Unit 4: Personal Finance

Content Area: **Mathematics**
Course(s): **Practical Math (as per IEP)**
Time Period: **1 marking period**
Length: **10 Weeks**
Status: **Published**

Unit Overview

The focus is on basic math skills used in everyday life with the goal of developing intelligent consumers. The practical applications of math are studied using real world situations. This unit emphasizes consumer math through the study of personal finances focusing on banking and budgeting

Transfer

Students will be able to independently use their learning to...

- Calculate interest earnings, and checking account charges.
- Write and record checks and calculate checking balances and identify errors when necessary.
- Explain the importance of saving and compare different types of saving.
- Calculate simple interest for savings.
- Calculate simple and compound interest in various situations.
- Discuss the importance of goal planning (budgeting) and describe various methods of reaching those goals

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For more information, read the following article by Grant Wiggins.

http://www.authenticeducation.org/ae_bigideas/article.lasso?artid=60

Meaning

Understandings

Students will understand that...

- the focus is on basic math skills used in everyday life with the goal of developing intelligent consumers. The practical applications of math are studied using real world situations. This unit emphasizes personal finances

through the study of budgeting, bank accounts and setting financial goals.

Essential Questions

Students will keep considering...

- What does the word percent mean?
- What is the difference between a checking account and a savings account?
- How do you reconcile a bank statement balance with a check register balance?
- What is the difference between fixed and variable expenses?
- What is the purpose of a budget?

Application of Knowledge and Skill

Students will know...

Students will know...

- How important precision is in measurement
- Choosing appropriate units is important to accuracy
- Understand the parts of a formula or equation
- Understand how mathematical tools, such as tables, can help model real world problems
- Understand the different limitations necessary to solve problems related to money
- The application of percents are a critical life skill and are used in daily life.
- How to calculate the mean of a given data set.
- The differences between checking accounts and savings accounts and the different uses of each.
- How to create and follow a budget to help lead a productive financial life.

Students will be skilled at...

Students will be skilled at...

- Expressing quantities related to money
- Choosing appropriate units when using a formula with problems involving percent
- Interpreting money as a unit of measurement
- Organizing appropriate quantities using a tables and graphs.
- Determing the reasonableness of an answer.

- How to create and follow a budget.
- Utilizing checking and savings accounts appropriately.
- Utilizing current technology to manage their personal finances.

Academic Vocabulary

quantities	precision	measurement	unit	formula	table	model	accuracy
limitations	solve	simplify	compare	data	line graph	bar graph	pie chart
picture graph	trend	chart	mean	data set	deposit	withdraw	check register
passbook	certificate of deposit	checking account	savings account	reconcile	interest	APY	budget

Target 4.1b

SWBAT:

Determine appropriate units for a given formula

MA.N-Q.A	Reason quantitatively and use units to solve problems.
MA.N-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
MA.N-Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.
MA.N-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.4	Model with mathematics.
MA.K-12.6	Attend to precision.

Target 4.1c

SWBAT

Organize quantities into a tables and graphs and use it to identify solutions to real worl problems

MA.N-Q.A	Reason quantitatively and use units to solve problems.
MA.N-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

MA.N-Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.
MA.N-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.

Target 4.2b

SWBAT

Use equations to model real world problems and interpret their solutions

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.4	Model with mathematics.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.A-REI.B	Solve equations and inequalities in one variable

Learning Goal 4.3

Interpret general trends of data using a table or graph as it pertains to personal finances.

Target 4.3a

SWBAT:

Construct a table of data.

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.S-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).

Target 4.3b

SWBAT:

Construct line, pie, bar and picture graphs.

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.S-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
MA.S-ID.B	Summarize, represent, and interpret data on two categorical and quantitative variables

Target 4.3c

SWBAT:

Interpret data on tables or graphs.

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.S-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
MA.S-ID.B	Summarize, represent, and interpret data on two categorical and quantitative variables

Target 4.3d

SWBAT:

Calculate mean.

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.S-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

MA.S-ID.A.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Target 4.3e

SWBAT:

Use mean to understand data and make comparisons.

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.
MA.S-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
MA.S-ID.A.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Summative Assessment

Tests, quizzes, End of Unit Assessment, Projects

21st Century Life and Careers

WORK.9-12.9.1.12.1	The ability to recognize a problem and apply critical thinking and problem-solving skills to solve the problem is a lifelong skill that develops over time.
WORK.9-12.9.1.12.F.2	Demonstrate a positive work ethic in various settings, including the classroom and during structured learning experiences.
WORK.9-12.9.2.12.1	Credit management includes making informed choices about sources of credit and requires an understanding of the cost of credit.
WORK.9-12.9.2.12.1	Money management involves setting financial goals.
WORK.9-12.9.2.12.2	Money management is reliant on developing and maintaining personal budgets.
WORK.9-12.9.2.12.3	Income affects spending decisions and lifestyle.
WORK.9-12.9.2.12.A.1	Analyze the relationship between various careers and personal earning goals.
WORK.9-12.9.2.12.B.8	Describe and calculate interest and fees that are applied to various forms of spending, debt, and saving.

WORK.9-12.9.2.12.B.10	Develop a plan that uses the services of various financial institutions to meet personal and family financial goals.
WORK.9-12.9.2.12.C	Credit and Debt Management
WORK.9-12.9.2.12.C.1	Compare and contrast the financial benefits of different products and services offered by a variety of financial institutions.

Formative Assessment and Performance Opportunities

- Class participation
- class/homework
- class closure
- class openers
- group work
- presentations
- projects
- student teacher discussions

Differentiation/Enrichment

- 504 Accomodations
- IEPs
- challenge problems
- heterogeneous grouping
- DoNow activities
- projects
- individualized instruction
- technology

Unit Resources

- Supplementary Textbooks
- Kuta Software
- Examview Software
- BizKid$ DVD Series - Lesson Plans -Vocabulary - Activities

Additional Websites:

- Dan Meyer's 3-Act Math Tasks: https://docs.google.com/spreadsheet/pub?key=0AjIqyKM9d7ZYdEhtR3BJMmdBWnM2YWxWYVM1UWowTEE&output=html
- NCTM Illuminations Website: Resources for Teaching Math: http://illuminations.nctm.org/Default.aspx
- PARCC Educator Resources: http://www.parcconline.org/for-educators
- The Geometer's Sketchpad Resource Center: http://www.dynamicgeometry.com/

- Khan Academy: https://www.khanacademy.org/
- BizKid$: http://www.bizkids.org
- www.businessdictionary.com
- www.mymoney.gov
- www.jumpstart.org
- www.treasury.gov