**Teacher – Mrs. Volynskaya Math in Real Life Classroom Activity: Skateboard Flex Name\_\_\_\_\_**

**Viewing the Video – 5 min. It's pretty common for skateboards to break. The Engineer makes skateboards that "last a ridiculously long time." He has to understand force and kinetic energy to measurement and algebra in order to make them extremely strong and long-lasting.**

**Topics:** Decimal operations, Statistics, Algebra  
**Concepts:**  
- Ratio  
- Mean  
- Coordinates  
- Function  
**Knowledge and Skills:**- Can describe a real world situation in terms of ratios.  
- Can do operations with decimal numbers.  
- Can find the mean of a set of data.  
- Can plot a point in a two-dimensional coordinate system, given the coordinates.  
- Can relate aspects of a graphical model to the real world situation which is being modeled.

**Procedure** : This project should be done by students in teams of two to four.

Distribute the handout and review with students the description of the concept of “flex” on the first page (up to the point where the number activity instructions begin). Ask students who have experience with skateboards to explain why flex, and bounce, are important qualities of a deck. Review the activity instructions, and as each group shows you that they understand the instructions, allow them to begin.

Circulate as students work and ensure that the concepts of “ratio” and “mean” are understood, and that the activity is being done correctly.

It is recommended that you ask students to do the final step individually, in order to assess each student’s individual understanding. Ask students, working in groups, to graph the ordered pairs of data that they have collected (number of pennies, flex), for each of the two rulers tested, on the same sheet of graph paper, and to explain what the graphs show. Discuss whether the amount of flex seems to depend on the number of pennies, how that dependence could be described, and in what ways that dependence is different for the two rulers tested.