

Engaged Learning Project Template

Title of Project: “What’s The Story”

Subject(s): Math/ELA

Grade Level(s): 3rd

Abstract:

This project will be a culminating project completed at the end of Unit 2: The Relationship Between Multiplication and Division. Students will be grouped according to ability to create an 8 page Power Point Presentation showing they understand the relationship between multiplication and division. Students will have to include various elements of the standards on each page of the power point. Students will relate the relationship between multiplication and division to their home life. Students will collaborate with local business owners whose job requires the use of multiplication and division. Students will also videoconference with high school students regarding the relationship between multiplication and division. Students will then submit presentations to Authorstream where they can create a video presentation.

Learner Description/Context:

In third grade this year, there are a total of 80 students. There are seven gifted students, three special education, and six EIP students. The EIP are in one classroom; however, the gifted and special education are mixed into the other three classes. The groups are not ability grouped.

The project will take place in a math classroom. There are 14 computers available for use. The students will be broken up into groups of two; therefore, each pair will have a computer equipped with all of the technology elements.

Students will begin by reviewing the relationship between multiplication and division. Students will then proceed to creating their power point presentation. Students will be given a list of tasks for the presentation. In order to display knowledge, students will be asked to complete a story on each slide incorporating the standards being addressed. The presentation must be at least 8 slides long. Students will have the choice write their word problems about anything they would like. As a form of differentiation for some students, I have identified various ways to increase rigor and differentiation in the project. Each word problem written must use the elements in the list below. Students will display higher order thinking skills by including these elements.

Along with addressing math standards, students will also be addressing writing standards.

Students must include the following into their presentation:

- **Title page with student names**
- **Multiplication story where product must be found (use arrays to find product)**
***Differentiation could include multi-step word problem or including more than one way to solve the problem**
- **Division story where quotient is found (use any method preferred)**
- **Multiplication story using one of the properties: commutative, associative, or distributive**
- **Division story using a letter in the equation. Find for the unknown. Example: $25 \div C = 5$.**
- **Multiplication problem showing comparing of two numbers.**
***Differentiation: have students write multi-step word problems**
- **How is multiplication and division used in your home?**
- **Solutions Page with written explanations and models**
***Differentiation: Students show more than one way to find answers**

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*Represents possibly differentiation if needed for students

Students must make sure they use illustration to show how they came up with the appropriate solution. They must provide a written explanation discussing how they constructed their answer. They must also check work by using the inverse operation, use necessary math vocabulary, check spelling, sentence structure, and punctuation.

Students will share their projects with other classes to get feedback from classmates. The completed projects will be shared at our monthly Family Night. The project will be used to ensure students have an accurate understanding of multiplication and division. The presentations will also be submitted into Authorstream, where students can make video presentations with them that can be shared with other classrooms or parents.

Time Frame: This project will take 7 one hour class periods. An hour class period will be designated at the beginning of the project to review rounding, addition, and subtraction via videoconference with the high school students. The remaining half hour will be used to review directions and expectations of students.

Standards Assessed:

<u>Math Standards</u>	<u>Standards for Mathematical Practice (SMP)</u>	<u>ELA Standards</u>	<u>Writing Standard</u>	<u>Nets-S</u>
MCC.3.OA.1 Interpret products of whole numbers	Make sense of problems and persevere in solving them. Students make sense of problems involving multiplication and division.	ELACC3SL5: Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details	ELACC3W6: With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.	Creativity and Innovation Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology
MCC.3.OA.2 Interpret whole-number quotients of whole numbers	Reason abstractly and quantitatively. Students demonstrate abstract reasoning by connecting arrays with multiplication problems.	ELACC3L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.		Communication and Collaboration Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the

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				learning of others.
MCC.3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities	Model with mathematics. Students are asked to use tiles to model various understandings of multiplication by creating arrays or groups. They record their thinking using words, pictures, and numbers to further explain their reasoning.	ELACC3L2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.		Critical Thinking, Problem Solving, and Decision Making Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
MCC. 3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers				Digital Citizenship Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:
MCC.3.OA.5. Apply properties of operations as strategies to multiply and divide				Technology Operations and Concepts Students demonstrate a sound understanding of technology concepts, systems, and operations.
MCC.3.OA.6. Understand division as an unknown-factor problem.				

