

Mathematics Common Core State Standards and Indiana Academic Standards Analysis

This document can be used to assist educators in analyzing the commonalities and differences between the Common Core State Standards (CCSS) and the Indiana Academic Standards (IAS). In particular, for schools teaching the CCSS, this document can be used to help identify IAS that do not align or only partially align with the CCSS. Students must be given the opportunity to learn the IAS as they will be assessed on these standards through the 2013-14 school year.

The first column states the CCSS. The second column states the IAS that partially align to the CCSS. The third column provides notes, usually highlighting differences between the standards. Please note that in most cases there are not complete matches between the two sets of standards, and it should not be assumed that either the content or skills found in one set of standards will match completely with those of the other set.

At the end of this document, we have listed the IAS Grade 2 indicators that are not aligned to the Grade 2 CCSS. These are presented in two ways: (1) IAS Grade 2 indicators that align to CCSS at a different grade level, with the best match indicated in the first column; and (2) IAS Grade 2 indicators that do not match any CCSS.

Grade 2 Common Core State Standards (CCSS)	Grade 2 Indiana Academic Standards (IAS)	Comment
Operations and Algebraic Thinking		
Represent and solve problems involving addition and subtraction.		
<p>2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. <i>(Footnote: See Glossary, Table 1)</i></p>	<p>2.2.2 Add two whole numbers less than 100 with and without regrouping.</p> <p>2.2.3 Subtract two whole numbers less than 100 without regrouping.</p> <p>2.3.1 Relate problem situations to number sentences involving addition and subtraction.</p>	<p>CCSS2.OA.1 includes two-step word problems and focuses on using unknowns in all positions with a symbol for the unknown number to represent the problem</p>
Add and subtract within 20.		
<p>2.OA.2 Fluently add and subtract within 20 using</p>	<p>2.2.4 Understand and use the inverse relationship</p>	<p>CCSS 2.OA.2 explicitly teaches mental math strategies</p>
Work with equal groups of objects to gain foundations for multiplication.		
<p>2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</p>	<p>2.1.7 Identify odd and even numbers up to 100.</p> <p>2.1.1 Count by ones, twos, fives and tens to 100.</p>	<p>CCSS 2.OA.3 requires students to write an equation to express an even number as a sum of equal addends (5 + 5 = 10). CCSS specifies using groups up to 20.</p>
<p>2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.</p>	<p>NEW</p>	
Number and Operations in Base Ten		
Understand place value.		
<p>2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p>	<p>2.1.3 Identify numbers up to 100 in various combinations of tens and ones.</p>	<p>CCSS 2.NBT.1 goes beyond 100. CCSS requires the understanding of a three-digit number</p>

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2.NBT.1a 100 can be thought of as a bundle of ten tens — called a “hundred.”	NEW	
2.NBT.1b The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	NEW	
2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.	2.1.1 Count by ones, twos, fives and tens to 100.	CCSS 2.NBT.2 requires counting within 1000. Additionally, students are required to count by 100s.
2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	NEW	
2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.	2.1.5 Compare whole numbers up to 100 and arrange them in numerical order.	CCSS 2.NBT.4 requires the comparisons of two three-digit numbers.
Use place value understanding and properties of operations to add and subtract.		
2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	2.2.2 Add two whole numbers less than 100 with and without regrouping	CCSS 2.NBT.5 requires addition and subtraction within 100 with and without regrouping.
	2.2.3 Subtract two whole numbers less than 100 without regrouping.	
	2.2.4 Understand and use the inverse relationship between addition and subtraction.	
	2.3.2 Use the commutative and associative properties for addition to simplify mental calculations and to check results.	
2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.	2.2.2 Add two whole numbers less than 100 with and without regrouping.	CCSS 2.NBT.6 requires addition of up to four 2-digit numbers.
	2.2.3 Subtract two whole numbers less than 100 without regrouping.	
	2.2.5 Use estimation to decide whether answers are reasonable in addition problems.	

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<p>2.NBT.7 Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p>	<p>2.2.2 Add two whole numbers less than 100 with and without regrouping.</p> <p>2.2.3 Subtract two whole numbers less than 100 without regrouping.</p> <p>2.2.4 Understand and use the inverse relationship between addition and subtraction.</p> <p>2.3.2 Use the commutative and associative properties for addition to simplify mental calculations and to check results.</p>	<p>CCSS 2.NBT.7 requires the use of concrete models, drawings, and strategies based on place value to perform and understand addition or subtraction within 1000.</p>
<p>2.NBT.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.</p>	<p>2.1.4 Find the number that is ten more or ten less than any number 10 through 90.</p> <p>2.2.6 Use mental arithmetic to add or subtract 0, 1, 2, 3, 4, 5, or 10 with numbers less than 100.</p>	<p>CCSS 2.NBT.8 requires the use of mental arithmetic to add or subtract 10 or 100 to a given number 100-900.</p>
<p>2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations. <i>(Footnote: Explanations may be supported by drawings or objects.)</i></p>	<p>NEW</p>	
<p>Measurement and Data</p>		
<p>Measure and estimate lengths in standard units.</p>		
<p>2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p>	<p>NEW</p>	

