Course Name: Grade 6 Mathematics
Course Codes: M2602, M2607, M2608, M2609

Course Description:

The grades 6, 7, and 8 mathematics curriculum provides the equivalent of a first-year algebra program. The sixth grade mathematics program offers a sequence of concepts which emphasize numeration, operations and computation, patterns, functions, algebra, geometry, measurement, data, and chance. The mathematics program highlights games as a learning tool to review and reinforce concepts.

Course Proficiencies: The following is a list of the proficiencies that describe what students are expected to know and be able to do as a result of successfully completing this course. The proficiencies are the basis of the assessment of student achievement. The learner will demonstrate the ability to:

1. Rename numbers expressed by fractions, mixed numbers, decimals and percents. *6.RP.3a, 6.RP.3c*
2. Compare and order rational numbers and integers using a number line. *6.NS.5, 6.NS.6a, 6.NS.7*
3. Use ordered pairs to determine location and distance on the coordinate plane. *6.NS.6b, 6.NS.6c, 6.NS.8*
4. Explore absolute value.
5. Use ratios, rates, and proportions to solve real-world problems. *6.RP.3b*
6. Use unit rates to convert units of measurement. *6.RP.3d*
7. Apply an extended knowledge of fraction and decimal operations (add, subtract, multiply, divide). *6.NS.1, 6.NS.2, 6.NS.3*
8. Explore scientific notation. *8.EE.4*
9. Write, read, and evaluate algebraic expressions, including exponents. *6.EE.1, 6.EE.2*
10. Generate equivalent expressions by combining like terms and using the distributive property. *6.EE.3, 6.EE.4*
11. Graph linear inequalities in one variable containing rational numbers. *6.EE.8*
12. Solve real-world problems by writing and solving basic linear equations and inequalities in one variable. *6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8*
13. Solve real-world problems using a formula. *6.EE.9*
14. Use the coordinate plane to solve perimeter and area problems. *6.G.1, 6.G.3*
15. Relate surface area and volume through the study of nets. *6.G.2, 6.G.4*
16. Use the formula for area and circumference of a circle to solve mathematical problems. *7.G.4*
17. Explore the relationship between sides and angles of a triangle, prove the sum of the angles in a triangle is 180. *7.G.2*
18. Calculate measures of center (mean, median, and mode) and range to determine outliers. *6.SP.1, 6.SP.2, 6.SP.5*

Grade 6 Proficiencies – *cont'd.*

19. Display and analyze data using a line plot, box and whisker plot, and histogram. ***6.SP.3, 6.SP.4, 6.SP.5***
20. Apply mathematics in practical situations and in other disciplines.
21. Use critical thinking skills to make sense of problems, solve them, and communicate processes. ***CRP 2, 4 & 8.***
22. Use technology to gather, analyze, and communicate mathematical information. ***8.1.8.A.1, 8.1.8.F.1***

Assessment: At grade six, student growth in mathematics is assessed in a variety of ways. These may include teacher observation of individual, and small group activities, as well as formal evaluations of independent student work. Observation of individual work and independent activities provide on-going information to guide instruction and to quickly provide information to children and parents regarding student progress. Observation of collaborative strategies enables the teacher to assess students as they apply skills and abilities through a variety of strategies. Formal evaluations are made using unit assessments, homework, classwork, and long-term projects. Game play and communicator routines are forms of informal evaluation. Teacher-generated quizzes are included in the overall assessment of student skill proficiency. Results are shared through written progress reports as well as occasional/informal communication. Annual progress assessment is conducted using both local assessments and standardized tests.

Board Adopted Materials:

Teaching Resources and Related Materials:

Title: **Connected Mathematics 3**
Developer: Michigan State University
Publisher: Pearson
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