

Group Name _____

Student Name _____

Score _____

How Green is Your Trash?

Content Quiz

1. Match the following equations with their forms.

$$y = 3x + 2$$

$$2x + 3y = 6$$

$$y - 2 = 3(x + 4)$$

Standard Form

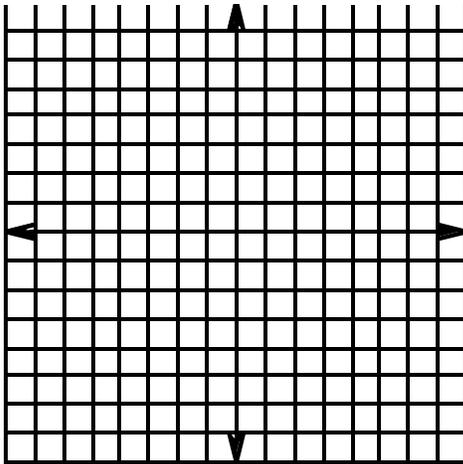
Point-Slope Form

Slope-Intercept Form

2. Complete the following table. Then use the table to neatly graph the equation.

$$y = -2x - 2$$

x	2	1	0	-1	-2



3. Find the slope of the following lines:

a. $y = 2x + 5$

b. $5y + 10x = 20$

c. $y - 6 = 2(x + 4)$

d. $2y - 7x = 20$

4. Use either the Substitution method or the Elimination method to find the point of intersection of the following sets of lines.

a. $y = -x - 1$

$y = 6x - 8$

b. $-x + 4y = 6$

$x + 2y = 12$

2010 Math Matters Algebra 1

Project Title: How green is your trash? Content Area Focus: Algebra 1

1.1 Content Standards Addressed:

- Focuses on 21st century skills, content knowledge and expertise.
- Builds understanding across and among core subjects as well as 21st century interdisciplinary themes
- Emphasizes deep understanding rather than shallow knowledge
- Engages students with the real world data, tools, and experts they will encounter in college, on the job, and in life--students learn best when actively engaged in solving meaningful problems

1.2 How students will demonstrate mastery: Students will graph different recycling options using the cost for the city of St. Charles, recycling different products and collection of trash. They will use that data to determine the best recycling program to adopt. The link below is a beginning on where the students can begin their research. This is a list of different search engines the students can use besides google. Another tip on the search is to narrow searches down and to add (+) signs to combine words. Ex. Trash + Recycle + Missouri.

- www.Yahoo.com
- www.Dogpile.com
- www.Go.com
- www.Altavista.com
- www.Lycos.com
- www.Jux2.com

<http://www.scchealth.org/docs/es/docs/recycle/>

1.3 Learner Outcomes (21st Century Skills):

Written Communication

Oral Communication

Content Literacy

Critical Thinking

Collaboration

Work Ethic

1.4 How students will be evaluated on the 21st Century skills: Classroom observations, student evaluations, presentations

2.1 Real World Implications: Cost Analysis

Comparing Growth

Sales

Marketing

Banking

2.2 Project Scenario: How can we as waste management experts

2.3 Driving Question: use graphing and cost analysis

2.4 Goal of the Project: to find the most cost effective trash pickup program for our city.

3.1 Products and artifacts that will be assessed to ascertain student understanding of content and skills, include:

Early in the Project:

Collaborative Homework problems

"Early in Project" Notes: Students will be given a few problems (4-5) individually for homework and then the next day they will collaboratively go through their answers and turn in one paper for the group.

During the Project:

content quiz

At the End of the Project:

Paper

Presentation (Power Point, Movie Maker, any visual that the student is comfortable with.)

"End of Project" Notes: Students paper will be a written proposal to City Council. Presentations will be given to fellow students and teachers.

3.2 Learning Task Analysis: The chart below indicates project tasks (or

prerequisites) and what the students need in the way of direct instruction, preparatory reading or research)

<u>Knowledge and Skills Needed</u>	Analysis
1. Graphing a linear equation	Should already know
2. Finding solution to system of equations	Direct instruction or mini-lesson Experiment or research
3. Organizing data into appropriate graphs	Should already know Direct instruction or mini-lesson
4. Solve a linear equation	Should already know
5. Determine slope and rate of change of lines	Should already know Direct instruction or mini-lesson

3.3 Assessment Rubrics for Project/Process

21st Century Assessment

- Supports a balance of assessments, including high-quality standardized testing along with effective classroom formative and summative assessments
- Emphasizes useful feedback on student performance that is embedded into everyday learning
- Requires a balance of technology-enhanced, formative and summative assessments that measure student mastery of 21st century skills
- Enables development of portfolios of student work that demonstrate mastery of 21st century skills to educators and prospective employers

Enables a balanced portfolio of measures to assess the educational system's effectiveness at reaching high levels of student competency in 21st century skills

The main product/process to be assessed:

Paper and Presentation

Early Project Scaffolding Description: I will provide the students with worksheets for homework assignments that they will do individually. The following day the groups will look at all of the individual answers and collaborate on the final answers for their group worksheet that they will turn in. I will be checking to make sure that each individual attempted each assignment since it is a part of their rubric that they complete all assignments on time.

Early Project Scaffolding: Handout

During Project Scaffolding Description: Same as above, I will be providing worksheets for the students during the project.

