# MADISON PUBLIC SCHOOL DISTRICT

## Consumer Math

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**Reviewed by:** Lee Nittel,
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## I.   OVERVIEW

Consumer Math will provide a math elective course for special education students.  Consumer Math will focus on the development of the practical math skills needed for successful post-secondary college or career planning.  The course is designed to apply math to real life situations and examples.  Students will have the opportunity to learn and apply skills such as computing interest rates on loans, maintaining a budget, balancing a checkbook and making price comparisons for economical shopping.

## II.   RATIONALE

Consumer Math is designed to prepare students to be effective and responsible consumers. Students develop the understanding and critical thinking skills to be successful in today's society. Math usage is broadened to include computation in the following areas: personal finance (e.g., checking accounts, loans, budgets), jobs (e.g., commission, net pay), buying (e.g., discounts, sales tax), insurance, taxes, car expenses, housing, and travel.

## III.   STUDENT OUTCOMES

**STANDARD 9.2 Personal Financial Literacy: All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.**

A.   Consumer and Personal Finance
- Extend the basic understanding of the value of money.
- Explore the relationship among wants, needs and resources.
- Identify various sources of money for personal spending.
- Understand that prices of goods and services can be compared to make decisions about purchases.

B.   Money Management
- Setting age-appropriate financial goals
- Developing a budget
- Developing a system for keeping and using financial records
- Basic payroll information (deductions)

C.   Banking and Credit
- Compare and contrast different products and services offered by a variety of financial institutions.
- Understand the different types of monetary transactions (electronic transfer, check, certified check, money order, bank/cashiers check).

**STANDARD 4.1 Number and Numerical Operations: All students will develop number sense and will perform standard numerical operations and estimations on all types of numbers in a variety of ways.**

A.  Numerical Operations
- Recognize the appropriate of each arithmetic operation in problem situations.
- Construct, use and explain procedure for performing calculations with fractions and decimals with: Pencil-and-paper, Mental math, Calculator

- Count and perform simple computations with money.

B. Estimation
  - Construct and use a variety of estimation strategies (rounding and mental math)
  - Recognize when an estimate is appropriate and understand the usefulness of an estimate as distinct from an exact answer.
  - Determine whether a given estimate is an overestimate or an underestimate.

C. Number Sense
  - Demonstrate an understanding of place value concepts.
  - Use whole numbers, fractions and decimals to represent equivalent forms of the same number.
  - Develop and apply number theory concepts in problem solving situations.

**STANDARD 9.1 Career and Technical Education:** All students will demonstrate the creative, critical thinking, collaboration, and problem-solving needed to function successfully as both global citizens and workers in diverse ethnic and organization**.**

A. Preparing for Careers
  - Read a sales tax table and compute the value of purchases that included tax.
  - Determine the correct change.
  - Apply electrical formulas to calculate watts, amps, or volts.
  - Place in order fractions from least to greatest.
  - Measure line segments and compute scale length for drawings.

B. Earning Money
- Compute weekly and annual wages
- Determine daily and weekly hours worked.
- Compute wages when overtime is involved
- Determine wages for jobs that involve piecework or tips
- Use percents and decimals to compute commissions and salary.
- Distinguish between gross pay and net pay.
- Use rounding to determine salary in a pay period.

## IV. ESSENTIAL QUESTIONS AND CONTENT

A. How to be a responsible shopper.
  1) How does one read and compare prices?
  2) How does one change prices from cents to dollars and dollars to cents?
  3) What are the ways to compute the cost of single items and multiple items?
  4) How does one compute change?
  5) How does one use the information on coupons to determine the cost of an item when a coupon is used?
  6) How does one compute and compare unit prices?
  7) What are the ways to compute a restaurant bill and tip?
  8) How does one compare the cost of eating out to the cost of a homemade meal?

B. How to compare and contrast when shopping.
  1) Where is the best place to shop for certain items?

      2)        How does one determine the amount of money saved due to sale prices and discounts?
      3)        How does one read catalog descriptions and order from a catalog?
      4)        What are the ways to compare shopping from a catalog with shopping in a department store?

C.  How to understand everyday household math.
      1)        How does one compute the cost of rent for one year?
      2)        How does one read utility meters and compute monthly utility expenses?
      3)        How does one solve word problems related to utility expenses?