Learner Objectives:

1. On each page of book, students will use correct grammar, spelling, and punctuation.
2. On each page of the book, student will create an illustration for the correct solution.
3. Students will provide a written explanation for each problem explaining how the problem was solved.
4. Students will display the use of inverse operations to solve problems.
5. Students will use math vocabulary in each problem.

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Below is the breakdown of the learner objectives. The table includes how the objective should be used, technology to achieve objective, and type of assessment for grading.

<u>Objective</u>	<u>Student Task</u>	<u>Technology</u>	<u>Assessment</u>
1. Grammar, spelling, punctuation	Use appropriate grammar, spelling, and punctuation in writing problems.	Word to verify correct grammar, spelling, punctuation PowerPoint for completed product	Informal- teacher verifies correct grammar and spelling Rubric- used to grade final project
2. Illustrate correct solution	Provide a mathematical model of the correct answer	Paint- create model PowerPoint-insert completed models	Informal-teacher verifies students have understanding Rubric-used to grade final product
3. Written explanation for solution	Students provide detailed explanation for solution to word problem	Word to verify correct grammar, spelling, punctuation PowerPoint-insert product into slide	Informal- teacher verifies students explanation Rubric- used to grade final project
4. Use of inverse operations	Students show work and check work by using inverse operations	Students will complete this task using paper and pencil. Then scan completed project into PowerPoint.	Informal-teacher verifies students check work using inverse Rubric- used to grade final project
5. Math vocabulary	Students use and label appropriate math vocabulary	Word & PowerPoint should contain appropriate vocabulary	Informal-teacher verifies vocabulary Rubric- used to grade final project
6. Final Project	Includes all 5 objectives	Use of technology such as PowerPoint, Word, Paint, Authorstream included	Rubric

The “hook” or Introduction:

Since this is a culminating task, students will already be familiar with the concepts in the unit. This task will replace a unit test. It is a much more descriptive task than a test would be. It will indicate the student’s true understanding of the relationship between multiplication and division.

The project will first be introduced to students via videoconferencing with a high school mentor(s). This student will review and discuss concepts the students have learned. This will serve as a review for the students. Next, the project will be introduced. Students will be given a checklist and a rubric which will be reviewed with them. This will serve as step by step directions and expectations for the completed project. As a way to motivate the students, they will be able to choose their partner for this project. Additionally, each group will receive a laptop to do their work on. Students will also be excited about working with their mentor(s), interviewing and talking to business owners, and sharing what they have created with parents.

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Process:

Day One:

Introduction to the project. Students will be introduced to a mentor via videoconferencing. The student mentor will begin asking questions regarding multiplication and division. Students will actively converse and answer with the student mentor. This will serve as a review while ensuring students have an accurate idea of the relationship between multiplication and division. Teacher will be a guide if needed through this process.

Students will then choose a partner to work with and get materials needed i.e. laptop, checklist, and rubric. Before beginning work, we will review the checklist and rubric to make sure everyone understands the expectations. Also, we will review power point and Authorstream to make sure everyone remembers how to use the programs. Students will begin brainstorming on the project. Teacher will be giving direct instruction regarding directions and expectations of the project.

Day Two:

Students will complete brainstorming and begin working on the project during day 2. On a laptop, students will complete an 8 page power point presentation about the relationship between multiplication and division. This project is student-centered so as the teacher, I will be walking around monitoring and answering questions when needed. I will serve the role as the facilitator. Students will also be asked to think about how multiplication and division is used in their homes in order to complete slide 7. Students will also be reminded they must use math vocabulary, inverse operations, checking their work, and illustrating the solution for each page.

Teacher will be a facilitator. Teacher should travel around the room to ensure each pair is on task.

Day Three:

On this day, business owners from the community will come in to talk with students. I chose to do it this day because students have a foundation for their project. This will help engage students by making real life connections and culturally responsive connections. I plan on having at least two parents from local businesses come in. I would like a parent working in the construction industry and a parent working at a bakery to come in. Both of these individuals will be able to show how they use multiplication and division each day in their field. Students will be able to make the connections because the businesses will be well known to them. It is also culturally responsive since many of their parents could potentially work in this industry.

