

# MA.2.NSO.1.1

**Overarching Standard:** *MA.2.NSO.1 Understand the place value of three-digit numbers*

## Benchmark of Focus

MA.2.NSO.1.1: Read and write numbers from 0 to 1,000 using standard form, expanded form and word form.

*Examples: The number four hundred thirteen written in standard form is 413 and in expanded form is  $400 + 10 + 3$ .*

*Example: The number seven hundred nine written in standard form is 709 and in expanded form is  $700 + 9$ .*

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## Related Benchmark/Horizontal Alignment

- MA.2.NSO.2.2/2.4

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## Vertical Alignment

### Previous Benchmarks

MA.1.NSO.1.2

### Next Benchmarks

MA.3.NSO.1.1

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## Terms from the K-12 Glossary

- Expression

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## Purpose and Instructional Strategies

The purpose of this benchmark is to extend the understanding of place value from grade 1 to include reading and writing numbers up to 1,000 in various forms. The value of a digit is impacted by its position in a number. (*MTR.5.1*)

- Instruction includes the understanding that in expanded form each digit of a multi-digit number is assigned a value based on its place.
- Instruction includes experiences with numbers written in different forms.
- Instruction includes the use of both proportional and non-proportional models (i.e., base ten models or place value disks.) (*MTR.5.1*)

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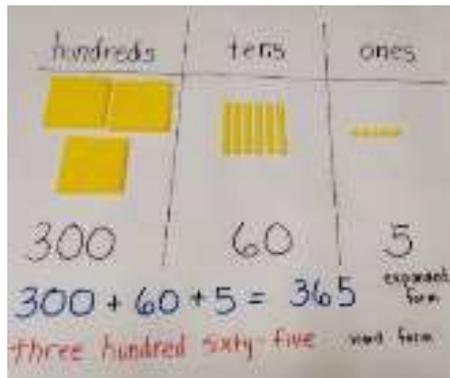
## Common Misconceptions or Errors

- Students may identify digits instead of naming their value.
  - For example, students may say the value of the 4 in the number 142 is just 4, as in 4 *ones*.
- Students may misinterpret the value of the ones, tens or hundreds digit as the number of ones, tens or hundreds.
  - For example, students may say that there are 40 *tens* in the number 142.
- Students may have difficulty expressing numbers with zero tens.
- Students may incorrectly record the standard form based on word form.

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## Strategies to Support Tired Instruction

- Instruction includes the use of base-ten blocks and a place value chart. The teacher asks students to build the number using base-ten blocks on a place value chart. Then, asks them to write the number (standard form). If they write 25, teacher asks about how many of each place value and rewrites the number while discussing the value of the hundreds, tens and ones.
- Instruction includes using base-ten blocks and a place value chart to represent a 3-digit number (e.g., 365 can be represented by 3 flats, 6 rods, 5 units).
  - For example, teacher asks students to label the place value using the expanded form under the rods on the chart. (300 under the flats, 60 under the rods, 5 under the units). The teacher has students write out the word form using the expanded form to assist in writing it out. Finally, teacher asks students what the number would be in all forms if we moved 60.



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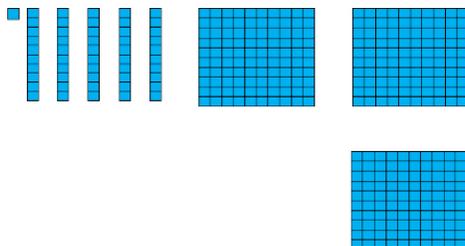
## Questions to ask students:

- **Write a number such as 273. Ask the student to read it to you. Then ask the student to write 273 in expanded form.**
    - Sample answer that indicates understanding: *That number is two hundred seventy-three. I know there are 2 hundreds, 7 tens, and 3 ones, so in expanded form the number is  $200 + 70 + 3$ .*
  - **Ask: How would you write the number eight hundred four (in standard form)? You can continue asking with various 3-digit numbers.**
    - Sample answer that indicates understanding: *The student correctly writes 804.*
  - **Write a 3-digit number such as 460. Ask: What is the value of each digit in this number?**
    - Sample answer that indicates understanding: *The 4 is 4 hundreds, the 6 is 6 tens, and there are no ones because there is a zero in the ones place.*
  - **Ask: How would you write the number 824 in word form?**
    - Sample answer that indicates understanding: *Student correctly writes eight hundred twenty-four.*
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## Instructional Tasks

### *Instructional Task 1*

Provide a series of three-digit modeled numbers using based ten model like the one shown below. Ask student to record two other ways to represent the quantity. Discuss similarities and differences between the various representations.



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## Instructional Items

### *Instructional Item 1*

Which of the following shows 613 in expanded form?

- a)  $600 + 3$
- b)  $600 + 13$
- c)  $600 + 10 + 3$
- d)  $500 + 90 + 33$

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## Additional Resources:

[CPALMS Resources](#)

Origo One Video: [Using Numeral Expanders to Read and Write Numbers](#)

SMathSmarts Blog Post: [There's More Than One Way to Write a Number](#)

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## Resources/Tasks to Support Your Child at Home:

Using a deck of cards Ace-9 (Ace represents 1), have your child pick three cards and create a three-digit number. Have them represent the number with a quick picture, expanded form, and using base ten language. (For example, 346... base ten language: 3 hundreds 4 tens 6 ones; expanded form  $300+40+6$ ).

Math Learning Center: [Virtual Number Pieces \(Base Ten Blocks\)](#) – Have your child create 3-digit numbers with base ten blocks. Then have them practice recording the number in standard form, expanded form, and word form.