTATIONS
WCSD K-12 Expectations for instruction in writing, reading, mathematics and, technology have been developed and revised annually. The teacher will integrate all WCSD Expectations into this planned instruction

SPECIAL EDUCATION AND GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP) or Gifted Individual Education Plan (GIEP).

SPECIFIC EDUCATIONAL OBJECTIVES/CORRESPONDING STANDARDS AND ELIGIBLE CONTENT WHERE APPLICABLE

(List Objectives, PA Standards #'s, Other Standards (see samples at end))

PA Standard: 2.1 Numbers and Operations

	Performance Indicators
A.	Apply properties of operations to add and subtract rational numbers, including real-world contexts.
B.	Represent addition and subtraction on a horizontal or vertical number line.
C.	Apply properties of operations to multiply and divide rational numbers, including real-world contexts; demonstrate that the decimal form of a rational number terminates or eventually repeats.
D.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units.
E.	Determine whether two quantities are proportionally related (e.g., by testing for equivalent ratios in a table, graphing on a coordinate plane and observing whether the graph is a straight line through the origin).
F.	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships
G.	Represent proportional relationships by equations.
H.	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r), where r is the unit rate.
I.	Use proportional relationships to solve multi-step ratio and percent problems.

PA Standard: 2.2 Algebraic Concepts

	Performance Indicators
A.	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients.
B.	Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate.
C.	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers.
D.	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers, and graph the solution set of the inequality.
E.	Determine the reasonableness of answer(s) or interpret the solution(s) in the context of the problem.

PA Standard: 2.3 Geometry

	Performance Indicators
A.	Solve problems involving scale drawings of geometric figures, including finding length and area.

B.	Identify or describe the properties of all types of triangles based on angle and side measures.
C.	Use and apply the triangle inequality theorem.
D.	Describe the two-dimensional figures that result from slicing three-dimensional figures.
E.	Identify and use properties of supplementary, complementary, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure.
F.	Identify and use properties of angles formed when two parallel lines are cut by a transversal (e.g., angles may include alternate interior, alternate exterior, vertical, corresponding).
G.	Find the area and circumference of a circle. Solve problems involving area and circumference of a circle(s). .
H.	Solve real-world and mathematical problems involving area, volume, and surface area of two and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

PA Standard: 2.4 Measurement, Data, and Probability

	Performance Indicators
A.	Determine whether a sample is a random sample given a real-world situation.
B.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.
C.	Compare two numerical data distributions using measures of center and variability.
D.	Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible.
E.	Determine the probability of a chance event given relative frequency. Predict the approximate relative frequency given the probability.
F.	Find the probability of a simple event, including the probability of a simple event **not** occurring
G.	Find probabilities of independent compound events using organized lists, tables, tree diagrams, and simulation.

ASSESSMENTS

PSSA Assessment Anchors Addressed: The teacher must be knowledgeable of the PDE Assessment Anchors and/or Eligible Content and incorporate them into this planned instruction. Current assessment anchors can be found at pde@state.pa.us.

Formative Assessments: The teacher will develop and use standards-based assessments throughout the course.

Portfolio Assessment: _____ Yes __X__ No

District-wide Final Examination Required: X Yes _____ No

Course Challenge Assessment (Describe):
N/A

REQUIRED COURSE SEQUENCE AND TIMELINE

(Content must be tied to objectives)

Content Sequence	Dates

See Curriculum Map

Objectives:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

WRITING TEAM:

WCSD STUDENT DATA SYSTEM INFORMATION

1. Is there a required final examination? X Yes _____ No
2. Does this course issue a mark/grade for the report card? X Yes _____ No
3. Does this course issue a Pass/Fail mark? _____ Yes X No
4. Is the course mark/grade part of the GPA calculation? X Yes _____ No
5. Is the course eligible for Honor Roll calculation? X Yes _____ No
6. What is the academic weight of the course?

   _____ No weight/Non credit X Standard weight

   _____ Enhanced weight (Describe)