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| NECC_NETS_small | | **Lesson Plan for Implementing NETS•S—Template I *(More Directed Learning Activities)*** |
| ***Template with guiding questions*** | | |
| Teacher(s) Name | Miranda L. Jacobs | |
| Position | Teacher | |
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| Grade Level(s) | 7th | |
| Content Area | Mathematics | |
| Time line | 1 Week | |

**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? )

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| Content Standards | MGSE7.NS.1, MGSE7.NS.1a, MGSE7.NS.1b, MGSE7.NS.1c, MGSE7.NS.1b |
|  | Students will apply and extend previous understandings of addition and subtraction to add and subtract rational numbers. Students will show that a number and it's opposite have a sum of zero and describe situations in which opposite quantities combine to make zero. Students will understand the subtraction of rational numbers as adding the additive inverse. Students will make sense of problems and preserve in solving them. Students will use critical thinking skills, digital Web 2.0 tools, and technology to complete assignments, and will use appropriate tools strategically. |
| NETS\*S Standards: |  |

**Overview** (a short summary of the lesson or unit including assignment or expected or possible products)

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| Students will complete a learning task for integers adapted from GADOE. The students will use a check register to record debits and credits and calculate a total running balance. Students will create a screencast of their learning task to share with the class. The students will use Edmodo to complete a discussion question related to their learning task and will respond to at least two of their peer's discussion post respectfully. Also, students will use Chromebooks to work on their learning task and screencast. Students will work in pairs to complete the learning task and screencast but complete all discussion questions independently. Students will use Google Sheets to create an actual check register to show and demonstrate the situations in the task. During this task, students will be provided with two situations and use the Google Sheets to create a ledger and record the information on the ledger and answer the questions within the task.  The learning task will be uploaded into their Google Classroom for student’s access, and they will download the task to fill-in information and answer questions via Google Docs. The actual assignment will be for each partner to create an actual check register using Google Sheets to show and demonstrate the situations in the task. The students will demonstrate the two types of transactions that take place, deposits (money put into accounts) and payments/debits (money that is spent and comes out of the account). The students will understand and demonstrate that the difference between debits/payments and deposits tells the value in the account. Also, they will understand that if there are more credits than debits, the account is positive (black) and if there are more payments/debits than credits, the account is negative (red). The students will work through the two provided situations available to them in their Google Classroom. Once the students have worked through the two situations, students will then create another checkbook register using Google Sheets to include a monthly budget of $1,500.00 a month. Students will use their Chromebooks to find an apartment, create a grocery budget, money set aside for hobbies/interests/going out with friends, $400.00 utilities, all within the $1,500.00 monthly budget. Students will use the register to demonstrate the beginning to the ending balance after paying their monthly bills. Once students have completed the two given situations and the monthly budget portion of the learning task, students will create a screencast to explain their learning task in-depth to share with the class. During the week, students will be provided with a discussion question via Edmodo. On Monday, the students will begin the learning task and be provided with a discussion question to answer on Wednesday before leaving class. The following school day, time will be set aside for students to read their peer discussions and respond to at least two peers. On Friday, students will share their screencast with the class. Students will be provided with a checkoff list, as a grading guide for this learning task. |
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**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? What questions can you ask students to help them focus on important aspects of the topic? What background or prior knowledge will you expect students to bring to this topic and build on?)

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| What strategies are most useful with developing an algorithm for adding and subtracting positive and negative rational numbers.  How can I use a check register to show and demonstrate deposits in a bank account?  How can I use a check register to show and demonstrate money that comes out a bank account because of debits/payments?  How can the difference between debits/payments and deposit show the value of a bank account? |

**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?)

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| Students will create a checkbook register using Google Sheets and use the ledger to record the information and answer the questions within the learning task for each situation. Then students will create another checkbook register to include a monthly budget of $1,500.00 a month. Students will use their Chromebooks to find an apartment, create a grocery budget, money set aside for hobbies/interests/going out with friends, $400.00 utilities, all within the $1,500.00 monthly budget. Students will use the register to demonstrate the beginning to the ending balance after paying their monthly bills. Once students have completed the two given situations and the monthly budget portion of the learning task, students will create a screencast to explain their learning task in-depth to share with the class. During the week, students will be provided with a discussion question via Edmodo. On Monday, the students will begin the learning task and be provided with a discussion question to answer on Wednesday before leaving class. The following school day, time will be set aside for students to read their peer discussions and respond to at least two peers. On Friday, students will share their screencast with the class. Students will see how integers are applied to their everyday lives for an authentic learning task. The differentiation of this learning task is extending the assignment to include a monthly budget of $1,500.00 and students using technology to find an affordable apartment, etc. within the given income. I will observe and facilitate while students are working to assess student’s knowledge during the learning task formative. I will assess the discussion question based on the student’s response demonstrating an understanding of the use of integers in the real-world and strategies to develop algorithms for adding and subtracting positive and negative rational numbers. Students will be provided with a teacher created a check-off list, as a grading guide for this learning task, totaling 100 points. Also, students the need assistive-technology devices (calculators) to meet their learning needs within their IEP will be allowed to use the calculators for this task. |

