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| **Math 4** |
| **Subject: Math****Unit: Multiplication Strategy: Model the Product** |
| **Learning Target:** Students willapply knowledge of base ten blocks and arrays to build, model and multiply large numbers. This will help students develop their understanding of the timetables and multiplication strategies. |
| **Curriculum Outcomes:** **N6** Students will demonstrate an understanding of multiplication (1, 2 or 3 digit by 1 digit numerals) to solve problems by connecting concrete representations to symbolic representations. |
| **Screencast Support:** S**creencast** – Multiplication Strategies |
| **Resources/AT Tips:** **-Screencast** – Multiplication Strategies-**Pearson** **interactive** Base Ten Blocks -iPads: Apps: Showme  Number Basics app HD:Users:lorna:Desktop:Screen Shot 2015-07-03 at 8.55.14 AM.png-Digital grid paper, base ten blocks and place value chartPractice Activity – model and find the product |
| **Lesson Procedure** | **21st Century Skills** |
| **I do:** **Activate Prior Knowledge*** Review creating arrays. Model an array for 3 x 4. Discuss the fact that we draw 3 rows of 4 to represent the array. Determine the total number of cubes, 12.
* Discuss other ways 12 can be represented – 1 ten rod and 2 ones.
 |  find, validate remember, understand  collaborate, communicate analyze |
| **You do:*** Using the **Smartboard and interactive base ten blocks**, demonstrate using digital grid paper, how to show an array for 4 x 36. See text p. 286 for an example. Afterwards, discuss.
* Have students view the [screencast](https://www.youtube.com/watch?v=uQ41MtcKnwk)https://www.youtube.com/watch?v=uQ41MtcKnwk, **Multiplication Strategies**. Using the Smartboard, discuss and review the strategy once more.
* Provide students with base ten blocks and cm grid paper. Set up partners if they are interested.
 |  understand  collaborate, communicate analyze, synthesize critical thinkingevaluate, leverage  |
| **We do:** * Ask students to do either question two on page 286 of their textbook **or** the additional practice sheet, **Model and Find the Products**. Here they model arrays to find the products. They can use their iPads (digital grid paper) or build products, using base ten blocks.
 |   critical thinking evaluate, leveragecreate |
| **We share:*** Using their iPads **or** base ten blocks, have students take turns presenting their arrays and models to various classmates. Teacher rotates, listens, and records. Offer assistance to those in need.
* Allow students to demonstrate their understanding by presenting a sample of ‘their thinking’ and work, via the Number Basics, Showme, or Explain Everything app.
 |  critical thinking evaluate, leverage create, publish citizenship |
| **Differentiation** |
| **Adaptations:** * Any student needing adaptations or support can work with numbers up to 100 only.
* **Replay** the screencast, Multiplication Strategies,as often as needed.
* Provide a calculator and / or timetables chart.
 | **Enrichment:** * Ask partners to choose numerous two, 2 by 1digit numbers that they both have to build using base ten blocks or grid paper.
* Ask them to **create** multiplication word problems. They are encouraged to ‘talk out loud’ as they work to multiply them. (using iPad for digital grid paper or grid paper)
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| **Assessment:** While rotating around the class, ask students to demonstrate their thinking and record. Use the activity sheet as a mini assessment.Some may want to experiment and demonstrate using the Explain Everything app. Assist those who need additional instruction.  |
| **Teacher Reflection:** Learning multiplication strategies take time and practice; allow your students the time to build, draw and explain their thinking out loud. Replay the screencast as often as needed. Explain Everything is an app that the students are now just investigating, Allowing the students to work together allows you to roam, listen and support the students. This further informs the direction of your instructional strategies.   |

Practice Activity: Model and Find the Product

**Use arrays, grid paper and blocks to find the products. You can use your digital grid paper on the iPad if you choose.**

1. Multiply.

 a) 37 b) 28 c) 33

 × 3   × 5  × 9

d) 43 e) 25 f) 79

 × 7   × 8  × 9

2. There are 28 pencil crayons in a package.
How many pencil crayons would there be in 6 packages?

 3. How much greater is 8 × 34 than 7 × 34?
 How do you know?