

08_ Transportation

Content Area: **Math**
Course(s):
Time Period: **Full Year**
Length: **4 weeks**
Status: **Published**

General Overview, Course Description or Course Philosophy

The New Jersey Student Learning Standards (NJSLS) are rigorous and robust. The standards emphasize not only procedural skill but also conceptual understanding to ensure students are learning and absorbing the critical information needed to succeed mathematically now and in the future. The standards encourage students to solve real-world problems and define what students should understand and be able to do in their study of mathematics. Mastery of the standards requires students to justify, in a way that is appropriate to the student's mathematical maturity, why a particular mathematical statement is true or where a mathematical rule comes from. Mathematical understanding and procedural skill are equally important, and both are accessible using mathematical tasks of sufficient richness.

In Foundations of Consumer Math, students will apply mathematical knowledge and skills to real-world math situations. Topics in this course include gross and net pay, creating a budget, checking and savings accounts, cash purchases, credit cards and loans, and vehicle and housing costs.

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

Students will understand:

- Determining the cost of financing, owning, or leasing a new or used car inclusive of maintenance and insurance costs can be complex, but is necessary in order to avoid debt.

Essential Questions:

- What other expenses should be taken into consideration when determining which vehicle to purchase?
- Why would it be important to conduct research about automobile loans before visiting the car dealership?

CONTENT AREA STANDARDS

N.RN

A. Extend the properties of exponents to rational exponents

N.Q

A. Reason quantitatively and use units to solve problems

N.CN

A. Perform arithmetic operations with complex numbers

B. Represent complex numbers and their operations on the complex plane

C. Use complex numbers in polynomial identities and equations

FIN.9-12.9.4.12.F.4	Solve mathematical problems to obtain information for decision-making in financial settings.
PFL.9.1.12.RM.3	Compare the cost of various types of insurance (e.g., life, homeowners, motor vehicle) for the same product or service, strategies to lower costs, and the process for filing an insurance claim.
PFL.9.1.12.CDM.6	Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit. (e.g., student loans, credit cards, auto loans, mortgages, etc.).
PFL.9.1.K12.P.2	Attend to financial well-being.

RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)

9.1.8.FI.3: Evaluate the most appropriate financial institutions to assist with meeting various personal financial needs and goals. • 9.1.8.FI.4: Analyze the interest rates and fees associated with financial products.

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.
PFL.9.1.K12.P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
PFL.9.1.K12.P.8	Use technology to enhance productivity increase collaboration and communicate effectively.

STUDENT LEARNING TARGETS

Refer to the 'Declarative Knowledge' and 'Procedural Knowledge' sections.

Declarative Knowledge

Students will understand that:

- Financing a vehicle involves borrowing money from a lender to purchase it and leasing a vehicle is making monthly payments to use the car for a set amount of time.
- Specific terminology is associated with vehicle transportation costs: sticker price, base price, and

dealer's cost; liability, comprehensive, and collision insurance.

- Depreciation is the decrease in the value of the vehicle because of its age and condition.
- Car insurance rates are affected by the amount of insurance coverage you want, the age of the vehicle, the insurance rating group based on the size and value of the vehicle, and the driver-rating factor based on your age, marital status, mileage, etc.

Procedural Knowledge

Students will be able to:

- Compute the sticker price and dealer price of a new vehicle.
- Use tables to compute the annual premium for vehicle insurance.
- Research the cost of vehicles of interest.
- Compute the total cost of operating and maintaining a vehicle.

EVIDENCE OF LEARNING

Refer to the 'Formative Assessments' and 'Summative Assessments' sections.

Alternate Assessments

- Portfolios
- Verbal Assessment (instead of written)
- Multiple choice
- Modified Rubrics
- Performance Based Assessments

Formative Assessments

- Entrance and exit tickets
- Teacher created homework and classwork
- Class discussions
- Observations/student monitoring (checklists/anecdotal records)

Summative Assessments

- Quizzes (skill based and conceptual)
- Unit Test
- Unit Project (Purchasing and Maintaining a Vehicle Project)

RESOURCES (Instructional, Supplemental, Intervention Materials)

Mathworksheetsland.com

[DCMP Videos](#)

BizKids Videos and Lesson Plans

INTERDISCIPLINARY CONNECTIONS

- Information writing (ELA)
- Researching based writing (Technology/Multimedia)
- Utilize critical thinking to make sense of problems and persevere in solving them. (Career Readiness)
- Use technology to enhance productivity. (Career Readiness)

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

See link to Accommodations & Modifications document in course folder.