

Definitions of Key Curriculum Concepts and Terms

CURRICULUM	
<i>Curriculum can be divided into four categories: intended, enacted, assessed, and learned curricula (Porter, 2006)</i>	
Intended curriculum	The knowledge and skill targets for the enacted curriculum, often captured in content standards or other similar documents
Enacted curriculum	The knowledge and skills actually delivered during instruction in the classroom and other learning settings, and how it is taught
Assessed curriculum	The knowledge and skills that are assessed to determine achievement
Learned curriculum	The knowledge and skills students actually acquire

INSTRUCTION	
<i>Instruction can be divided into two categories: instructional practices and instructional content (Porter & Smithson, 2001)</i>	
Instructional practices	Methods by which instructional content is delivered; <i>how</i> content is taught
Instructional content	Enacted curriculum students are exposed to and expected to acquire; <i>what</i> is actually taught

ASSESSMENT	
<i>A system of processes and tools that are used to determine the extent to which students are acquiring or have acquired the knowledge and skills listed in the curriculum and delivered via instruction (Niebling, et al., 2008) In general, there are four types of assessment decisions:</i>	
Summative	Comprehensive in nature, provides accountability, and is used to check the level of learning at the end of a unit of study. (RtI Action Network)
Formative	Collection of evidence about student learning that is used to inform instructional decisions in an ongoing manner. <i>Progress Monitoring</i> , a type of formative assessment used in RtI systems, is a scientifically-based practice used to assess students' academic performance and evaluate the effectiveness of instruction. It is the process used to monitor implementation of specific interventions. (RtI Action Network)
Screening	A quick check of all students' current levels of performance in a content or skill area. (RtI Action Network) Identifies potential academic and/or behavioral concerns in need of additional assessment. (Midwest Instructional Leadership Council)
Diagnostic	Diagnostic assessments are used to confirm screening results and to inform intervention by determining a student's particular difficulties. (RtI Action Network)

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ADDITIONAL CURRICULUM CONCEPTS/TERMS	
<i>These are some additional items that are often part of curriculum discussions.</i>	
Content Standards	Broad statements that identify the knowledge and skills that students should acquire. (Iowa Department of Education, 2011)
Instructional materials	Instructional resources (e.g., textbooks, teacher-developed activities) that represent the content in the written curriculum and are used to engage students in the learning process (Niebling, et al., 2008)

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¹ This work is based largely on the work I have done with Heartland Area Education Agency 11 and the Iowa Department of Education. For more information on that work, go to <https://sites.google.com/site/aeal1alignment/>.

Definitions of Key Alignment Concepts and Terms

ALIGNMENT	
<p><i>The extent to which and how well curricular categories and the elements within them (e.g., content standards, instructional content, and assessment practices) work together to guide instruction and, ultimately, facilitate and enhance student learning (e.g., Webb, 1997).</i></p>	

DIRECTIONALITY	
<p><i>The direction in which alignment is examined can be broken down into two approaches (Niebling et al., 2008).</i></p>	
Horizontal Alignment	Degree of match across two curricular categories (e.g., instructional content with state or national standards) within a single level (e.g., same grade comparisons).
Vertical Alignment	Degree of match within one curricular category (e.g., district benchmark assessments) across multiple levels (e.g., across grade levels).

DIMENSIONS	
<p><i>There are many approaches to examining alignment (e.g., Surveys of Enacted Curriculum, Webb methods), each of which examine different aspects of alignment relationships. In general, these different aspects can be summarized along three dimensions, regardless of the methods used (Niebling et al., 2008).</i></p>	
Topical/Conceptual Knowledge	Subjects, information, and ideas that students are supposed to learn.
Cognitive Complexity/Demand	What students are expected to do with the topical/conceptual knowledge (e.g., Bloom's Taxonomy, Webb's Depth of Knowledge).
Emphasis	The extent to which topical/conceptual knowledge with accompanying complexity/demand are addressed by the intended, enacted, or assessed curriculum.

LEVEL OF ANALYSIS	
<p><i>When engaging in an examination of alignment in either direction, along any dimension(s), the specificity with which alignment is considered can vary along a continuum of less to more specific. This is referred to by Porter (2002) as "grain size."</i></p>	
Coarse-Grained	Categorical, global or general examinations that take the approach of "it's in there somewhere."
Fine-Grained	Specific, targeted examinations that tend to focus on sub-skills within larger categories that take the approach of looking for one-to-one correspondence between curricular categories (Niebling et al., 2008).

Definitions of Key Alignment Concepts and Terms

REFERENCES¹

Niebling, B. C., Roach, A. T., & Rahn-Blakeslee, A. (2008). Best practices in curriculum, instruction, and assessment alignment. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology*, (4)5, 1059-1072. Bethesda, MD: National Association of School Psychologists.

