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| NECC_NETS_small | **Lesson Plan for Implementing NETS•S—Template I*(More Directed Learning Activities)*** |
| ***Template with guiding questions*** |
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| Grade Level(s) | 3rd grade |
| Content Area | Mathematics |
| Time line | 2 weeks |

**Standards** (What do you want students to know and be able to do? What knowledge, skills, and strategies do you expect students to gain? Are there connections to other curriculum areas and subject area benchmarks? ) Please put a summary of the standards you will be addressing rather than abbreviations and numbers that indicate which standards were addressed.

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| Content Standards | **MGSE3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 × 7.** **MGSE3.OA.2 Interpret whole number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares (How many in each group?), or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each (How many groups can you make?).** **MGSE3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.** |
| NETS\*S Standards: | 1. Creativity & Innovation a. Create original works as a means of personal or group expression, b. Use models and simulations to explore complex systems and issues
2. Research and information fluency a. Plan strategies to guide inquiry c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
3. Critical thinking, problem solving, and decision making b. Plan and manage activities to develop a solution or complete a project.
4. Digital citizenship a. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity. c. demonstrate personal responsibility for lifelong learning d. Exhibit leadership for digital citizenship
5. Technology operations and concepts a. Understand and use technology systems b. Select and use applications effectively and productively
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**Overview** (a short summary of the lesson or unit including assignment or expected or possible products)

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| Our upcoming 3rd graders need our rising 4th graders help! We need them to show what they know about multiplication and division strategies. Their jobs are to use technology to show give students tutorial lessons on solving multiplication and division problems with strategies taught during the school year. Students will then upload their videos and presentation to our class Weebly website to share with our rising 3rd graders as a blended learning aid for when we begin to teach them multiplication and division next school year. The purpose is for the students to demonstrate their understanding of multiplication and division and the strategies of solving these problems and knowing when to use those strategies in problem solving situations. Student outcomes is that students will be able to create a digital presentation in order to explain and give examples of strategies of solving various division and multiplication problems.  |

**Essential Questions** (What **essential question** or learning are you addressing? What would students care or want to know about the topic? What are some questions to get students thinking about the topic or generate interest about the topic? Additionally, what questions can you ask students to help them focus on important aspects of the topic? (Guiding questions) What background or prior knowledge will you expect students to bring to this topic and build on?) Remember, essential questions are meant to guide the lesson by provoking inquiry. They should not be answered with a simple “yes” or “no” and should have many acceptable answers.

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| Main Essential Questions:How are multiplication and division related?How can you write a mathematical sentence to represent a multiplication or division model we have made?How do estimation, multiplication, and division help us solve problems in everyday life?Guiding Questions:What do you remember was the most confusing as you learned these skills? How would you help someone who struggled with the same problems you did?What would be the best ways to help a struggling student overcome this confusion? What would be the best way to show them how you use these problems in everyday life? What would be the best digital platform to show how you solve these problems? How would you make a presentation that everyone would be able to understand?I think students will what to be able to show others, especially in this case younger students, how well they can show knowledge of a skill. Students will have to show that they retain the knowledge that was taught to them throughout the school year regarding multiplication and division problems.  |

**Assessment** (What will students do or produce to illustrate their learning? What can students do to generate new knowledge? How will you assess how students are progressing (*formative assessment*)? How will you assess what they produce or do? How will you differentiate products?) You must attach copies of your assessment and/or rubrics. Include these in your presentation as well.

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| Formative assessments: TW need to provide ongoing guidance at every phase of development from preplanning to final productPreplanning: SW provide what they will be working on (division, multiplication, both) and a general guideline on what they plan on showing (problem solving, strategies, etc) Questioning throughout involves discussion with students regarding how will they be able to most effectively communicate with their audience how to learn a skill. Reflection questions on how I teach them a skill to determine what they think will work best for the student in the digital project. Will they provide a slideshow, video, narration or a combination of all concepts without becoming too confusing for the student. Planning: SW determine what digital platform to use in order to show for their audience (Choices will be VoiceThread, PowerPoint, Google Slides, iMovie or MovieMaker for Windows, Zentation). This is very dependent on the teacher actively using these presentation tools leading up to the project. Students will use the digital formats to show visually what they have learned in Unit 2. The presentation length will be determined based on what skills the students are teaching. If only teaching one concept the presentation should not be longer than 5 minutes. For students teaching more than one concept/skill, 15 minutes should be the maximum. Final rubric to assess what the students’ requirements for the final project to demonstrate a math skill(s) from Unit 2 Relationship between Multiplication and Division.  |

