

Course Name: Grade 2 Mathematics
Course Codes: E2202, E2207, E2209

Course Description:

The second grade mathematics program encourages children to be actively involved in doing mathematics through measuring, observing, data handling, sorting, counting, and graphing. These experiences are linked to reading, language arts, science, and social studies when appropriate. There is a strong emphasis on problem solving, estimation, calculator use, and the recognition and creation of mathematical patterns. Students are encouraged to develop and communicate mathematical understanding and problem solving strategies.

The program is planned with the expectation that students will grow in their ability to take responsibility for their own learning and use of mathematics. Learning takes place through the use of a wide variety of materials including: rulers, tape measures, geoboards, geometry templates, money, and calculators. When appropriate, students also use pattern blocks, weighing scales, and base ten blocks.

Students are supported in learning basic number facts through a variety of practice activities with the goal of achieving “Fact Power.” Number facts are used to develop and reinforce concepts through activities that include learning games and explorations.

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. Apply the concept of greater than, less than, and equal. *2.NBT.4*
2. Count coin values and make change to \$1.00. *2.MD.8*
3. Read and write numbers from 1 to 1000. *2.NBT.3*
4. Represent a number story with a number model. *2.OA.1*
5. Skip count by 2, 3, 5, and 10 starting at any number. *2.NBT.2, 2.NBT.3*
6. Demonstrate the concept of odd and even. *2.OA.3*
7. Demonstrate knowledge of fact families through 20. *2.OA.2*
8. Demonstrate knowledge of place value for three-digit numbers. *2.NBT.1, 2.NBT.6, 2.NBT.9*
9. Tell and record time on an analog clock to five minutes. *2.MD.7*
10. Collect, organize, read, interpret, and use data. *2.MD.9, 2.MD.10*
11. Observe temperature using Celsius and Fahrenheit scales. *2.MD.9, 2.MD.10*
12. Classify common two and three-dimensional shapes using similarities and differences. *2.G.1*
13. Use addition and subtraction strategies to solve problems involving two and three-digit numbers. *2.NBT.5, 2.NBT.6, 2.NBT.7*
14. Use an array to demonstrate multiplication of one-digit numbers. *2.OA.4*

Grade 2 Proficiencies – *cont'd.*

15. Identify fractional parts of a group or region. **2.G.3**
16. Use estimation to solve and check addition and subtraction problems to obtain reasonable answers.
17. Identify simple polygons and find their perimeters. **2.G.1**
18. Use unit squares to estimate area. **2.G.2**
19. Use calculators to add and subtract large numbers and to demonstrate number patterns. **3.OA.9**
20. Relate and apply mathematics to everyday life.
21. Model multiplication and division using the strategy of equal shares. **2.G.3, 2.OA.3, 2.OA.4**
22. Demonstrate an understanding of line symmetry and symmetrical figures. **4.G.3**
23. Describe, discuss, manipulate, and create a design using various geometric shapes based on shape and color. **2.G.3**
24. Use directions to get from one point to another on a map or grid. **2.MD.6**
25. Compare, contrast, and order objects based on various attributes. **2.G.1**
26. Determine the appropriate tool of measurement for: length, weight, capacity, time and temperature. **2.MD.1, 2.MD.3**
27. Use various devices such as: spinners and dice to explore probability. **7.SP.5**
28. Demonstrate the ability to play various two-person games and discuss possible outcomes. **7.SP.5**
29. Apply mathematics in practical situations and in other disciplines.
30. Use critical thinking skills to make sense of problems, solve them, and communicate processes. **CRP 2, 4 & 8.**
31. Use technology to gather, analyze, and communicate mathematical information. **8.1.2.A.4, 8.1.2.F.1**

Assessment: At grade two, student growth in mathematics is measured using 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 classroom activities provides on-going information to guide instruction and to quickly provide information to students and parents regarding student progress. Observation of collaborative activities enables the teacher to assess students as they apply skills and abilities through a variety of strategies. Formal evaluations are made using end of the assessments, independent journal activities, and “math boxes.” Teacher made quizzes and tests are included in the overall assessment of student skill proficiency. Results are shared through written progress reports, parent conferences, and occasional informal communication. The NWEA MAP Growth assessment will be administered three times a year in mathematics. The purpose of MAP Growth is to determine what students know and are ready to learn next. It is designed to measure student achievement in the moment and growth over time.

Board Adopted Materials:

Teaching Resources and Related Student Materials:

Title: Everyday Mathematics
Author: University of Chicago School Mathematics Project
Publisher: McGraw-Hill Companies, Inc.
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