

MCI Math Curriculum

Course # 12.04

Written- 7/06

Grades 9-12 MCI Class

3 credits

Course Description- The MCI Mathematics course is designed for the mildly-moderately cognitively impaired student in grades 9-12. The course encompasses numbers, numerical operations, measurement and mathematical processes, using a variety of activities and strategies to build skills.

Course Goals and Objectives-

Goal- Develop number sense and perform standard numerical operations and estimations on all types of numbers in a variety of ways.

Objectives-

- Count and perform simple computations with coins and currency.
- Compare and order whole numbers
- Develop proficiency with basic addition and subtraction facts.
- Use pencil and paper procedures for addition and subtraction of one, two and three digit numbers
- Explore a variety of strategies for estimating the quantity of something and results of computation.
- Demonstrate an understanding of whole place value concepts.
- Develop proficiency with basic multiplication facts
- Use pencil and paper methods for multiplication of two digit numbers by one digit numbers.

Goal- Develop the ability to use units of measurement and measurement tools

Objectives-

- Compare and order objects by length, weight, capacity, time and temperature.
- Select and use appropriate standard units of measurement and standard measurement tools to solve real-life problems.
- Estimate measures for length, weight, capacity, time and temperature.
- Convert simple measurement units within a system.

Goal- Students will use mathematical processes of problem solving and technology to solve problems and communicate mathematical ideas.

Objectives-

- Solve problems that arise in mathematics
- Select and apply a variety of appropriate problem solving strategies (diagrams, etc.) to solve problems.

- Communicate mathematical thinking clearly and coherently.
- Use the language of mathematics to express mathematical ideas.
- Apply mathematics to practical situations
- Create and use concrete and pictorial representations to organize, record and communicate mathematical ideas.
- Use calculators as problem solving tools.

Core Curriculum Content Standards Addressed

High Point Regional High School's curriculum and instruction are aligned to the state's Core Curriculum Content Standards and address the elimination of discrimination by narrowing the achievement gap, by providing equity in the educational programs and be providing opportunities for students to interact positively with others regardless of race, creed, color, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, religion, disability, or socio-economical status.

- 4.1- Number and Numerical Operations
- 4.2- Geometry and Measurement
- 4.5- Mathematical Processes

Units of Study

- A. Time- 4 weeks

Unit goal- To develop proficiency at telling time on analog and digital clocks and to estimate time.

Unit objectives-

- Apply an understanding of time to real-life situations
- Compare units of measure: days, seasons, holidays, calendars
- Compare units of measure: minutes, seconds, hours, days, weeks
- Draw hands on a clock to represent time
- Identify parts of a clock
- Name and write the months of the year in correct order
- Name and write the days of the week in the correct order
- Read analog clocks and digital clocks
- Tell time to the nearest hour, 15 minutes and nearest minute

Unit Evaluation-

- Students will be evaluated based on worksheets to be completed in class and as homework.
- Students will demonstrate their ability to tell time by using their skill to record time in their student planners when leaving and returning to the classroom.

Materials-

- Clocks, Remedia Publications, 2005
- Classroom clock
- Individual student clock manipulatives
- How To Work With Time and Money, Teacher Created Materials, Inc., 2004

B. Addition and Subtraction- 8 weeks

Unit goal- To develop number sense and perform addition and subtraction

Unit objectives-

- Compare and order whole numbers
- Memorize basic addition and subtraction facts
- Use pencil and paper procedures for addition and subtraction of one, two and three digit numbers without regrouping.
- Use pencil and paper procedures for addition and subtraction on one, two and three digit numbers with regrouping.
- Demonstrate an understanding of whole numbers and place value concepts.
- Estimate the quantity of an item (candy in a jar, people in a room, etc.)
- Estimate the results of an addition and/or subtraction problem.
- Use paper and pencil and calculators to solve problems.
- Use appropriate problem solving strategies (diagrams, number line, etc.) to solve problems

Unit evaluation-

- Paper and pencil tests
- Oral and written tests of number facts
- Worksheets

Materials-

- Basic Math Practice, PCI Educational Publishing
- Turbo Twist Math- manipulative, Leap Frog, Inc.
- Math Games for the Overhead, Scholastic Professional Books, 2003
- Menu Math- Scholastic Publications
- Spectrum Math, McGraw Hill, 1999
- Flash cards
- Teacher made materials

Community involvement-

- Students use their addition and subtraction skills in many class community service projects- collecting books or canned food for the needy, collecting pet food for an animal shelter, assembling care packages for G.I.'s, etc.

C. Measurement- 6 weeks

Unit goal- To develop the ability to use measurement and measurement tools

Unit objectives-

- Compare and order objects by length, width, capacity, time and temperature.
- Select and use the appropriate unit of measurement to solve real life problems
- Select and use the appropriate tool to measure objects

- Estimate measurement
- Convert simple unit of measurement

Unit Evaluation-

- Students will be evaluated in their use of measurement tools to accomplish cooking and crafting projects.
- Paper and pencil tests and quizzes

Materials-

- Weights and Measures, Jerry Pallotta, Scholastic Books, 2002
- Basic Math Practice, PCI Educational Publishing, 2003
- Worksheets
- Paper and pencil test and quiz

D. Multiplication and Division- 4 weeks

Unit goal- To perform multiplication

Unit objectives-

- Solve multiplication problems using concrete objects and numbers
- Convert multiplication word problems into number problems
- Solve real-life word problems
- Memorize and apply basic number facts to ten
- Use a calculator to solve multiplication problems

Unit Evaluation-

- Paper and pencil tests and quizzes
- Oral and written timed tests of multiplication facts
- Worksheets for class and homework
- Performance in games

Materials-

- Basic Math Practice, PCI Educational Publishing, 2003
- Times Tables, Multiplication Made Fun, Wendy and David Clemson, DK Publishing, 1996
- Spectrum Math, McGraw Hill, 1999
- Math Games for the Overhead, Scholastic Professional Books, 2003
- Turbo Twist Math, manipulative, Leap Frog, Inc.
- Flash cards
- Teacher made materials
- Multiplication Bingo

E. Money Skills- 12 weeks

Unit goal- To develop the ability to identify, count and use money.

Unit objectives-

- Identify the front and back of U.S. coins and currency
- Match groups of coins with the same amount
- Count by ones, fives, tens and twenty-fives.
- Combine coins to equal a set price

- Count groups of coins and write the total
- Subtract the price from the amount of money available to calculate change
- Compare and order money amounts
- Add and subtract amounts with decimals
- Estimate totals and determine if one has sufficient funds for a purchase
- Operate a cash register, find a total, and determine change

Unit Evaluation-

- Teacher made tests and quizzes
- Oral evaluations
- Evaluation of money counting skills using real money
- Performance using the cash register at monthly bake sales

Materials-

- Money, Remedia Publications, 2000
- Menu Math, Kitty Scharf and Barbara Johnson, Remedia Publications, 2000
- How to Work With Time and Money, Charles Shields, Teacher Created Materials, Inc., 2004
- Basic Math Practice, PCI Educational Publishing, 2003

Community Involvement-

- The MCI class hosts a monthly bake sale in the classroom for teachers and students. The MCI students operate the cash register and make the baked goods for the sale.