

# *Correspondence of WIDA English Language Development Standards and the Common Core State Standards for Mathematics*

## **Introduction**

### **What these documents are:**

- These documents show correspondences between the WIDA (World-Class Instructional Design and Assessment) English Language Development Standards and the Common Core State Standards in mathematics.
- WIDA is a consortium of 30 states (including New Hampshire) and the District of Columbia that have all adopted the same English language development standards and assessments.

### **Format of the documents:**

- The WIDA English Language Development Standards for mathematics consist of Model Performance Indicators (MPIs) at each of five different levels of language proficiency.
- Each MPI suggests a task that students at a particular level of language proficiency should be able to do to show achievement of a particular subject area standard.
- These documents consist of five WIDA-style MPIs (one for each of the five language proficiency levels) that correspond to selected Common Core State Standards.
- The model performance indicators were written by groups of New Hampshire ESOL and mainstream teachers through a federal Title III Professional Development grant to UNH Manchester.

### **Suggestions for using the documents:**

- Mainstream teachers can use these documents to help understand what can be expected from ESOL students at various levels of language proficiency, and to guide the assessment of students' progress toward meeting Common Core State Standards in mathematics.
- ESOL teachers can use the alignments to help understand what ESOL students are expected to know in mathematics, and to guide the assessment of their progress toward meeting Common Core mathematics standards.

**Important considerations:**

- The documents are not curricula or programs of study; they are tools to be used in designing on-going classroom assessment of ESOL students.
- The MPIs are models that should be adapted as needed to meet individual teachers' and students' needs.
- Because the MPIs are geared to different levels of English language proficiency, it is essential to know students' proficiency levels (that information should be available in students' records or from their ESOL teacher).
- It is assumed that the knowledge and skills required to complete the tasks given in these MPIs have been previously taught, using teaching strategies appropriate for ESOL students.
- If WIDA MPIs are not included for a particular standard, or for a particular grade level, you can adapt related MPIs, or create new ones following the same model.

## **Grade 1 Model Performance Indicators that Correspond to the Common Core State Standards for Mathematics**

### **Operations and Algebraic Thinking**

#### **Represent and solve problems involving addition and subtraction**

***CC.1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.***

Level 1 Entering	Solve simple addition and subtraction problems read aloud by the teacher with visual support (e.g., teacher shows a picture of 6 girls and 9 boys and says: <i>6 girls plus 9 boys; how many children? or How many more boys than girls?</i> ); students use objects or drawings to solve the problem.
Level 2 Emerging	Solve simple addition and subtraction problems read aloud by the teacher with visual support (e.g., teacher shows a picture of 6 girls and 9 boys and says: <i>6 girls plus 9 boys; how many children? or How many more boys than girls?</i> ); students model the problem with objects or drawings, write the equation, read it aloud, and solve it (e.g., students write, read, and solve $6 + 9 = n$ ; or $9 - n = 6$ ).

Level 3 Developing	Read simple word problems with a partner; use objects or drawings to help write the equation; read the equation aloud and solve the problem.
Level 4 Expanding	Solve grade-level word problems, with a partner, using objects or drawings to help write the equation.
Level 5 Bridging	Solve grade-level word problems, individually, using objects or drawings to help write the equation.

**CC.1.OA.2** *Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.*

Level 1 Entering	Solve simple addition problems with three addends, read aloud by the teacher, with visual support (e.g., teacher shows a picture of 6 dogs, 9 cats, and 4 turtles, and says: <i>6 dogs plus 9 cats plus 4 turtles; how many animals?</i> ); students use objects or drawings to solve the problem.
Level 2 Emerging	Solve simple addition problems with three addends, read aloud by the teacher, with visual support (e.g., teacher shows a picture of 6 dogs, 9 cats, and 4 turtles, and says: <i>6 dogs plus 9 cats plus 4 turtles; how many animals?</i> ); students model the problem with objects or drawings, write the equation, read it aloud, and solve it.
Level 3 Developing	Read simple word problems with three addends, with a partner; use objects or drawings to help write the equation.
Level 4 Expanding	Solve grade-level word problems with three addends, with a partner, using objects or drawings to help write the equation.
Level 5 Bridging	Solve word problems with three addends, individually, by using objects, drawings, and equations.