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A Comparison of the Common Core State Standards (CC) to the American Diploma Project (ADP) Benchmarks in Mathematics

American Diploma Project (ADP)	Common Core State Standards (CC)	Commentary
I. Number Sense and Numerical Operations - The high school graduate can:		
ADP I1. Compute with rational numbers fluently and accurately without a calculator:		
ADP I1.1. Add, subtract, multiply and divide integers, fractions and decimals.	CC.5.NBT.7 Perform operations with multi-digit whole numbers and with decimals to hundredths. Add, subtract, multiply, and divide decimals to hundredths, 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.	Meets ADP: Both sets of standards require students to compute with integers, fractions, and decimals.
	CC.6.NS.5 Apply and extend previous understandings of numbers to the system of rational numbers. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	
	CC.7.NS.3 Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)	
ADP I1.2. Calculate and apply ratios, proportions, rates and percentages to solve problems.	CC.6.RP.3b Solve unit rate problems including those involving unit pricing and constant speed. For example, If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?	Meets ADP: Both sets of standards require students to work with ratios, proportions, rates, and percentages.
	CC.6.RP.3c Find a percentage of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole given a part and the percentage.	
	CC.6.RP.3d Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	
	CC.7.RP.2 Analyze proportional relationships and use them to solve real-world and mathematical problems. Recognize and represent proportional relationships between quantities.	
	CC.7.RP.3 Analyze proportional relationships and use them to solve real-world and mathematical problems. Use proportional relationships to solve	

American Diploma Project (ADP)	Common Core State Standards (CC)	Commentary
	multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	
<p>ADP I1.3. Use the correct order of operations to evaluate arithmetic expressions, including those containing parentheses.</p>	<p>CC.6.EE.1 Apply and extend previous understandings of arithmetic to algebraic expressions. Write and evaluate numerical expressions involving whole-number exponents.</p>	<p>Builds on and extends ADP: This CCSS goes beyond ADP by requiring students to see structure in expressions as well as evaluate them.</p>
	<p>CC.6.EE.2c Evaluate expressions by substituting values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.</p>	
	<p>CC.6.EE.3 Apply and extend previous understandings of arithmetic to algebraic expressions. Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</p>	
	<p>CC.7.EE.2 Use properties of operations to generate equivalent expressions. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."</p>	
<p>ADP I1.4. Explain and apply basic number theory concepts such as prime number, factor, divisibility, least common multiple and greatest common divisor.</p>	<p>CC.4.OA.4 Gain familiarity with factors and multiples. Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.</p>	<p>Meets ADP: While least common multiple and greatest common divisor are not explicitly mentioned in the CCSS, their use is required in dealing with fractions and expressions.</p>
	<p>CC.4.NF.2 Extend understanding of fraction equivalence and ordering. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the</p>	

Alignment Report: Alignment of Teachers' Enacted Curriculum to State Standards (Subtopics)

This document contains information about three required high school English/Language Arts courses at a fictional high school. The course teachers independently reflected on what they taught (the enacted curriculum) over the course of the school year compared to state standards. **Table 1** contains summary information about what was taught in at least one course at three levels of analysis, starting with the most general (Strand) and going to the most specific (Sub-Topic). **Table 2** contains a summary of what was taught in at least one course at the Essential Topic (middle level) of analysis. The **bar graph** contains information about the percentage of Sub-Topics that were taught in at least one course within each Essential Topics. **Table 3** contains an example of a row-by-row summary of what was taught, at the Sub-Topic level (most specific) for each course.

