

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

| Grade 1 Common Core State Standard (CCSS) | Grade 1 Indiana Academic Standard (IAS) | Comment |
|--|--|---|
| Operations and Algebraic Thinking | | |
| Represent and solve problems involving addition and subtraction. | | |
| <p>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.</p> | <p>1.3.1 Write and solve number sentences from problem situations involving addition and subtraction.</p> | <p>CCSS 1.OA.1 requires using a symbol for an unknown number in an equation and addition and subtraction within 20 using unknowns in all positions.</p> |
| <p>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.</p> | <p>1.3.1 Write and solve number sentences from problem situations involving addition and subtraction.</p> | <p>CCSS 1.OA.2 requires addition of 3 whole numbers whose sum is less than or equal to 20. Use of equations with symbols for the unknown number is also required.</p> |
| Understand and apply properties of operations and the relationship between addition and subtraction. | | |
| <p>1.OA.3 Apply properties of operations as strategies to add and subtract. <i>(Footnote: Students need not use formal terms for these properties.)</i> Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. <i>(Commutative property of addition.)</i> To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. <i>(Associative property of addition.)</i></p> | <p>NEW</p> | <p>Extension of IAS 1.2.6. IAS 1.2.6 requires students to understand the role of zero in addition and subtraction (Additive identity property of 0) CCSS requires students to apply various properties of operations to add and subtract.</p> |

| Grade 1 Common Core State Standard (CCSS) | Grade 1 Indiana Academic Standard (IAS) | Comment |
|---|---|--|
| <p>1.OA.4 Understand subtraction as an unknown-addend problem. <i>For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.</i></p> | <p>1.2.7 Understand and use the inverse relationship between addition and subtraction facts (such as $4 + 2 = 6$, $6 - 2 = 4$, etc.) to solve simple problems.</p> | <p>IAS 1.2.7 & 1.3.3 are prerequisite skills needed for students to understand subtraction as an unknown addend problem.</p> |
| | <p>1.3.3 Recognize and use relationship between addition and subtraction.</p> | |
| <p>Add and subtract within 20.</p> | | |
| <p>1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> | <p>1.2.1 Show the meaning of addition (putting together, increasing) using objects.</p> | <p>CCSS 1.OA.5 relates counting to addition/subtraction. IAS 1.2.1 & 1.2.2 illustrate CCSS 1.OA.5 by using concrete objects.</p> |
| | <p>1.2.2 Show the meaning of subtraction (taking away, comparing, finding the difference) using objects.</p> | |
| <p>Work with addition and subtraction equations.</p> | | |
| <p>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? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p> | <p>NEW</p> | <p>Extension of IAS 1.2.5. CCSS 1.OA.7 requires students to determine if equations are true or false in addition to understanding the meaning of the equal sign.</p> |
| <p>1.OA.8 Determine the unknown whole 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 $8 + ? = 11$, $5 = _ - 3$, $6 + 6 = _$.</p> | <p>NEW</p> | |

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| Grade 1 Common Core State Standard (CCSS) | Grade 1 Indiana Academic Standard (IAS) | Comment |
|---|---|--|
| Number and Operations in Base Ten | | |
| Extend the counting sequence. | | |
| 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. | 1.1.1 Count, read and write whole numbers up to 100. | CCSS 1.NBT.1 requires counting to 120 starting at any number and representing a number of objects with a written numeral |
| Understand place value. | | |
| 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 (1NBT.2a,b): | 1.1.2 Count and group objects in ones and tens. <i>Example: Separate a group of 34 blocks into three groups of 10 blocks and 4 single blocks.</i> | |
| | 1.1.3 Identify the number of tens and ones in numbers less than 100. <i>Example: How many tens and how many ones are in 56? Explain your answer.</i> | |
| 1.NBT.2a 10 can be thought of as a bundle of ten ones — called a “ten.” | 1.1.2 Count and group objects in ones and tens. <i>Example: Separate a group of 34 blocks into three groups of 10 blocks and 4 single blocks.</i> | |
| 1.NBT.2b The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. | 1.1.3 Identify the number of tens and ones in numbers less than 100. <i>Example: How many tens and how many ones are in 56? Explain your answer.</i> | CCSS 1.NBT.2b is limited to numbers 11 to 19. |
| 1.NBT.2c 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) | 1.1.3 Identify the number of tens and ones in numbers less than 100. <i>Example: How many tens and how many ones are in 56? Explain your answer.</i> | CCSS 1.NBT.2c is limited to the multiples of 10 from 10 - 90. |

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|--|---|--|
| <p>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 $<$.</p> | <p>1.1.5 Compare whole numbers up to 10 and arrange them in numerical order. (Partial)</p> | <p>CCSS 1.NBT.3 requires the comparison of two two digit numbers and requires the use of $>$, $<$, and $=$ symbols.</p> |
| <p>Use place value understanding and properties of operations to add and subtract.</p> | | |
| <p>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.</p> | <p>NEW</p> | |
| <p>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.</p> | <p>NEW</p> | |
| <p>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.</p> | <p>NEW</p> | |

