Consumer Math CP Unit 6: Interest

Unit #:	APSDO-00020132	Duration:	3.0 Week(s)	Date(s):	

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Grades:
11, 12
Subjects:
Mathematics

Unit Focus

In this unit, students will analyze debt and calculate simple and compound interest for various scenarios. Students will compare credit card payment options. Students will compare car loan interest payments and rates. Summative assessments may include projects, labs and tests.

Stage 1: Desired Results - Key Understandings

Established Goals	Transfer
Common Core *Mathematics: 12* • Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. *CCSS.MATH.CONTENT.HSA.CED.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. *CCSS.MATH.CONTENT.HSN.Q.A.1* • Create equations in two or more variables to represent relationships	**T1** (T50) Based on an understanding of any problem, initiate a plan, execute it and evaluate the reasonableness of the solution. **T2** (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense. **T3** (T51) Examine alternate methods to accurately and efficiently solve problems. **T4** (T52) Use appropriate tools strategically to deepen understanding of mathematical concepts. **T5** (T14) Perform operations within the real and complex number system. **T6** (T11) Use descriptions to clarify and/or solve problems.

Meaning

Understandings	Essential Questions
U1 (U510) Every problem is a member of a category of problems that has a similar structure and set of characteristics. **U2** (U511) Placing a problem in a category	**Q1** (Q510) What type(s) of problem is this? **Q2** (Q511) What characteristics/attributes define this type of problem? **Q3** (Q512) What information is needed and

between quantities; graph equations on coordinate axes with labels and scales. *CCSS.MATH.CONTENT.HSA.CED.A.2*

- Define appropriate quantities for the purpose of descriptive modeling. *CCSS.MATH.CONTENT.HSN.Q.A.2*
- Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as y = (1.02)t, y = (0.97)t, y = (1.01)12t, y = (1.2)t/10, and classify them as representing exponential growth or decay. *CCSS.MATH.CONTENT.HSF.IF.C.8.B*
- Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. *CCSS.MATH.CONTENT.HSN.Q.A.3*
- Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. *CCSS.MATH.CONTENT.HSA.REI.B.3*
- Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *CCSS.MATH.CONTENT.HSA.CED.A.4*
- Attend to precision. *CCSS.MATH.MP.6*
- Reason abstractly and quantitatively. *CCSS.MATH.MP.2*

gives you a familiar approach to solving it.
U3 (U550) Attention to detail, such as specifying units of measure and labeling, leads to clarity in expressing mathematical information.
U4 (U105) Mathematicians develop new understandings based on established relationships/ theorems/ postulates.
U5 (U106) A limited set of symbols can be used to represent numerical descriptions and relationships.

how do I use it to solve a problem?
Q4 (Q551) How precise do my quantities need to be for my calculations to be accurate?
Q5 (Q550) Did I use clear language (symbols, labels, terms, units of measure and significant digits) to explain my reasoning to others?
Q6 (Q552) Does my solution make sense?
Q7 (Q102) What rule do I know OR what pattern can I recognize to help me make a prediction/solve this problem?
Q8 (Q104) How do I use my number sense to perform operations?

Acquisition of Knowledge and Skill	
Knowledge	**Skills**
	S1 Calculate simple and compound interest **S2** Access websites in order to accurately understand the implications of credit card debt **S3** Create imaginary debt to see the implications of frivolous spending **S4** Find and use applications to evaluate simple and compound interest

Stage 3: Learning Plan

Coding	Code	Description of Learning Activity