**November Rich Math Task**

**Which Number is Greater 79 x 25 or 75 x 29?**

**Developed by Karen DeFilippis and adapted from Fawn Nguyen Math Talks.**

**Content Standards:**

**4.NBT.B.5** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**5.NBT.B.5** Fluently multiply multi-digit whole numbers using the standard algorithm.

**Math Practices:**

**MP1** Make sense of problems and persevere in solving them.

**MP2** Reason abstractly and quantitatively.

**MP3** Construct viable arguments and critique the reasoning of others.

**MP4** Model with mathematics.

**MP5** Attend to precision.

**Introduction**

This problem is designed to get students thinking about the quantity of a product without actually having to do the traditional algorithm. On a weekly basis, Fawn Nguyen uses these problems to get students thinking about alternative ways to predict a product and further develop the student’s mathematical reasoning.

**Description/Teacher Instructions**

There are many ways you could implement these problems into your classroom. I would suggest that these “Which is Greater Problems?” could be used at the conclusion of teaching two-digit by two-digit multiplication in either 4th of 5th grade. Students should be presented the question and then be given 5 to 7 minutes to come up with a solution independently. At the end of that time, allow the students time to share their findings in small groups. As the teacher circulate the classroom, listen to the student’s conversation and jot down their ideas. Organize the student responses you would like to share out loud and systematically call on their ideas. During the sharing time, you might want to use some of the remarks that Fawn Nguyen uses in her Math Talk.

* **Thank you for sharing.**
* **Please let me know if I’m not rephrasing you correctly. (I'm only rephrasing when I have trouble hearing the student.)**
* **I want to make sure we’re writing down your thinking correctly, please slow down and tell us more about this step.**
* **I’m not worried about the correct answer right now. I’m just interested in how you thought about the problem.**
* **Your sharing of how you arrived at the incorrect answer is really important — I think we learn a lot from our mistakes, and as you can see, you weren't the only one who thought about it that way.**
* **Did you change your mind or question your strategy after you talk with your neighbor?**
* **Who did the problem differently than the 3 people whom I called on to share?**
* **I really appreciate how you questioned [and responded to] \_\_\_\_\_’s sharing.**
* **I know it’s kind of tough to articulate your thinking. That’s okay. Take your time.**
* **Math teachers sometimes get it wrong too.**

**Anticipated Answers**

Fawn has recorded student’s responses on her site. I have attached the link for your own reference. She has other ideas on her Math Talk which I think you would find interesting. [www.**mathtalks**.net](http://www.mathtalks.net)