



**WHAT IS IT?**

Numerals are written symbols that represent numbers (1, 2, 3, 4, 5, etc.). As students explore numerals, they begin to understand that written numbers represent quantities and they learn to recognize numerals as representations of quantities. Writing numerals involves learning how to correctly form numerals.



Key skills and concepts	Definitions
Connect numerals with the quantities that they represent	For example, students connect the numeral “5” with a group of five trucks.
Describe numerals by their parts and/or by how they look as whole	Students construct mental images for each numeral by noticing the parts of numerals and how they fit together. For example, they might notice that the numeral 3 has two little curves and that the first curve starts in the top-left corner and goes to the middle and the second curve starts in the middle and goes to the bottom-left corner. They can also relate the symbols to other existing representations (what the symbols “look like”). For example, children may observe that the symbol 8 looks like a snowman.
Solidify correct numeral formation to intentionally convey meaning	Students will progressively use drawing, scribbling, number-like forms and numerals to intentionally convey meaning about the number of objects in a group.



**WHY IS IT IMPORTANT?**

The ability to recognize numerals is important because it leads to an association between the verbal word and the numeral. Students learn that a symbol (a numeral) can represent a whole word.

The ability to write numerals is important in order to be able to communicate about numbers in writing and in order to be able to record a quantity.



**HOW DOES IT DEVELOP?**

At this age	Children can typically:
<b>4</b>	<ul style="list-style-type: none"> <li>Match small sets (1-5) with the corresponding numbers and represent and recall the size of sets using those numerals. For example, when presented with four teddy bear counters, they can successfully select the numeral 4 to correspond to the set.</li> </ul>
<b>5</b>	<ul style="list-style-type: none"> <li>Use numerals to represent and communicate quantity.</li> <li>Use numerals to remember results of counting or to compare quantities. For example, when presented with two sets of pennies (a set of 2 pennies and a set of 4 pennies), they can count the quantity of each set, use the numerals 2 and 4 to show the results of their counting and use the numerals 2 and 4 to compare the quantities of the sets.</li> <li>Copy and/or write numerals 0 to 9.</li> </ul>
<b>6</b>	<ul style="list-style-type: none"> <li>Identify the written number words “one” through “nine” with the corresponding written numerals and use written number words to represent quantities.</li> </ul>

## SKILL: NUMERALS

### STRATEGIES TO SUPPORT DEVELOPMENT OF RECOGNIZING AND WRITING NUMERALS

**Provide multiple representations of numbers together.**

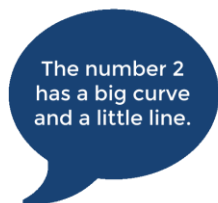
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For a given quantity, provide the numeral and a set of objects or a set of images that corresponds to the quantity. For example, a poster on a classroom wall might show representations of the number five by including both the numeral 5 and an image of a 10-frame with 5 boxes filled in.

#### THE NEXT STEP

Once students have a firm understanding of how numerals represent quantities of 1-5, provide opportunities for students to work with larger numerals and quantities.

**Numeral appearance.**



While students are engaged in meaningful mathematical activities that involve numerals, lead discussions with students about the parts that make up each numeral and about what the numerals “look” like. Meaningful mathematical activities involving numerals, like playing matching games with numeral cards and 5-frame/10-frame cards or exploring counting books, provide opportunities to prompt students for observations about numerals. Support students’ ability to make observations by using child-friendly language to describe the parts that make up each numeral. For example, to describe how to form the numeral 2, use language like ‘big curve’ and ‘little line.’

#### THE NEXT STEP

Once students can recognize most of the numerals 0 to 10, demonstrate how to write numerals, provide opportunities to trace numerals, and then provide opportunities for them to practice writing numerals without tracing.

### COMMON WRITING NUMERALS ERROR

Type of Error	Example	Remedy
At first when attempting to write numerals, students often reverse numbers.		With repeated opportunities to observe how numerals are formed and practice writing them, students will write numerals correctly more often.

