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Modeling Integers Using TI Calculator

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CMST SCOLLARCITY Lesson Plan Template-Lesson Plan using **TI Technologies**
(Due Tuesday, July 27th)

Name: Brian Cheyne

Grade level(s)/Subject taught: Special Education 7/8

Objectives:

Through use of the TI calculator Algebra Chapter on Integers, students will be introduced to integers via the overview section. Students will be able to identify an integer, understand the operations of integers and be able to explain real world uses of integers by modeling a real life example of integer use.

For the math teacher:

1. *Write the Mathematical Concept or “key idea” that TI Technologies will be used to teach: (e.g. Students use mathematical modeling/ multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships)*

MST Standard #3 Mathematics: Key Idea 4- Modeling/Multiple Representation.

Students use mathematical modeling/multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships.

MST Standard #5 Technology: Subtopic Computer Technology- Computers, as tools for design, modeling, information processing, communication, and system control, have greatly increased human productivity and knowledge.

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I will begin the class by assessing student's prior knowledge in regards to integers. What is an integer? Where have you seen integers in your life? I'll drop hints about where they may have seen them such as on the news (weather), in the newspaper (sports section), etc. After a brief discussion, I will distribute the TI calculator and give them directions via overhead transparencies of the screens I captured from the TI calculator to get them to the correct Algebra Chapter in the TI under APPS. I would then ask students to walk through the overview, one screen at a time, and discuss the notes as we went along making sure everyone is using the calculator correctly and following along.

The graphics such as the thermometer and number line should get students recalling where they may have seen integers in the real world if they had difficulties earlier. Students will then take notes on the rules for the operations of integers and absolute value. We would then walk through the observations on the TI calculator for further examples of real world examples of using integers. This is important for my students because they learn best when they can relate it and feel as if they will be able to use this knowledge in their world. Students can then try their skills on the questions they are given on the observation tutorial.

Students will then be asked to create their own real world model/scenario using integers. They may create a golf scorecard and determine their score above or below par, they may create a football spread-card indicating how much a team is favored (who gets points vs. who losses points) or for those less creative they can create a thermometer or weather chart or otherwise as shown on the TI calculator. These models will be created on chart paper so we can display them in class and use as silent teachers throughout the unit. I will use these models as an assessment and score it based on the rubric which we would discuss along with the assignment directions.

The following day we will start class off by reviewing our notes on integers and rehash what we have learned. I would have students do some integer activities using their TI calculator under the activities section of the integer chapter. Again, I would post on the overhead the directions on how to get to the integer activities. We will then create silent teachers to post in the classroom containing the operations (ex. $-x - = +$) and students can use their calculators to help make graphic organizers of this new information.

This lesson(s) will probably take the better part of a week in my self-contained class setting. I have students with emotional disturbance and learning disabilities and expect to have to work the room with my para-professional in order to get students comfortable getting around within their calculator. After the initial frustration they will likely have, I believe they will be begging to do more on the calculator. I believe the use of technology for these students will get them motivated to do their work and remain on task and hopefully therefore reduce disruptive, off-task behaviors which they are prone to do.

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RUBRIC

3 Points	2 Points	1 Point
Model accurately reflects rules of integer use.	Model partially reflects rules of integer use	Model does not reflect rules of integer use
Integer concept thoroughly addressed through model.	Integer concept addressed incompletely through model.	Integer concept not addressed through model.
Model is legible and supports what you are trying to represent.	Model is partially legible and needs additional supports to indicate what you are trying to represent.	Model is illegible and provides no supports for what you are trying to represent.
Student is able to articulate and answer questions about their model to class.	Student is partially able to articulate and answer questions about their model to class.	Student is unable to articulate and answer questions about their model to class.
Student can explain how the TI calculator helped them learn about integers.	Student can partially explain how the TI calculator helped them learn about integers.	Student can not explain how the TI calculator helped them learn about integers.