**I can represent numbers using tens and ones with counters**

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| **Lesson Plan Title**  I can represent numbers using tens and ones with counters. |
| **Lesson Summary**  Through a guided lesson students will be introduced to the concept of tens.. |
| **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 |
| **Assessment Of Learning or Assessment For Learning**  Observation, Conversation, Product  Observations   * Can students represent a given number where the two digits are the same using the languge tens and ones?   Product   * Can students record how they solved their problem on the recording sheet? |
| **Communication/Vocabulary**   * Ones * Tens * Place Value * Manipulatives * T-chart |
| **Technology**   * I can represent numbers using tens and ones Key Note Presentation   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> |
| **Materials**   * Base ten blocks (magnetic and paper if you have a magnetic bulletin board) * Counters * Unifix Cubes * Base 10 blocks * T-chart * White Board, Chart Paper, Smartboard software   \*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.  Then point to the unit cubes and rods you have on the math wall. Ask the students what each represents as a reminder. Then put the number 44 on the board. Explain to students that they are going to use counters (or other manipulatives) to represent the number 44 using tens and ones.  **Time to Practice**  Hand out the recording sheet and manipulatives (I usually set a given amount of manipulatives per table) ie: 4 boxes of counters, 4 bags of base 10 materials etc. I have tables and seat 4 children per table). While students are recording their numbers tens or ones circulate and make notes of who shows understanding versus who requires more support.  **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.  \*Please note there are also a lot of App’s for the iPad that work as well, however many require a pay for membership or pay to download. I have yet to find any that are free.  **Time to Share**  Have students share by going to the museum. In this share activity students come to the meeting spot to “get on the bus” once they are on the bus you drive the bus to the museum. While on the bus the students share expectations at the museum (see expectations poster below). Students then get off the bus and go to the museum to see each other’s work. Sometimes when we go to the museum half of the students are the presenters to share their work, then they switch. It depends on what they are presenting and if there needs to be someone beside the work. For this activity I would say everyone goes to the museum together.  Once students have shared their work, have them return to the meeting spot. At this point I would look at the number 44 together as a class.  Starting with partitioning the number 44 using part part whole, one part being 40 the other being 4.  I would say the number 44 says the name forty and the name four, let’s look at those two parts separately.  Let’s start with 40. How many sets of 10 does 40 make? (if students are confused remind them that sets of 10 is like counting by 10s how many times do we have to count by 10 to get to 40). 10, 20, 30, 40. So forty makes 4 sets of ten. Let’s record 4 in the tens side of our t-chart.  Now let’s look at the number 4. Does the number 4 make sets of 10? (no) Oh does it make sets of 1? (yes) how many sets of 1 does it make? (if students are confused remind them that sets of 1 is like counting by 1s how many times do we have to get to 1 to get to 4). 1, 2,3,4. So four makes 4 sets of 1 . Let’s record 4 on the ones side of our t-chart.  Then have a class discussion about how while each section has 4, does that mean that the tens is 4, or does it mean it is 40? Remind them they need to count by 10s to represent the number using a number expression etc. |
| **Differentiation**   * Struggling students will require a guided math group to solve these types of problems * For enrichment students should be encouraged to use a bigger number 66, 77 (etc) to apply their knowledge. |

**Going to the Museum-Expectations**

 Do not touch other other’s work

 Ask questions about the work you

are looking at

 Use Kind words to describe

other’s work

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

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| Tens | Ones |
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**Base 10 Blocks (­­all)**

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