**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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| Students are using technology and the internet to complete this learning task. Students are using Web 2.0 tools to collaborate and communicate with peers safely, sharing and demonstrating their learning and understanding of using integers authentically, by using real-world situations for this task. Students will use a variety digital tools to complete this learning task, including Google Suites for Education (Docs, Sheets, and Classroom), Screencast-O-Matic, Edmodo, Google, online Newspaper and realtors to find an apartment for the learning task. Students will use Chromebooks to complete this learning task. The integers learning task will be in Google Docs and shared to the students Google Classroom for my math class for their access. Students would have the option to use in-class headphones while recording their Screencasts if they chose not to use their own. |

**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 have been working on the integers unit for seventh-grade math for two weeks before the implementation of this learning task. Students should have a deep understanding of adding and subtracting positive and negative rational numbers before the completion of this assignment. I will know if students can add and subtract rational numbers for informal assessments before beginning the task. Students are always interested in using their Chromebooks to complete assignments and enjoy using Google Suites for Education. Students find it interesting to use various Web 2.0 tools for the completion of assignments, instead of paper and pencil assignments and are very engaged during the learning experiences. All students are fluent with using their Chromebooks, Google, Google Suites for Education, and the Web 2.0 tools. The difficulties students may have will be creating a short Screencast explaining their assignment, and I will be there to assist them, as well as peer assistance. To ensure that students can successfully create a screencast, I will demonstrate how to create a screencast before the beginning of this assignment with the class. Also, I will upload steps to creating a screencast in their Google Classroom. |

**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 troubleshoot them?

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| Students will be working in twos, as partners. Students will complete their learning task in the classroom. If students would like to go out into the hallway or outside to complete their screencast, they have that option. Students support will be provided by myself and the paraprofessional. Each student will have their Chromebook to complete this assignment. There are enough of class set headphones for each student to use. It is highly unlikely that the internet will go down; if the internet service goes down and become unavailable, students will complete the two provided situations of the learning task on paper. Students will have an extension on the other parts of the task if the internet goes out. If the internet technicalities continue, I will speak with the district technology specialists concerning this issue. |

**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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| During this learning experience, students will collaborate and communicate with peers. Students will provide peer responses/feedback on discussion questions digitally. I will facilitate this learning experience as well as the paraprofessional assisting. I will assist the students with the use of the Web 2.0 tools and their technology devices when needed. Students will become authentic learners by using real-life situations to complete this task. Students will need to analyze their answers and use higher-ordering thinking skills when completing this math assignment. Students will use the internet and digital tools and resources to complete their assignment and demonstrate an understanding of computing the addition and subtraction of positive and negative rational numbers to show mastery over this skill. Students will use and apply knowledge of debits and credits as it relates to integers when creating a monthly budget staying within the provided income of $1,500.00. The students will learn what strategies will be most useful to develop algorithms for adding and subtracting positive and negative rational numbers. Each student must participate and collaborate with their partners and digitally with their peers as this will led them to take an active role in their learning and engaged during instructional time. |

**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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| I am accommodating all learning styles by using digital tools to complete this learning task. Also, students that require the use of calculators within the IEP plan will have that right. I will assign who the students will work with, pairing students with others that are on various learning abilities levels so that peer tutoring can be provided for students to benefit from completing this task. I will use data from previous assessments to help decide to pair the students. The monthly budget portion of the learning task is the provided extension for this assignment, that all students are capable of completing. The two provided situations of the learning task cover the content standards without the extension. Some students may need an already pre-made checkbook register ledger, and this will be provided and shared with those students only to assist with the completion of the assignment. |

**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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| Students will share their screencast with the class for the closing of this assignment. I will create a student reflection including the above questions via Google Forms for students to complete once they have completed the learning task. I will use that information to improve this learning task for future use with other classes. Students will be asked to reflect on what went well and what did not and why. Students will be asked if they found the learning task to be meaningful and worth completing, and explain their answer. Students will discuss what they would have done differently. Students will be asked to share what digital tools they would have used that was not used within this assignment. |

**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?

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| This learning task help the students have an authentic learning experience with adding and subtracting positive and negative rational numbers using real-life situations. However, I have never completed this learning task using this extent of technology and digital tools. I would advise others that would like to have their students complete this learning task to incorporate technology and digital tools when completing this assignment; the students will be more actively engaged. I would also encourage teachers to assign the extension part to students as well. |