During Project Scaffolding: Handout

End of Project Scaffolding Description: I will be giving a final worksheet and providing a quiz that the students will take individually for an assessment of the content.

End of Project Scaffolding: Handout

Overall Project Evaluation/Reflection Process: Class discussion

Oral & Written Presentation			
Expert 4	Competent 3	Adv. Beginner 2	Beginner 1
<p>A. Complex sentences are produced with creative and accurate word choice that support the content.</p> <p>B. The sequence of the presentation inspires higher level thinking from the audience.</p> <p>C. Eye contact is appropriate for all audience members.</p> <p>D. Presenter's volume and enunciation are sufficient so that all of the audience can hear and understand.</p> <p>E. Selects and utilizes the appropriate digital tools* to communicate with the intended audience for specified purposes</p> <p>F. Creates products using digital tools and processes appropriate to assigned purpose and intended audience using original ideas or research.</p>	<p>A. Complex sentences are produced that support the content.</p> <p>B. The sequence of the presentation helps the audience to follow the content.</p> <p>C. Eye contact is appropriate for most audience members.</p> <p>D. Presenter's volume and enunciation are sufficient so that most of the audience can hear and understand.</p> <p>E. Explains and demonstrates safety and etiquette in using digital tools* to communicate with intended audiences.</p> <p>F. Creates products by composing, illustrating and communicating original ideas or research using digital tools.</p>	<p>A. Sentences or phrases are produced that support the content most of the time.</p> <p>B. The sequence of events is logical with sufficient details for audience understanding.</p> <p>C. Eye contact is appropriate for some audience members.</p> <p>D. Presenter's volume and enunciation are inconsistent which makes it difficult for some of the audience to hear and understand.</p> <p>E. Identifies, compares, and demonstrates safe and appropriate behavior when using digital tools*.</p> <p>F. Creates products by composing, illustrating and communicating original ideas and/or stories using digital tools.</p>	<p>A. Phrases or simple sentences are produced to communicate intent.</p> <p>B The sequence of events lacks sufficient detail for the audience to understand content.</p> <p>C. Eye contact with the audience is minimal.</p> <p>D. Presenter's volume and enunciation make it difficult for the audience to hear and understand.</p> <p>E. Identifies and compares different digital tools* for appropriate audiences.</p> <p>F. Creates products by illustrating and communicating ideas and stories using digital tools with teacher guidance.</p>

Know	Need to Know
<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
Problem Statement	
How can we as (ROLE)...Waste Management Experts	
Do (TASK)...use graphing and cost analysis	
So that (OVERALL GOAL)...to find the most cost effective trash pickup program for our city?	

Group Contract – How Green is Your Trash?

Project Name: _____

Team Name: _____

Project Start Date: _____

Project End Date: _____

Team Members/Personal Information

Name	Phone #	Email	Does Team Member have Internet at home:

Team Agreements and Ground Rules

Issue	Agreements			
Strengths/Weaknesses (What are the strengths and weaknesses of each team member? What strategies will you use to assist in areas of weakness?)	Name:	Strengths:	Weaknesses:	Strategies to improve weaknesses:
	Name:	Strengths:	Weaknesses:	Strategies to improve weaknesses:
	Name:	Strengths:	Weaknesses:	Strategies to improve weaknesses:
	Name:	Strengths:	Weaknesses:	Strategies to improve weaknesses:
Personal Interactions (Persist, Think & Communicate w/ clarity & precision, Manage Impulsivity, Gather data through all senses, Listen w/ understanding & empathy, Create, Imagine, & Innovate, Think Flexibly, Respond w/ wonderment & awe, Think about your thinking, take responsible risks, Strive for accuracy, Find Humor, Question & Pose problems, Think Interdependently, Apply past knowledge to new situations, remain open to continuous learning) new team agreements/norms...)	We agree to: <ol style="list-style-type: none"> 1. 2. 3. 			

<p>Roles and Responsibilities</p> <p><i>Sample Contract Roles:</i></p> <p>Discussion Coach – Creates & coaches team through agenda items, keeps discussion focused & on task</p> <p>Liaison- Communicates needs with facilitator and/or community partners</p> <p>Process Coach – Coaches team through team norms/agreements, facilitates consensus decision making</p> <p>Accuracy Coach – Checks for accuracy in websites, items written in team notes/portfolios, etc.</p> <p>Viewpoint Coach – Summarizes statements of all team members for clarity in discussions.</p> <p>Team Tutor – Checks for content accuracy with team members as based on content skills checklists, warm-ups, reflections, etc.</p>	Name:	Role:	My Responsibilities Include:
	Name:	Role:	My Responsibilities Include:
	Name:	Role:	My Responsibilities Include:
	Name:	Role:	My Responsibilities Include:
<p>Managing Conflict</p> <p>(What do you do to settle disagreements? How do you compromise great ideas within the group? What norms have been set to allow you to push one another to progress in project work? Etc.)</p>			
<p>Absences (What to do when member is absent during project? How do you prepare for absences on presentation day? Etc....)</p>			

Project Benchmark Check-In

Task	Who Is Responsible	Due Date/ Check-In Date	Status	Date completed	Date turned in	Check off box
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>

Signatures _____

Teacher/Facilitator Signature: _____

