WAMC Lab Template

Math Concept(s): Straight line depreciation, slope, expense functions, fixed and variable expense

Source / Text: Financial Algebra-Cengage

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Attach the following documents:

- Lab Instructions-Print out the page below and hand out. Also provide poster paper, markers, and rulers
- Student Handout(s)-Same (page below)
- Rubric and/or Assessment Tool

Short Description (Be sure to include where in your instruction this lab takes place):

Lab Plan

Lab Title: Automobile Depreciation

Prerequisite skills: Graphing, internet research, concepts of x, y coordinates
1.1
2.7
4.1-4.4

Lab objective: Create a base concept of how various levels of vehicles depreciate over time

Standards: *(Note SPECIFIC relationship to Science, Technology, and/or Engineering)*

Mathematics K–12 Learning Standards:

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Standards for Mathematical Practice: 1-8

Mathematics K–12 Learning Standards:

- N.Q.A.1, N.Q.A.2, A.CED.A.1, A.REI.A.1, F.LE.A 1a, F.LE.A.2

K-12 Learning Standards-ELA (Reading, Writing, Speaking & Listening):

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K-12 Science Standards

- RST.9-12.2, 9-10.7, 9-10.10

Technology

- 1.3.1,1.3.2,1.3.3,1.3.4, 2.2.2

Leadership/21st Century Skills:

21st Century Interdisciplinary themes (Check those that apply to the above activity.)

- ☐ Global Awareness
- ☒ Financial/Economic/Business/Entrepreneurial Literacy
- ☐ Civic Literacy
- ☐ Health/Safety Literacy
- ☐ Environmental Literacy

21st Century Skills (Check those that students will demonstrate in the above activity.)

LEARNING AND INNOVATION

Creativity and Innovation
- ☒ Think Creatively
- ☐ Work Creatively with Others
- ☐ Implement Innovations

Critical Thinking and Problem Solving
- ☒ Reason Effectively
- ☒ Use Systems Thinking
- ☒ Make Judgments and Decisions
- ☒ Solve Problems

Communication and Collaboration
- ☐ Communicate Clearly
- ☐ Collaborate with Others

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Information Literacy
- ☒ Access and Evaluate Information
- ☒ Use and manage Information

Media Literacy
- ☒ Analyze Media
- ☐ Create Media Products

Information, Communications and Technology (ICT Literacy)
- ☒ Apply Technology Effectively

LIFE & CAREER SKILLS

Flexibility and Adaptability
- ☐ Adapt to Change
- ☐ Be Flexible

Initiative and Self-Direction
- ☒ Manage Goals and Time
- ☐ Work Independently
- ☐ Be Self-Directed Learners

Social and Cross-Cultural
- ☒ Interact Effectively with Others
- ☐ Work Effectively in Diverse Teams

Productivity and Accountability
- ☒ Manage Projects
- ☐ Produce Results

Leadership and Responsibility
- ☒ Guide and Lead Others
- ☒ Be Responsible to Others

Teacher Preparation: (What materials and set-up are required for this lab?)

Materials

- Construction paper, markers, computer to research, rulers

Set-Up Required:

- little

Lab Organization Strategies:

Leadership (Connect to 21st Century Skills selected):

-

Cooperative Learning:

- Work together, assign rolls

Expectations:

- Find 3 vehicles and track depreciation over 2-4-6-8

Timeline:

- 1 class period

Post Lab Follow-Up/Conclusions:

Discuss real world application of learning from lab

- Evaluate various aspects of each vehicle…mph, cost to operate, resale value, etc

Career Applications

- Transportation to work, sales man, buy fix and resale

Optional or Extension Activities

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LAB 4-5
LINEAR AUTOMOBILE DEPRECIATION

In this lab you are to group up into pairs and pick 3 types of vehicles, one- high end or high $$, one- Mid range or level (30k-75k), and one- Lower end or cheaper (under 30k) no frills (ie. no power locks, windows etc.). Document the initial cost of the vehicles and search the Kelly Bluebook values for those same vehicles that are 2, 4,6,8 years old. On a sheet of poster board, graph those values for each vehicle- use different color inks to color code each vehicles values over time to depict the actual depreciation of each.

Once that is complete, come up with a statement as to what type of vehicles hold there value longer and what you can derive from the data that you have collected and graphed.

Collaborative Work Skills : Graphing a system of linear inequalities

Teacher Name: **Cofer**

Student Name: _____

CATEGORY	4	3	2	1
Time-management	Routinely uses time well throughout the project to ensure things get done on time. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Usually uses time well throughout the project, but may have procrastinated on one thing. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Tends to procrastinate, but always gets things done by the deadlines. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Rarely gets things done by the deadlines AND group has to adjust deadlines or work responsibilities because of this person's inadequate time management.
Working with Others	Almost always listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Usually listens to, shares, with, and supports the efforts of others. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Often is not a good team player.
Focus on the task	Consistently stays focused on the task and what needs to be done. Very self-directed.	Focuses on the task and what needs to be done most of the time. Other group members can count on this person.	Focuses on the task and what needs to be done some of the time. Other group members must sometimes nag, prod, and remind to keep this person on-task.	Rarely focuses on the task and what needs to be done. Lets others do the work.
Quality of Work	Provides work of the highest quality.	Provides high quality work.	Provides work that occasionally needs to be checked/redone by other group members to ensure quality.	Provides work that usually needs to be checked/redone by others to ensure quality.
Problem-solving	Actively looks for and suggests solutions to problems.	Refines solutions suggested by others.	Does not suggest or refine solutions, but is willing to try out solutions suggested by others.	Does not try to solve problems or help others solve problems. Lets others do the work.
Attitude	Never is publicly critical of the project or the work of others. Always has a positive attitude about the task(s).	Rarely is publicly critical of the project or the work of others. Often has a positive attitude about the task(s).	Occasionally is publicly critical of the project or the work of other members of the group. Usually has a positive attitude about the task(s).	Often is publicly critical of the project or the work of other members of the group. Often has a negative attitude about the task(s).