D.  How does one us http://www.basic-mathematics.com/consumer-math.htmle mathematics in preparing and selecting food?
      1)        How does one use ratios and proportion to calculate and change recipe yields?
      2)        How does one read and interpret nutrition information on packages?
      3)        How does one calculate the times food should begin cooking to be ready at a given time?
      4)        Why is it important to use nutritional information when planning a meal?

E.  What are the different ways to improve one's home?
      1)        How does one compute payments for purchases of items, including comparing and computing regular price, discount rate and sales price?
      2)        How does one estimate the quantity of materials and the costs associated with painting a room or covering a floor?
      3)        How does one find the length of fencing required to enclose a yard?

F.   How to budget your money.
      1)        How does one compute average income?
      2)        How does one compute the percent of income to be spent on each budget item?
      3)        What are the ways to read and create circle graphs as summaries of budget spending?
      4)        How does one complete records to determine if a budget is balanced?

G.  How does one understand Banking?
      1)        How does one maintain a checking account?
      2)        How does one write a check and reconcile a checking account?
      3)        Why is it important to keep a checking account up to date?
      4)        What are the different types of savings accounts?
      5)        How does one compute simple and compound interest?
      6)        How does one use credit and debit cards?
      7)        How does one compute finance charges on a credit card?

H.  How does one make investments that are safe?
      1)        How does one evaluate profits and losses from the stock market?
      2)        What are dividends and how can you earn them?
      3)        How does one make sure the advice they're receiving is correct?

I.  Earning money
      1)        What are the ways to compute weekly and annual wages?
      2)        How does one determine daily and weekly hours worked?
      3)        How does one compute wages when overtime is involved?
      4)        How does one use rounding to determine salary in a pay period?
      5)        How does one use percents and decimals to compute commissions and salary plus commissions?

6) How does one distinguish between gross and net pay and compute them?

J. Preparing for Careers.
1) How does one read a sales tax table and compute the value of purchases that include tax?
2) How does one determine correct change?
3) How does one order fractions from least to greatest?
4) How does one measure line segments and compute scale length for drawings?

# V. STRATEGIES

To attain mastery in the aforementioned concepts, students will:
- complete teacher prepared worksheets
- complete text based exercises
- use calculators to solve various equations
- participate in various forms of assessments from supplementary materials
- write notes in an organized manner

# VI. EVALUATION

Students will be evaluated using the following assessments:
- Tests
- Quizzes
- Midterm/Final Exam
- Homework and/or Notebook Checks
- Applicable Projects
- Teacher observation

# VII. REQUIRED RESOURCES

- Harmeyer, Kathleen , Math For Consumers  Media Material, Baltimore Maryland
- Practical Money Skills for Life http://www.practicalmoneyskills.com/
- New Jersey Coalition for Financial Education  http://www.njcfe.org/IFE.html
- Money Instructor. Com http://www.moneyinstructor.com/spending.asp
- Basic Mathematics .Com
  http://www.basic-mathematics.com/consumer-math.html

# VIII. SCOPE AND SEQUENCE

A. Consumer and Personal Finance (20 days)
- Extend the basic understanding of the value of money.
- Explore the relationship among wants, needs and resources.
- Understand that prices of goods and services can be compared to make decisions about purchases.

B. Money Management (20 days)
- Setting age appropriate financial goals

- Developing a budget and its importance
- Developing a system for keeping and using financial record  (expense tracker).

C.  Banking and Credit (25 days)
- Compare and contrast different products and services offered by a variety of financial institutions.
- Understand the different types of monetary transactions (electronic transfer, check certified check money.

D.  Numerical Operations (20 days)
- Recognize the appropriate arithmetic operation in problem situations.
- Construct, use and explain procedures for performing calculations with fractions and decimals.
- Count and perform simple computations with money.

E.  Estimation (20 days)
- Construct and use a variety of estimation strategies (rounding and mental math).
- Recognize when an estimate is appropriate and understand the usefulness of an estimate as distinct from an exact answer.
- Determine whether a given estimate is an overestimate or an underestimate.

F.  Number Sense (25 days)
- Demonstrate an understanding of place value concepts.
- Use whole numbers, fractions and decimals to represent equivalent forms of the same number.
- Develop and apply number theory concepts in problem solving situations.

G.  Earning Money (20 days)
- Compute weekly and annual wages.
- Use percents and decimals to compute commissions and salary.
- Use rounding to determine salary in a pay period.

H.  Preparing for Careers (20 days)
- Read a sales tax table and compute the value of purchases that included tax.
- Determine the correct change.
- Measure line segment and compute scale length for drawings.

**Total 170 days**