**Resources** (How does technology support student learning? What digital tools, and resources—online student tools, research sites, student handouts, tools, tutorials, templates, assessment rubrics, etc—help elucidate or explain the content or allow students to interact with the content? What previous technology skills should students have to complete this project?)

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| Learnzillion is a great tool to show how students can learn math with video examples. Learnzillion was used throughout the school year as a learning source and can be used as an example of what students can do to present their own problem solving strategies and resources. Technology is the way students can present their learning while also teaching others who may have difficulty with learning certain skills and would benefit from peer tutorial in a different format that face to face. The teacher will need to have exposed the students throughout the first two units of math (and other subjects) to all of the digital formats so that the students will be exposed to how the teacher uses these digital tools to guide instruction and provide students to use these tools as tutorials as part of a blended learning environment. I think a lot of times kids need to hear from other kids or see what kids before them have done to accomplish and academic task. This is taking peer tutorial to another level. They are allowed to see the class, or classes, before them work to solve similar problems. I used the Buck Institute for Education website’s free presentation rubric and revised it to include the content since the majority of the rubric was regards to presentation which is what the students will be doing. This presentation tool rubric is what the teacher will be looking at regarding grading for the students’ work. Resource: Experts & NewBIEs | Bloggers on Project Based Learning: How to use BIE's rubrics to assess 21st century competencies in PBL. (n.d.). Retrieved May 02, 2016, from http://biepbl.blogspot.com/2013/04/how-to-use-rubrics-to-assess-student.html  |

**Instructional Plan**

**Preparation** (What student **needs, interests, and prior learning** provide a foundation for this lesson? How can you find out if students have this foundation? What difficulties might students have?)

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| Students seem to really love working with multiplication and division. Since this is a very long unit but it expands over the entire math curriculum as in regards to problem solving this is a great project that students can become very engaged in. The students become teachers and using their own prior knowledge of this unit and their enthusiasm with this unit should be able to provide for a lot of information to be presented to the students. I think the best way to determine if students are ready to teach these skills are to give a quick 10 question assessment to see which students are still showing difficulty with these skills. It may be that I will need to work with a group of students more closely with making sure that they possibly stick with one certain skill that they have mastered than giving them a choice. That way all students will be showing a skill that shows their strength in that standard.  |

**Management** Describe the classroom management strategies will you use to manage your students and the use of digital tools and resources. How and where will your students work? (Small groups, whole group, individuals, classroom, lab, etc.) What strategies will you use to achieve equitable access to the Internet while completing this lesson? Describe what technical issues might arise during the Internet lesson and explain how you will resolve or **trouble-shoot** them? Please note: Trouble-shooting should occur prior to implementing the lesson as well as throughout the process. Be sure to indicate how you prepared for problems and work through the issues that occurred as you implemented and even after the lesson was completed.

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| Management with students at this point has been well established with providing GoNoodle for brain breaks to stay focused on lesson with time. I have also used ClassDojo to assign points to students being on task during the lesson and being great helpers to other students when it comes to helping record or explain their work and provide feedback before final recordings. Students will be allowed to work as individuals or in partners. Partners will be based on if there are students who need a peer tutor to help them if they are showing difficulties in working with this skills. Those students will be provided a checklist that they will complete that allows them to say if their partner did their work or did one do all the work and the other just watched. It allows for accountability for both students to ensure that both partners are working in collaboration for this projects. Technical issues could involve problems with the programs so it will be my job to ensure that all of the programs are available to use on our school server. I will be providing the headphones with microphones that will allow students to create voiceovers as needed on the various programs. Work space will be mostly in the classroom or computer lab (mobile or computer lab) in order to work with the products. I will probably work with some students for extra time after school once or twice a week if I see that they could use the extra hour or so.  |