### Understand and apply properties of operations and the relationship between addition and subtraction

**CC.1.OA.3** *Apply properties of operations as strategies to add and subtract (students need not use formal terms for these properties). Examples: If  $8 + 3 = 11$  is known, then  $3 + 8 = 11$  is also known. (Commutative property of addition.) To add  $2 + 6 + 4$ , the second two numbers can be added to make a ten, so  $2 + 6 + 4 = 2 + 10 = 12$ . (Associative property of addition.)*

(No WIDA MPIs developed.)

**CC.1.OA.4** *Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8.*

(No WIDA MPIs developed.)

**Add and subtract within 20**

**CC.1.OA.5** *Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).*

Level 1 Entering	Use counting on and counting back on a number line to add or subtract two numbers.
Level 2 Emerging	Solve written addition and subtraction problems within 20 by counting on orally.
Level 3 Developing	Listen as the teacher reads addition and subtraction problems within 20; write the problems and then solve them by counting on orally.
Level 4 Expanding	Solve written addition and subtraction problems within 20 by counting on; then read the problems aloud and solve them by counting on orally.
Level 5 Bridging	Use counting on and counting back mentally to solve addition and subtraction problems.

**CC.1.OA.6** *Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g.,  $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$ ); decomposing a number leading to a ten (e.g.,  $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$ ); using the relationship between addition and subtraction (e.g., knowing that  $8 + 4 = 12$ , one knows  $12 - 8 = 4$ ); and creating equivalent but easier or known sums (e.g., adding  $6 + 7$  by creating the known equivalent  $6 + 6 + 1 = 12 + 1 = 13$ ).*

(No WIDA MPIs developed.)

**Work with addition and subtraction equations**

**CC.1.OA.7** *Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false?  $6 = 6$ ,  $7 = 8 - 1$ ,  $5 + 2 = 2 + 5$ ,  $4 + 1 = 5 + 2$ .*

Level 1 Entering	Sort equation cards into two piles: true equations and false equations, with a partner.
Level 2 Emerging	Read aloud addition and subtraction equations, saying <i>true</i> or <i>false</i> for each equation, with a partner.
Level 3 Developing	Sort equation cards into true equations and false equations, in a small group; then discuss what the equal sign means.
Level 4 Expanding	State whether a given equation is true or false, with a partner, and explain what the equal sign means.
Level 5 Bridging	State whether a given equation is true or false, and explain what the equal sign means.

**CC.1.OA.8** *Determine the unknown number in an addition or subtraction equation relating three whole numbers. For example, determine the*

**unknown number that makes the equation true in each of the equations  $8 + ? = 11$ ,  $5 = \_ \bullet - 3$ ,  $6 + 6 = \bullet$  .**

Level 1 Entering	Determine the missing number in a number sentence (e.g., $2 + \_ = 4$ ; $? - 1 = 4$ ; $9 - 3 = \bullet$ ), using a number line or counters.
Level 2 Emerging	Write open number sentences based on pictures (e.g., from a picture of 5 apples and 3 apples, students writes $5 + 3 += \_ \_ \_$ ), and solve them.
Level 3 Developing	Write open number sentences that are read aloud by the teacher (e.g. teacher reads <i>7 peaches + how many peaches = 9 peaches?</i> and student writes $7 + \bullet = 9$ ), and solve them.
Level 4 Expanding	Create open number sentence cards with a partner; exchange cards with another pair and solve the number sentences.
Level 5 Bridging	Solve written equations with unknown numbers in any of the three positions.