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<p>2.MD.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.</p>	<p>2.5.1 Measure and estimate length to the nearest inch, foot, yard, centimeter, and meter.</p>	<p>CCSS 2.MD.2 requires the comparison of two measurements and their relation to the size of the unit chosen.</p>
	<p>2.5.2 Describe the relationships among inch, foot, and yard. Describe the relationship between centimeter and meter.</p>	
	<p>2.5.3 Decide which unit of length is most appropriate in a given situation.</p>	
<p>2.MD.3 Estimate lengths using units of inches, feet, centimeters, and meters.</p>	<p>2.5.1 Measure and estimate length to the nearest inch, foot, yard, centimeter, and meter.</p>	
<p>2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p>	<p>NEW</p>	
<p>Relate addition and subtraction to length.</p>		
<p>2.MD.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.</p>	<p>NEW</p>	
<p>2.MD.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ... , and represent whole-number sums and differences within 100 on a number line diagram.</p>	<p>NEW</p>	
<p>Work with time and money.</p>		
<p>2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p>	<p>2.5.9 Tell time to the nearest quarter hour, be able to tell five minute intervals, and know the difference between a.m. and p.m.</p>	<p>CCSS 2.MD.7 requires telling time to the nearest five minutes.</p>
<p>2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?</p>	<p>2.5.12 Find the value of a collection of pennies, nickels, dimes, quarter, half-dollars, and dollars.</p>	<p>CCSS 2.MD.8 specifies use of word problems and appropriate use of symbols.</p>

Grade 2 Common Core State Standards (CCSS)	Grade 2 Indiana Academic Standards (IAS)	Comment
Represent and interpret data.		
2.MD.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	NEW	
2.MD.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. <i>(Footnote: See Glossary, Table 1)</i>	2.1.11 Collect and record numerical data in systematic ways. 2.1.12 Represent, compare, and interpret data using tables, tally charts, and bar graphs.	CCSS 2.MD.10 focuses on picture and bar graphs to represent a data set with up to four categories.
Geometry		
Reason with shapes and their attributes.		
2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. <i>(Footnote: Sizes are compared directly or visually, not compared by measuring.)</i>	2.4.2 Describe, classify, and sort plane and solid geometric shapes (triangle, square, rectangle, cube, rectangular prism) according to the number and shape of faces and the number of sides, edges, and/or vertices.	CCSS 2.G.1 requires the recognition and drawing of shapes having the specified attribute of a given number of angles. CCSS also requires the identification of quadrilaterals, pentagons, and hexagons.
2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	NEW	
2.G.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	NEW	

IAS Grade 2 Standards Not Matched by CCSS		
No match in CCSS.	2.1.2 Identify the pattern of numbers in each group of ten, from tens through nineties.	
No match in CCSS.	2.1.6 Match the number names (first, second, third, etc.) with an ordered set of up to 100 items.	
No match in CCSS Grade 2.	2.1.8 Recognize fractions as parts of a whole or parts of a group (up to 12 parts).	CCSS Grade 3 (3.NF.1)
No match in CCSS Grade 2.	2.1.9 Recognize, name, and compare the unit fractions: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{10}$, and $\frac{1}{12}$.	CCSS Grade 3 Critical Area 2
No match in CCSS Grade 2.	2.1.10 Know that, when all fractional parts are included, the result is equal to the whole and to one.	CCSS Grade 3 (3.NF.3c)
No match in CCSS Grade 2.	2.2.1 Model addition of numbers less than 100 with objects and pictures.	CCSS Grade 1 (1.NBT.4)
No match in CCSS.	2.3.3 Recognize and extend a linear pattern by its rules.	
No match in CCSS.	2.3.4 Create, describe, and extend number patterns using addition and subtraction.	
No match in CCSS Grade 2.	2.4.1 Construct squares, rectangles, triangles, cubes, and rectangular prisms with appropriate materials.	CCSS Grade 1 (1.G.2)
No match in CCSS Grade 2.	2.4.3 Investigate and predict the result of putting together and taking apart two-dimensional and three-dimensional shapes.	CCSS Grade 1 (1.G.2)
No match in CCSS.	2.4.5 Recognize geometric shapes and structures in the environment and specify their locations.	
No match in CCSS Grade 2.	2.5.4 Estimate area and use a given object to measure the area of other objects.	CCSS Grade 3 (3.MD.5)
No match in CCSS.	2.5.5 Estimate and measure capacity using cups and pints.	
No match in CCSS.	2.5.6 Estimate weight and use a given object to measure the weight of other objects.	
No match in CCSS.	2.5.7 Recognize the need for a fixed unit of weight.	
No match in CCSS.	2.5.8 Estimate temperature. Read a thermometer in Celsius and Fahrenheit.	
No match in CCSS.	2.5.10 Know relationships of time: seconds in a minute; minutes in an hour; hours in a day; days in a week; and days, weeks, and months in a year.	
No match in CCSS Grade 2.	2.5.11 Find the duration of intervals of time in hours.	CCSS Grade 3 (3.MD.1)