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| Grade 1 Common Core State Standard (CCSS) | Grade 1 Indiana Academic Standard (IAS) | Comment |
|--|---|---|
| Measurement and Data | | |
| Measure length indirectly and by iterating length units. | | |
| 1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. | 1.5.1 Measure the length of objects by repeating a nonstandard unit or a standard unit. | CCSS 1.MD.1 requires ordering of three objects and the comparison of two objects. |
| 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. | 1.5.1 Measure the length of objects by repeating a nonstandard unit or a standard unit. 1.5.2 Use different units to measure the length of the same object and predict whether the measure will be greater or smaller when a different unit is used. | CCSS 1.MD.2 focuses on how to measure length and defines "length measurement" as the number of same-size units that span and object. CCSS 1.MD.2 is limited to whole numbers of length units. |
| Tell and write time. | | |
| 1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks. | 1.5.6 Tell time to the nearest half-hour and relate time to events (before/after, shorter/longer). | CCSS CCSS 1.MD.3 includes telling and writing time in hours; but does not require the relation of time to events. |
| Represent and interpret data. | | |
| 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. | 1.1.10 Represent, compare, and interpret data using pictures and picture graphs. | CCSS 1.MD.4 specifies types of questions to ask and answer and does not require students to gather data. Limits up to 3 categories. |

| Grade 1 Common Core State Standard (CCSS) | Grade 1 Indiana Academic Standard (IAS) | Comment |
|--|---|---|
| Geometry | | |
| Reason with shapes and their attributes. | | |
| <p>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.</p> | <p>1.4.1 Identify, describe, compare, sort, and draw triangles, rectangles, squares, and circles.</p> <p>1.4.3 Classify and sort familiar plane and solid objects by position, shape, size, roundness, and other attributes. Explain the rule used.</p> <p>1.4.4 Identify objects as two-dimensional or three-dimensional.</p> | <p>CCSS 1.G.1 emphasizes distinction between defining and non-defining attributes. IAS 1.4.1, 1.4.3, and 1.4.4 are more specific about the shapes and attributes to attend to.</p> |
| <p>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. (Footnote: Students do not need to learn formal names such as “right rectangular prism.”)</p> | <p>NEW</p> | |
| <p>1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves</i>, <i>fourths</i>, and <i>quarters</i>, and use the phrases <i>half of</i>, <i>fourth of</i>, and <i>quarter of</i>. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p> | <p>1.1.8 For a shape divided into 8 or fewer congruent (matching) parts, describe a shaded portion as “__ out of __ parts” and write the fraction.</p> | <p>CCSS 1.G.3 is limited to halves, fourths, and quarters and requires students to use the terms “half (of), fourth (of), and quarter (of).” IAS 1.1.8 requires students to use the terms “__ out of __ parts.”</p> |

| IAS Grade 1 Standards Not Matched by CCSS | | |
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| No match in CCSS Grade 1. | 1.1.4 Name the number that is one more than or one less than any number up to 100. | CCSS Grade K (K.CC.4c) partial match |
| No match in CCSS. | 1.1.6 Match the number names (first, second, third, etc.) with an ordered set of up to 10 items. | |
| No match in CCSS Grade 1. | 1.1.7 Recognize when a shape is divided into congruent (matching) parts. | These concepts are moved to Grade 8 at a more complex level. |
| No match in CCSS. | 1.1.9 For a set of 8 or fewer objects, describe a subset as “__ out of __ parts” and write the fraction. | |
| No match in CCSS Grade 1. | 1.2.3 Show equivalent forms of the same number (up to 20) using objects, diagrams, and numbers. | CCSS Grade K (K.OA.3) |
| Not specifically part of CCSS. | 1.3.2 Create word problems that match given number sentences involving addition and subtraction. | |
| Not specifically part of CCSS. | 1.3.4 Create and extend number patterns using addition. | |
| No match in CCSS Grade 1. | 1.4.2 Identify triangles, rectangles, squares, and circles as the faces* of three-dimensional objects. | CCSS Grade 2 (2.G.1) partial match |
| No match in CCSS. | 1.4.5 Give and follow directions for finding a place or object. | |
| No match in CCSS. | 1.4.6 Arrange and describe objects in space by position and direction: near, far, under, over, up, down, behind, in front of, next to, to the left or right of. | |
| No match in CCSS. | 1.4.7 Identify geometric shapes and structures in the environment and specify their location. | |
| No match in CCSS. | 1.5.3 Recognize the need for a fixed unit of length. | |

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| No match in CCSS Grade 1. | 1.5.4 Measure and estimate the length of an object to the nearest inch and centimeter. | CCSS Grade 2 (2.MD.3) |
| No match in CCSS K-2. | 1.5.5 Compare and order objects according to area, capacity, weight, and temperature, using direct comparison or a nonstandard unit. | These concepts are moved to Grade 3 at a more complex level. |
| No match in CCSS Grade 1. | 1.5.7 Identify and give the values of collections of pennies, nickels, and dimes. | CCSS Grade 2 (2.MD.8) |