

IMPACT Lesson Plan

Grade Level: Fifth

Title: Fifth Graders Formulate Fabulous Math Facts

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Main Subject: Math Problem Solving

Essential Question: How do you formulate and solve word problems using different math concepts?

NC Standard Course of Study:

Science:

- 1.01- Describe and compare several common ecosystems (communities of organisms and their interaction with the environment).
- 2.03- Discuss and consider the wearing away and movement of rock and soil in erosion and its importance in forming:
 - Canyons.
 - Valleys.
 - Meanders.
 - Tributaries.
- 3.02- Discuss and determine how the following are affected by predictable patterns of weather:
 - Temperature.
 - Wind direction and speed.
 - Precipitation.
 - Cloud cover.
 - Air pressure.
- 4.05- Determine factors that affect motion including:
 - Force.
 - Friction.
 - Inertia.
 - Momentum.

Social Studies:

- 1.04- Describe the economic and social differences between developed and developing regions in North America.
- 1.05- Explain how and why population distribution differs within and between countries of North America.
- 2.01- Analyze major documents that formed the foundations of the American idea of constitutional government.
- 2.02- Describe the similarities and differences among the local, state, and national levels of government in the United States and explain their legislative, executive, and judicial functions.

2.04- Compare and contrast the government of the United States with the governments of Canada, Mexico, and selected countries of Central America.

4.05- Describe the impact of wars and conflicts on United States citizens, including but not limited to, the Civil War, World War I, World War II, the Korean War, the Vietnam War, Persian Gulf War, and the twenty-first century war on terrorism.

Math:

1.03- Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

2.01- Estimate the measure of an object in one system given the measure of that object in another system.

2.02- Identify, estimate, and measure the angles of plane figures using appropriate tools.

3.04- Solve problems involving the properties of triangles, quadrilaterals, and other polygons.

- Sum of the measures of interior angles.

- Lengths of sides and diagonals.

- Parallelism and perpendicularity of sides and diagonals.

Other Mathematics Objectives Addressed:

1.01, 1.02, 3.01, 3.02, 3.03, 4.01, 4.03, 5.01, 5.02

Language Arts:

1.02- Select key vocabulary critical to the text and apply appropriate meanings as necessary for comprehension.

2.02- Interact with the text before, during, and after reading, listening, and viewing by:

- making predictions.

- formulating questions.

- supporting answers from textual information, previous experience, and/or other sources.

- drawing on personal, literary, and cultural understandings.

- seeking additional information.

- making connections with previous experiences, information, and ideas.

3.06- Conduct research (with assistance) from a variety of sources for assigned or self-selected projects (e.g., print and non-print texts, artifacts, people, libraries, databases, computer networks).

4.10- Use technology as a tool to enhance and/or publish a product.

Other Language Arts Objectives Addressed:

1.04, 2.06, 2.07, 3.02, 4.03, 4.05, 4.06

Technology:

1.11- Demonstrate appropriate use of copyrighted materials in word processing documents used for content projects/assignments. Strand - Keyboard Utilization/Word Processing/Desk Top Publishing

2.05- Modify/create and use spreadsheets to solve problems by performing calculations using simple formulas and functions (e.g., +, -, *, /, average). Strand - Spreadsheet

2.11- Use menus and branching to modify/create non-linear projects/products in content areas. Strand - Multimedia/Presentation

Information Skills:

- 1.09- Recognize that ideas are produced in a variety of formats (print, graphical, audio, video, multimedia, web-based).
- 2.04- Develop and express personal criteria for selecting resources for information needs and enjoyment.
- 4.05- Gather information.
- 4.09- Present information in a variety of formats (print, graphical, audio, video, multimedia).
- 5.02,- Produce media in various formats (print, graphical, audio, video, multimedia) appropriate to audience and purpose.

Other Information Skills Objectives Addressed:

- 1.08, 2.02, 2.05, 4.06, 4.07, 4.08, 5.03, 5.04, 5.05

Procedure:

Students will choose one math objective and pair it with either a Social Studies or Science objective and write a EOG problem to solve. They will be required to do 1 problem using Measurement, 1 problem using Geometry, and 1 problem using another math concept. One of their problems will have a Social Studies theme, one will have a Science theme, and one of their choice. That will give them a total of three problems, with no more than three pages.

Teachers will introduce the lesson by reading The Math Curse.

Students will use the Big 6 for this lesson. Each step is numbered below.

1-Students will decide their topic in groups.

Math	Social Studies	Science
Measurement - *Distance *Height *Capacity *Mass *Temperatures	Government - * Branches *Compare/Contrast North American Governments * Documents	Ecosystem - * Populations * Communities * Biomes
Geometry - *Angles *Shapes - properties *Symmetry *Parallel/Perpendicular	War - * US wars	Weather - * Natural Disasters * Clouds * Water Cycle * Erosion/Landforms
Free choice - *Elapsed Time *Fractions *Decimals *Graphing *Ordering *Patterns	Census - North & Central America *Populations *Incomes *Housing *Unemployment	Forces & Motion - * Simple Machines * Forces

2-Media Coordinator will lead a lesson brainstorming resource options and note-taking skills.

3-Students will gather information with media and computers.

4-Students will use the information to write notes.

Teachers will model questions using actual EOG practice items. Teachers will teach how to break down a problem. Teachers will give students a Cloze template for their questions.

5-Students will write EOG style questions and create an answer key.

Students will have a choice as to how they present their questions.

Choices include:

Keynote

Comic Life

Pages

Numbers

All pictures used must be cited correctly.

All questions will eventually be combined in a book for use in class and with future classes.

Cross Curricular Extension:

Enhancements:

none at this time

Assessments:

6-Rubric will be used.