## Number and Operations in Base Ten

### Extend the counting sequence

***CC.1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.***

Level 1 Entering	Count to 9; read and write numerals up to 9; represent a number of objects up to 9 with a written numeral.
Level 2 Emerging	Count to 12; read and write numerals up to 12; represent a number of objects up to 12 with a written numeral.
Level 3 Developing	Count to 19; read and write numerals up to 19; represent a number of objects up to 19 with a written numeral.
Level 4 Expanding	Count to 99; read and write numerals up to 99; represent a number of objects up to 99 with a written numeral.
Level 5 Bridging	Read and write numerals up to 120; represent a number of objects up to 120 with a written numeral and with number words.

### Understand place value

***CC.1. NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:***

- a. 10 can be thought of as a bundle of ten ones - called a "ten."***
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.***
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).***

Level 1 Entering	Match visual representations of ones and tens with number cards showing 1 to 20, and 30, 40, 50, 60, 70, 80, and 90, with a partner.
Level 2 Emerging	Use ones and tens manipulatives to create numbers to match selected numbers from 1 to 99 on number cards; then state the number of tens and the number of ones, and read the number, with a partner.
Level 3 Developing	Use ones and tens manipulatives to model numbers given orally by the teacher; then write the numbers and tell how many tens and how many ones in each.
Level 4 Expanding	Discuss in a small group what each of the numerals in a two-digit number represents.
Level 5 Bridging	Explain orally what each of the numerals in a two-digit number represents.

**CC.1. NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$ .**

Level 1 Entering	Match cards showing two two-digit numbers that are to be compared with cards showing the appropriate symbol ( $>$ , $=$ , $<$ ); then read the comparisons.
Level 2 Emerging	Follow the teacher's oral prompts to compare two-digit numbers based on meanings of the tens and ones digits; then write the comparisons.
Level 3 Developing	Compare two two-digit numbers based on meanings of the tens and ones digits, with a partner, discussing how the comparison is done and recording the example used.
Level 4 Expanding	Discuss in a small group the process for comparing two-digit numbers based on meanings of the tens and ones digits; record examples of a greater, a lesser, and an equal comparison.
Level 5 Bridging	Explain orally the process for comparing two-digit numbers based on meanings of the tens and ones digits, including examples of a greater, a lesser, and an equal comparison.

**Use place value understanding and properties of operations to add and subtract**

**CC.1. NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.**

(No WIDA MPIs developed.)

**CC.1. NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.**

Level 1 Entering	Find 10 more or 10 less than any two-digit number, mentally, and write the sum or difference.
Level 2 Emerging	Find 10 more or 10 less than any two-digit number, mentally, and say the sum or difference aloud.
Level 3 Developing	Find 10 more or 10 less than any two-digit number, mentally, and discuss the reasoning used, in a small group.
Level 4 Expanding	Find 10 more or 10 less than any two-digit number, mentally, and explain the reasoning used to a partner.
Level 5 Bridging	Find 10 more or 10 less than any two-digit number, mentally, and explain the reasoning used to the teacher or to the class.

**CC.1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.**

Level 1 Entering	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90; write the answer.
Level 2 Emerging	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90; say the answer aloud.
Level 3 Developing	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90; discuss the strategy and reasoning used in a small group.
Level 4 Expanding	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90; explain the strategy and reasoning used to a partner
Level 5 Bridging	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90; explain the strategy and reasoning used to the teacher or to the class.

## Measurement and Data

### Measure lengths indirectly and by iterating length units

**CC.1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.**

Level 1 Entering	Order three objects by length; point to the <i>long</i> , <i>longer</i> , and <i>longest</i> objects (or the <i>short</i> , <i>shorter</i> , and <i>shortest</i> objects) in response to prompts from the teacher.
Level 2 Emerging	Order three objects by length; compare their lengths by using the sentence frame <i>This ___ is longer/shorter than this one</i> , with a partner.
Level 3 Developing	Order three objects by length; use one of the three objects to indirectly compare the lengths of the other two, after observing the teacher model the comparison.
Level 4 Expanding	Discuss in a small group how to use one object to indirectly compare the lengths of two other objects.