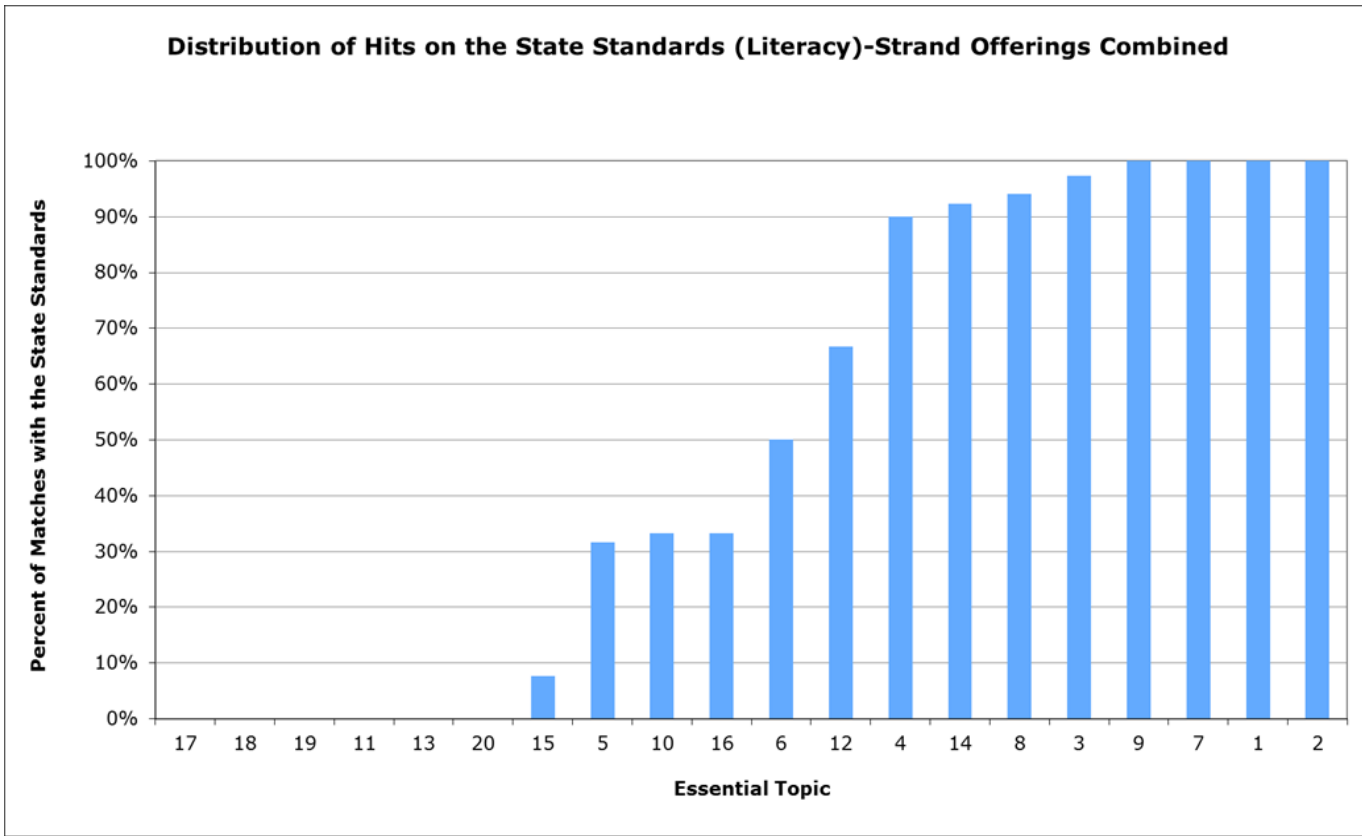
Table 1. Summary of Multi-Level Hit Rate Analysis

<i>Level of Analysis</i>	<i>No. of Hits</i>	<i>Total Possible</i>	<i>Hit Rate</i>
Strand	4	5	80%
Essential Topic	14	29	70%
Sub-Topic	123	198	62%

Table 2. Summary of Essential Topics Hits

<i>Essential Topic</i>	<i>Hit</i>	<i>Essential Topic</i>	<i>Hit</i>
<u>Essential Concept/Skill Set 1</u> : Independently reads a significant number of books and text each year. This reading should include both fiction and nonfiction in a variety of genres.	YES	<u>Essential Concept/Skill Set 11</u> : Uses appropriate content and conventions for purpose, audience, occasion, and context	NO
<u>Essential Concept/Skill Set 2</u> : Reads for a variety of purposes and across content areas	YES	<u>Essential Concept/Skill Set 12</u> : Demonstrates control of delivery skills	YES
<u>Essential Concept/Skill Set 3</u> : Uses a variety of skills and strategies to comprehend complex non-fiction and informational text	YES	<u>Essential Concept/Skill Set 13</u> : Recognizes the role of evaluation in oral communication	NO
<u>Essential Concept/Skill Set 4</u> : Uses a variety of strategies and skills to comprehend and interpret complex literature	YES	<u>Essential Concept/Skill Set 14</u> : Listens for information and understanding	YES
<u>Essential Concept/Skill Set 5</u> : Uses a variety of strategies to understand unfamiliar vocabulary found in narrative text, technical reading, and literary text	YES	<u>Essential Concept/Skill Set 15</u> : Listens for interpretation, analysis, and evaluation	YES
<u>Essential Concept/Skill Set 6</u> : Reads with fluency silently and aloud to support comprehension	YES	<u>Essential Concept/Skill Set 16</u> : Listens to establish, maintain and enhance relationships	YES
<u>Essential Concept/Skill Set 7</u> : Applies writing skills and strategies to effectively communicate in a variety of genres with various audiences	YES	<u>Essential Concept/Skill Set 17</u> : Analyzes the effects of visual media on society and culture	NO
<u>Essential Concept/Skill Set 8</u> : Engages in the information literacy process: Accesses, evaluates, and communicates information and ideas	YES	<u>Essential Concept/Skill Set 18</u> : Uses a range of strategies to interpret visual media	NO
<u>Essential Concept/Skill Set 9</u> : Produces a coherent message	YES	<u>Essential Concept/Skill Set 19</u> : Applies a variety of criteria to evaluate informational media	NO
<u>Essential Concept/Skill Set 10</u> : Participates in a variety of communication situations	YES	<u>Essential Concept/Skill Set 20</u> : Understands how literary forms can be represented in visual narratives	NO