During this time, teacher will make sure students are active in the discussions.

Day Four:

Continue working on projects. Some groups may begin completely projects on this day. Once completed, students will be asked to review the rubric and checklist to make sure they have each item. If so, they can begin formatting their power point any way they would like. Students may also want to write a script for their presentation since it is going to be recorded in Authorstream. This is optional. Teacher will be a facilitator. Teacher should travel around the room to ensure each pair is on task. Teacher will help students with technology if students have questions.

Day Five:

Students should be finishing projects on this day. Teacher will be a facilitator. Teacher should travel around the room to ensure each pair is on task. Teacher will help students with technology if students have questions.

Day Six:

This will be the collaborative session. Students will be sharing their projects with other classes. I will assign each pair a number. Numbers will be drawn to see whose project they will review. Students will be asked to write 3 positive comments about the other group's presentation. These comments will be shared with that group in a short collaborative session to motivate students about the work they did.

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After the collaborative session, students will complete their projects by doing their recordings in Authorstream. Teacher will be a facilitator. Teacher should travel around the room to ensure each pair is on task. Teacher will help students with technology if students have questions.

Day Seven:

Students will finish recording in Authorstream. Students will then view projects during class to see the creativeness of others. Students will be asked to write a short summary about how they feel about the project (likes/dislikes/changes that can be made). This will be completed on an individual basis as a ticket out the door.

Teacher will grade students' projects via rubric while they are presenting to the class.

Throughout this project, I will serve as a facilitator. I will monitor the learning process allowing my students to take their project into their own hands. This project is extremely student centered. The students are given requirements, but how they get those achieved is their choice. They are given options on how to solve math problems. Students are also introduced to the importance of math throughout life with the videoconferencing and meeting with parents about careers that involve multiplication and division. Students are also motivated because they are creating a project that will be seen and other school administrators.

Product:

Students will use feedback from classmates, collaboration with high school students, and information from parents to produce a video of their Power Point Presentation using Authorstream. This production will show their knowledge and understanding of the relationship between multiplication and division. Students will then share their products with other classrooms as well as parents on Family Night. The technology being used in this project will be Power Point and Authorstream. Students will be assessed on their project based on a rubric.

Rubric will contain the following: (1)appropriate number of pages, (2)appropriate solutions to problems,(3) appropriate math work was shown, (4)stories were written to reflect each page, (5)grammar, structure, and spelling is correct,(6) vocabulary is used, (7) group participation from each member

Technology Use:

A videoconferencing technology will be used as a collaboration tool between the high school and my classroom. One example of a program that may be used is Skype. The second important technology to be used is Power point. This will be used in the creation of the book students are making. This will be an original work for students. They may use formatting tools and clipart if they wish. Lastly, Authorstream will be used. Power point projects will be saved via Authorstream. Additionally, students will create video and sound to go along with their presentations. Their presentations will then be shared with other students and parents.

The video conferencing software is important to the collaboration amongst students and mentors. Power point will allow for authentic, meaningful, standards-based, challenging, student-directed, multi-disciplinary, and culturally responsive. Students will take the information learned along with information from business leaders and home life to create slides which reflect the relationship between multiplication and division. Authorstream will allow for students to be producers because their videos and presentations will be used to show other students and parents. The final project will reflect their collaboration during the project. The project will also be performance based because the product will be shown to parents and other student.

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References and Supporting Material:

Below I have included several useful sources if this project needed to be implemented in another classroom. First, I have included a tutorial to Authorstream. This tutorial would be helpful to someone who has never used Authorstream. I have also included a link to the Authorstream site where an account can be created. I have also included a link to Georgia Standards. This website is where Math and ELA standards can be found. In addition, a link is available for a tutorial to creating a power point presentation in case the project is being recreated by an individual who is not familiar with the software. I have also included a site where a rubric can be created for the project. An individual account can be created where rubrics can be made related to Common Core standards. Several different rubrics could be made depending on the teacher. I would combine all of the standards on one rubric; however, a math rubric, ela rubric, and writing rubric could all be made. In addition to the rubric, it would be important to create a kid friend checklist could be created using a word document. Lastly, a link to Skype is also included. This is the video conferencing software I chose to use throughout the project.

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