**Integers Superheroes and Supervillains**

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| **Teachers: Ms. Baumgartner, Ms. Vasquez, Ms. Guillory** |
| **Date:** April 26th, 2016 (STEM Thursday) |
| **Subject / grade level:** 6th grade math |
| **Materials:**   1. [**13 Batman lanyards**](http://drive.google.com/open?id=11TawSx0z0xJLXnQPHde2T1cDKlNecHrLBWJZ0a-AkTI) 2. [**13 Joker lanyards**](http://drive.google.com/open?id=1QPYDKl3Xt2VZdHocS6h1H1Jg2bH2IGcGgUGgY9aqhaM) 3. **String/Yarn** 4. **Sheet Protectors** 5. **1 set of 30 “I have who has” Integer cards** 6. **Class set of small dry erase boards** 7. **Dry erase markers** 8. **Sticky notes** |
| **TEKS:(2) Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to:**  **(C) locate, compare, and order integers and rational numbers using a number line;**  **(D) order a set of rational numbers arising from mathematical and real-world contexts;**  **(3) Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to:**  **(C) represent integer operations with concrete models and connect the actions with the models to standardized algorithms;**  **(D) add, subtract, multiply, and divide integers fluently; and** |
| **ENGAGEMENT**   1. **Video on Integers Good Guys and Bad Guys:** [**https://www.youtube.com/watch?v=16ePaaLFxlg&app=deskto**](https://www.youtube.com/watch?v=16ePaaLFxlg&app=desktop)   **HOTS:**  **- Instead of creating an expression for adding & subtracting integers, what strategy did the video suggest you use? (Comparing integers)**  **- What kind of integer does the hero represent? (Positive) Why would we use a hero to represent positive numbers?**  **- What kind of integer does the villain represent? (Negative) Why would we use the villains to symbolize negative numbers?**  **Transition: Now that you have seen how someone else set up superhero and villain integer problems, we can create our own.** |
| **EXPLORATION**   1. **Students will be split into 2 groups: heroes & villains. The teacher will call different numbers of students to the middle of the room, & the remaining students will write an addition or subtraction problem comparing integers. For example, if the teacher calls 1 hero & 3 villains to the middle, the expression will be either 1-3 or -3+1.**   **QUESTIONS:**   1. **What do superheroes represent positive or negative number? What do the super villains represent?** 2. **What do you think will happen when I have more villains than heroes??** |
| **EXPLANATION**   1. **After the students have written down their expression, a couple will be called upon to explain & solve it.** 2. **How do you know if a number is a negative?** 3. **What's the difference between a negative and a subtraction sign?** |
| **ELABORATION**  **The class will play "I have who has..." Integer version.** |
| **EVALUATION**  **Ticket out the door:**   1. Students will be given a sticky note. They will be given an integer problem to solve on the sticky note as their ticket out the door. |