Alignment Report: Alignment of Teachers' Enacted Curriculum to State Standards (Subtopics)



State Standards-HS Literacy Strand: Reading & Speaking	English 9	English 10	English 11	# of Courses	% of Courses
<i>Essential Concept/Skill Set 1 : Independently reads a significant number of books and text each year. This reading should include both fiction and nonfiction in a variety of genres.</i>					
1. Read a significant number of books and texts	x	x	x	3	100%
2. Read a variety of material representing different literary forms and authors	x	x	x	3	100%
a. fiction	x	x	x	3	100%
b. non-fiction	x	x	x	3	100%
c. contemporary literature	x	x		2	67%
d. traditional literature		x	x	2	67%
3. Be able to choose/select independent reading material	x	x	x	3	100%
<i>Essential Concept/Skill Set 6 : Reads with fluency silently and aloud to support comprehension</i>					
1. Varies silent reading rate to match purpose				0	0%
2. Varies silent reading rate to match difficulty of text				0	0%
3. Reads aloud accurately resembling everyday speech			x	1	33%
a. rhythm			x	1	33%
b. flow			x	1	33%
c. meter				0	0%
<i>Essential Concept/Skill Set 13 : Recognizes the role of evaluation in oral communication</i>					
1. Responding to questions and feedback about own presentation				0	0%
2. Accepting feedback respectfully to improve future oral presentations				0	0%
3. Modifying delivery or content during a presentation in response to verbal and nonverbal cues				0	0%

Alignment Report: Alignment of Chapter Test to District's Student Learning Goals (Subtopics)

<i>Section 1: Demographic Information</i>							
School:	North County Middle School	District:	North County ISD	Year:	2007-08		
Test Description:	Ch. 2, G	Content:	Math	Grade/Course:	6th		
<i>Section 2: Key for Interpreting Test-to-Subtopics Alignment Display</i>							
Key:	S = Subtopics-Only Complexity, No Match w/Test	T = Test-Only Complexity, No Match with Subtopics	TS = Test/Subtopic Complexity Agreement				
<i>Section 3: Test-to-Subtopics Alignment Display</i>							
<u>Essential Topic: IV. Pre-Algebra</u>	<u>Test Item</u>	<u>Remember</u>	<u>Understand</u>	<u>Apply</u>	<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
1. Identify and evaluate algebraic expressions	31, 32, 33, 34		S	T		S	
2. Identify and graph ordered pairs on a coordinate plane							
3. Solve equations involving rational numbers	39, 40			TS			
4. Solve inequalities							
Total Number of Subtopics =	4	#T =	1	#S =	2		
Number of Subtopics tested =	2	#TS =	1	#TS+#S =	3		
Recentered Percent of Subtopics tested =	50%		% Recentered CC Alignment =		33%		
<u>Essential Topic: V. Probability and Statistics</u>	<u>Test Item</u>	<u>Remember</u>	<u>Understand</u>	<u>Apply</u>	<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
1. Collect and organize data							
2. Analyze data using bar graphs, histograms, line graphs, circle graphs, and stem-and-leaf plots							
3. Review the range, mean, median, and mode for a collection of data							
4. Use the counting principle and tree diagrams to identify the number of possible outcomes							
5. Determine the probability of events							
Total Number of Subtopics =	5	#T =	0	#S =	0		
Number of Subtopics tested =	0	#TS =	0	#TS+#S =	0		
Recentered Percent of Subtopics tested =	0%		% Recentered CC Alignment =		#DIV/0!		
<i>SECTION 4: UNMATCHED TEST ITEMS</i>							
<u>Essential Topic 999. Other</u>	<u>Test Item</u>	<u>Remember</u>	<u>Understand</u>	<u>Apply</u>	<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
Items Not Testing Any Subtopics	5						
	18						
	23						

Alignment Report: Alignment of Chapter Test to District's Student Learning Goals (Subtopics)

<i>Section 5: Item Complexity Distribution</i>						
<u>Item</u>	<u>Remember</u>	<u>Understand</u>	<u>Apply</u>	<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
1	X					
2		X				
3		X				
4		X				
5		X				
6			X			
7			X			
8			X			
9		X		X	X	
10			X			
11			X	X		
12			X			
13			X			
14			X			
15			X			
16			X			
17			X			
18		X				
19			X			
20		X				
21			X			
22	X					
23		X				
24			X			
25			X			
26			X			X
31			X			
32			X			
33			X			
34			X			
39			X			
40			X			