**I can represent a number using Base 10 materials**

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| **Lesson Plan Title**  I can represent a number using Base 10 materials |
| **Lesson Summary**  Students are expected to represent numerals using Base 10 materials |
| **Curriculum Outcomes**  N04-Students will be expected to represent and partition numbers to 100  Performance Indicator N04.01-Represent a given number using concrete materials, such as base-ten materials  N07-Students will be expected to illustrate, concretely and pictorially, the meaning of place value for numbers to 100  Performance Indicator N07.03-Describe a given 2-digit numeral in at least two ways |
| **Assessment Of Learning or Assessment For Learning**  Observation, Conversation, Product  Observations   * Can students represent numbers using base 10 materials   Product   * Can students use Base 10 Blocks to represent a given number? * Student Checklist (available at: <http://jkeithgrade2mathns.weebly.com/general-assessment.html> ) |
| **Communication/Vocabulary**   * Ones * Tens * Place Value * Manipulatives * T-chart |
| **Technology**   * I can represent numbers using base 10 blocks   http://jkeithgrade2mathns.weebly.com/place-value.html   * Virtual Manipulatives for the computer   <http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html>   * iPad with Pieces Basic App loaded |
| **Materials**   * Base ten blocks (magnetic and paper if you have a magnetic bulletin board) * Bags of Base 10 Blocks * T-chart * iPads   \*For Math Manipulative Storage Please See:  <http://jkeithgrade2mathns.weebly.com/math-manipulatives.html> |
| **Mental Mathematics**  Review counting forwards by 10s and 1s  Review counting backwards by 10s and 1s- I do beep beep back up, so we start at 100 and we beep to 90 where the students say stop and then say the number 90. |
| **Development**  This lesson provides students with the opportunity to explore numbers more deeply and form connections with numbers.  **Time to Teach**  Activate knowledge by asking students to start at 50 and count forward to 90 by 10’s. Then ask them to start at 30 and count forward by 10’s to 100. Have them start at 70 and count backwards to 40 by 10’s. Have them start at 52 and count forward by 1s to 78. Have them start at 33 and count backwards by 1s to 17. Do this until you feel the majority of the class is feeling comfortable and confident.  Once this is over, use the math wall to review tens and ones, and what they represent.  Then go through the expected behaviours with math manipulatives. Manipulatives are for learning not for playing. Remind students that if they are playing they will be asked to go back to their seat and watch the class for expected behaviours. They will then be expected to share an expected behaviour they noticed with the class during share time and to complete their work at recess (most students only have to do this once).  Then watch the Key Note Presentation I can represent numbers using Base 10 Blocks. This is a great activity that will really have students apply and interconnect their knowledge of Base 10 Blocks and allow them the opportunity to apply what they know about Base 10 Blocks from previous lessons.  **Time to Practice**  Hand out the recording sheet and manipulatives students will be asked to represent the numbers 29, 34, 73 and 96 using Base 10 Blocks.  I have the students raise their hand when they have done one way and record it on the check list (a check for yes a WS standing for with support for a prompt, and an X if they do not understand at all). Then ask the students to find another way to represent their number and raise their hand again. If a student is really struggling pair them with someone who has completed the activity at least 3 times.  **Time to Share**  Students should return to the main group to share at the end. Explain to students that knowing the value of each digit is important because it will help when solving addition and subtraction problems as well as when they are working at partitioning numbers. Explain that tens and ones is a way of partitioning because we are breaking the number into two or more parts.  **Tech Integration**  Some students may wish to work on the computer to use manipulatives to represent their numbers  <http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html>  is a great website to use. On the left hand side it asks which grade level I always select 1 or 2 depending on the student using the program. Then they are able to use the mouse to represent numbers. We have a class set of netbooks which I sometimes bring into the classroom to use.  Pieces Basic is an App that allows students to work with Base 10 Blocks they can use this app and take screenshots to share their work.  Thaw Space:ssrsb:Desktop:Number Pieces.jpg  For More Information: <http://catalog.mathlearningcenter.org/apps/number-pieces> |
| **Differentiation**   * A guided math group may be required the next day with students who struggle you can keep track of this using the checklist below * Students who solve this well may be ready for 2 digit numbers where the numerals are not the same |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Tens | Ones |
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**I can represent numbers using Base 10 materials**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- |
| **29** |
| **34** |
| **73** |
| **96** |

**Base 10 Blocks (­­all)**

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