

Unit 1: Income

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

Unit Overview

This unit will cover the various types of income, including but not limited to: Hourly Pay, Salary, Commission, Unit Pay.

Transfer

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

- Investigate the various types of jobs available to them including part-time, seasonal and full-time.
- Calculate gross pay, deductions and net pay using real life samples.
- Define the relationships between dollars, time, hourly and salary wages, and commission and for both hourly and salary wages
- Calculate before gross salary, tax and after tax deductions and net paycheck amount post deductions
- Use proportional relationships to solve multistep ratio and percent problems including payroll deductions and net pay.

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 gross and net pay.

Essential Questions

Students will keep considering...

- What does the word percent mean?
- What is the difference between gross and net pay?
- What is the difference between regular pay and overtime pay?
- What are the different "pay periods" (weekly, monthly, etc)?
- What are the different types of payroll deductions?
- What is the difference between evaluating an expression and simplifying an expression?
- How do you choose what the variable in a word problem should represent?

Application of Knowledge and Skill

Students will know...

Students will know...

- What a quantity is
- 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 you choose what the variable in a word problem should represent.

Students will be skilled at...

Students will be skilled at...

- Expressing quantities related to money including the use of decimal and percents
- Choosing appropriate units when using a formula with problems involving percent
- Interpreting money as a unit of measurement
- Organizing appropriate quantities using a table
- Determining the reasonableness of an answer.
- Defining the relationships between dollars, time, hourly and salary wages, and commission and for both hourly

and salary wages

- Calculating before gross salary, tax and after tax deductions and net paycheck amount post deductions
- Use proportional relationships to solve multistep ratio and percent problems including payroll deductions and net pay.

Academic Vocabulary

quantities	precision	measurement	unit	formula	table	model	accuracy
limitations	solve	simplify	compare	disposable income	annual salary	weekly pay	biweekly pay
monthly pay	semimonthly pay	percent	mean	median	mode	gross earnings	deduction
net pay	wages	commission	tips	piecework	FICA	Social Security	overtime

Target 1.1b

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 1.1c

SWBAT

Organize quantities into a table and use it to identify solutions to real world 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 1.2a

SWBAT

Identify parts of an expression

MA.K-12.7	Look for and make use of structure.
MA.A-SSE.A.1	Interpret expressions that represent a quantity in terms of its context.
MA.A-SSE.A.1a	Interpret parts of an expression, such as terms, factors, and coefficients.

Target 1.2c

SWBAT

Use equations to model real world problems and interpret their solutions (Calculate wages and Income)

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

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.
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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.9-12.9.2.12.3	Income affects spending decisions and lifestyle.
WORK.9-12.9.2.12.4	Taxes and the cost of employee benefits can affect the amount of disposable income.
WORK.9-12.9.2.12.A.1	Analyze the relationship between various careers and personal earning goals.
WORK.9-12.9.2.12.A.9	Demonstrate how exemptions and deductions can reduce taxable income.
WORK.9-12.9.3.12.C.6	Develop job readiness skills by participating in structured learning experiences and employment seeking opportunities.

Formative Assessment and Performance Opportunities

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

Differentiation/Enrichment

- 504 Accommodations
- 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