**Instructional Strategies and Learning Activities** – Describe the research-based instructional strategies you will use with this lesson. How will your learning environment support these activities? What is your role? What are the students' roles in the lesson? How can you ensure **higher order thinking at the analysis, evaluation, or creativity levels of Bloom’s Taxonomy**? How can the technology support your teaching? What authentic, relevant, and meaningful learning activities and tasks will your students complete? How will they build knowledge and skills? How will students use digital tools and resources to **communicate and collaborate** with each other and others? How will you facilitate the collaboration?

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| I believe the gradual release model from teacher-led to student-led instruction is the best instructional strategy to be successful with this lesson. Starting with whole group teacher instruction showing how it can be done and how I create video lessons and slideshows with a few clicks and words is a great way to engage students and letting them know that they will be working with similar tools. The student’s role at the beginning is just students’ learning and then taking a couple of days to practice with small groups then as they start brainstorming. Students will use the digital tools to communicate their learning and collaborate with other classmates either working as partners or showing their work in progress to edit and proofread their work before submitting final projects. It still follows a basic writing skills of brainstorming, first draft, editing, proofreading, final draft but using it to create a product to teach a math strategy to another student.  |

**Differentiation** (How will you differentiate **content and process** to accommodate various learning styles and abilities? How will you help students learn independently and with others? How will you provide extensions and opportunities for enrichment? What assistive technologies will you need to provide?)

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| Differentiation will occur throughout the process. Students who are struggling with these skills to reteach will be assigned a stronger peer tutor to work with in the project. Students who are struggling readers may be asked to work more on the creative side (such as give the examples, demonstrate with manipulatives). Students who are also struggling will be assigned a task and digital project instead of a choice that way it can still show what they mastered at their level. Teacher will provide a more structured format with choices made for them so they can focus on the creation of their project. Extensions – Students will create their own assessments online for students to complete. Assessments will be added to MasteryConnect to be completed by students. Students will also be allowed if time allowed for students to create a minilesson on another standard taught in 3rd grade.Assistive technology will include allowing students to use programs such as Google Voice and Voki in order to help with students who are not strong in typing and Voki to present to students who are not strong readers if students choose to type out instructions as part of their presentation. Since our school is one of the lowest performing schools assistive technology is crucial to a lot of students who struggle with reading and writing and this assistive technology should help engage them and have tools to use to make sure they are providing quality work and not feel like they cannot keep up. With these tools they can and it keeps them engaged and maximizes their instructional time working with these tools to help them create digital products.  |

**Reflection** (Will there be a closing event? Will students be asked to reflect upon their work? Will students be asked to provide feedback on the assignment itself? What will be *your process* for answering the following questions?

**•** Did students find the lesson meaningful and worth completing?

**•** In what ways was this lesson effective?

**•** What went well and why?

**•** What did not go well and why?

**•** How would you teach this lesson differently?)

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| Closure will be final presentation where the class will have the opportunity to share their work on the website. Students will introduce their skill and students will be able to view and grade on the rubric the student’s work. Students will have a chance to provide feedback on a survey form which will require a lesson on critiquing student work online respectfully. One of the most important things that allows me to know if the lesson was meaningful is based on student maximizing student time. For students to get to the point to start using the digital technology, they have a lot of work in the preplanning through editing phase. I think if I saw that the students were more off task than on that something didn’t seem meaningful enough to complete it. I think that if I see students not on task that some questioning as the teacher can help keep the students on track.  |

**Closure:** Anything else you would like to reflect upon regarding lessons learned and/or your experience with implementing this lesson. What advice would you give others if they were to implement the lesson? Please provide a quality reflection on your experience with this lesson and its implementation.

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| I think that I would reflect on what worked well and what didn’t. I would also wondering that if this worked well with a subject/skill that students worked well on throughout the unit would I be able to make this lesson as engaging with a unit that students struggled in, for example equivalent fractions. Students may be more engaged and interested in trying to be successful in the skill if they knew they would have the opportunity to teach someone else how they learned this skill.  |