### THE LINGO

**Numbers** – Representations of quantities

**Numerals** – Written symbols that represent numbers (1, 2, 3, 4, 5, etc.)

## SKILL: NUMERALS

## INTEGRATING RECOGNIZING AND WRITING NUMERALS THROUGHOUT THE DAY

## ROUTINES



For any routines that involve counting quantities, have a student point to the numerals on a number chart as students count aloud. After counting, either the teacher or a student could record what was counted by selecting a card with the numeral printed on it or by writing the numeral.

## TRANSITION



- To transition to a new activity, have students identify numerals on cards and put up the corresponding quantity of fingers.
- Say numeral writing rhymes while students practice writing numerals in the air.

## MEALS



Find the numeral card that matches the quantity of students in a group. When students are sitting at a table for lunch or snack, show students the 6 card and say, “Look! We have six people sitting at our table. This the numeral 6.”

## OUTDOOR TIME



- Hopscotch
  - Point out a numeral on a hopscotch board.
  - Ask a student what numeral you are pointing to and have the student jump (or do another body movement) that many times.
- Have students practice writing numerals with their fingers in the sandbox.

## CENTERS



- Practice counting objects around the room. Have students find items in the room to count and have them place corresponding numeral cards with the items.
- Have students practice writing numerals with their fingers on various surfaces (in sand trays, on the carpet, in the air).

**SKILL: NUMERALS****SAMPLE ACTIVITIES THAT SUPPORT RECOGNIZING AND WRITING NUMERALS****Number Card 'Go Fish'**[Available as PDF](#)

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**Number Chart Transition I**[Available as PDF](#)

MTP M/S©

**Recognizing Numerals**[Available as PDF](#)

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**The Concentration: Numerals and Dots Game**[Available as PDF](#)

WWC Report

**Connecting Numbers to Numerals**[https://learnzillion.com/lesson\\_plans/3080](https://learnzillion.com/lesson_plans/3080)

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**Writing Numerals**[https://learnzillion.com/lesson\\_plans/3081](https://learnzillion.com/lesson_plans/3081)

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**Organizing a Collection**[https://learnzillion.com/lesson\\_plans/3083](https://learnzillion.com/lesson_plans/3083)

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**REFERENCES**

Baroody, A. (2004). *PBS child development tracker: Ready to learn math framework*. Retrieved from:

<http://www.pbs.org/parents/childdevelopmenttracker/five/mathematics.html>

Clements, D.H., & Sarama, J. (2009). *Learning and teaching early math: The learning trajectories approach*. New York, NY: Routledge.

Clements, D. H., & Sarama, J. (2013). *Building Blocks, Volumes 1 and 2*. Columbus, OH: McGraw-Hill.

Clements, D. H., & Sarama, J., & Baroody, A. J. (2013). Background research on early mathematics. Washington, DC: National Governors Association. Retrieved from <https://www.nga.org/files/live/sites/NGA/files/pdf/2013/1311SEME-Background.pdf>.

Frye, D., Baroody, A. J., Burchinal, M., Carver, S. M., Jordan, N. C., & McDowell, J. (2013). *Teaching math to young children: A practice guide* (NCEE 2014-4005). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Retrieved from the NCEE website:

<http://whatworks.ed.gov>

*Numeracy continuum: Numeral identification*. State of New South Wales, Department of Education. Retrieved from:

<http://www.numeracycontinuum.com/aspects-of-the-continuum/aspect1/8-aspect-1/29-numeral-identification>

Olsen, J., & Knapton, E. (2008). *Handwriting Without Tears*. Cabin John, MD: Handwriting Without Tears.

Pappas, S. & Ginsburg, H. (2012). *Birthday Party Workshop: Number and Operation* [PowerPoint Slides].

TERC & Pearson Scott Foresman. (2008). *Investigations in Number, Data and Space*. Glenview, IL: Pearson Scott Foresman.