Level 5 Bridging	Order three objects by length; explain how to use one of the objects to compare the lengths of the other two.
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**CC.1.MD.2** *Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Level 1 Entering	Measure the length and height of various objects (e.g., book, piece of paper), using paper clips or unifix cubes; count the number of clips or cubes, and record the measurement as ___ units.
Level 2 Emerging	Measure the length and height of given drawings of rectangles, with a partner, using paper clips.
Level 3 Developing	Sequence pictures of various classroom objects, with a partner, from shortest to tallest, and narrowest to widest; then measure the objects using paperclips, erasers, markers, arms, or any object, and record the number of units.
Level 4 Expanding	Discuss in a small group how to measure objects by using multiples of a shorter object.
Level 5 Bridging	Explain how to measure objects by using multiples of a shorter object.

### Tell and write time

**CC.1.MD.3** *Tell and write time in hours and half-hours using analog and digital clocks.*

Level 1 Entering	Match cards showing time to the hour and half-hour on analog and digital clocks with cards showing the time written out in words.
Level 2 Emerging	Write time in hours and half-hours, using analog and digital clocks, with a partner.
Level 3 Developing	Write time in hours and half-hours, using analog and digital clocks, independently.
Level 4 Expanding	Tell and write time to the hour and half-hour using analog and digital clocks, with a partner.
Level 5 Bridging	Tell and write time to the hour and half-hour using analog and digital clocks, independently.

### Represent and interpret data

**CC.1.MD.4** *Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.*

Level 1 Entering	Shade or color a graph to illustrate a given data set; record the number in each category and the total number.
Level 2 Emerging	Answer simple teacher questions using data from a graph or diagram (e.g., <i>How much is ___? Which costs more, ___ or ___?</i> , based on a graph or diagram showing prices of food in a cafeteria).
Level 3 Developing	Read simple questions created by the teacher about a particular graph or table, and answer aloud, with a partner.
Level 4 Expanding	Listen to the teacher read questions about a particular graph or table; then answer in writing and check answers with a partner.
Level 5 Bridging	Create questions for a particular graph or table; exchange questions with another student and write answers.

## Geometry

### Reason with shapes and their attributes

**CC.1.G.1** *Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) for a wide variety of shapes; build and draw shapes to possess defining attributes.*

Level 1 Entering	Sort and classify pictures of polygons according to various attributes (e.g. size, shape, color, number of sides), with a partner.
Level 2 Emerging	Sort and classify pictures of triangles and squares according to various attributes (e.g. size, shape, color, number of sides), with a partner; identify the attributes shared by all triangles and all squares.
Level 3 Developing	Discuss in a small group the difference between attributes such as number of sides and attributes such as size or color.
Level 4 Expanding	Sort and classify pictures of triangles and rectangles according to various attributes (e.g. size, shape, color, number of sides), with a partner; identify which attributes are necessary for a specific shape, and which could change, with a partner.
Level 5 Bridging	Explain how attributes such as shape or number of sides are different from attributes such as size or color.

**CC.1.G.2** *Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism.”)*

(No WIDA MPIs developed.)

**CC.1.G.3** *Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.*

Level 1 Entering	Match picture cards showing fractional parts (e.g., half and fourth of a pizza) with cards showing the words <i>halves</i> , and <i>fourths</i> , with a partner.
Level 2 Emerging	Divide circles and rectangles into two and four equal parts; name each part using <i>half of</i> or <i>fourth of</i> , with a partner.
Level 3 Developing	Divide circles and rectangles into two and four equal parts; name each part using <i>half of</i> , or <i>fourth of</i> , and describe the whole as <i>two of two parts</i> , or <i>four of four parts</i> , with a partner.
Level 4 Expanding	Divide circles and rectangles into two and four equal parts; name each part using <i>half of</i> , or <i>fourth of/quarter of</i> , and describe the whole as <i>two of two parts</i> , or <i>four of four parts</i> ; discuss in a small group why each part is smaller when you have more parts.
Level 5 Bridging	Divide circles and rectangles into halves and fourths and identify the parts; describe how many parts there are in each whole; explain why each part is smaller when you have more parts.