The University of Iowa

Iowa Testing Programs

THE IOWA TESTS®

Alignment to the Common Core

All approaches to alignment share the common goal of describing the match between expectations and assessments. In aligning The Iowa Tests to existing local, district and state content standards an adaption of the research-based Webb alignment has been used. This adaptation was most recently used to align the content of The Iowa Tests to the Common Core State Standards (CCSS). In a manner similar to the content analyses used to define domains for the CCSS, The Iowa Tests were "developed in collaboration with teachers, school administrators, and experts, to provide a clear and consistent framework to prepare our children for college and the workforce" (Common Core State Standard Initiative, 2010).

This document summarizes process used to complete the alignment between the CCSS and The Iowa Tests.

Overview of the Iowa Tests

The Iowa Tests are designed to support large-scale assessment programs by:

- Providing information to support standards-based instructional decisions
- Reporting individual progress and growth to students, parents and educators
- Reporting group progress and growth to educators, administrators and policymakers
- Providing relative comparisons for interpretation of assessment results

The test framework for The Iowa Tests is an extension of these statements of purpose, expanding the purpose into specific aspects of each domain to be measured. The framework describes the full scope of the test content and relies on a variety of resources for purposes of content validity, including :

- State, professional and international standards
- Curriculum surveys
- NAEP frameworks and test specifications
- Scholarly research
- Feedback from educators, students and parents
- Assessment data

A comprehensive and iterative process based on the content of the framework guides the item design and development, extensive review processes, tryout and field test administrations, and final forms assembly of The Iowa Tests.

Alignment Overview

Comprehensive standards-based education systems demand a link between content standards, curriculum, instruction, assessment and professional development. To be effective, assessments must be aligned to the learning goals specified within content standards. Webb (1997) defines alignment as "the degree to which expectations and assessments are in agreement and serve in conjunction with one another to guide the system towards students learning what they are expected to know and do."

Alignment is a critical component of test validity: the degree to which evidence supports interpretations of test scores. By conducting alignment studies, validity evidence accrues to support the use of test scores by impartial audiences. There are several accepted methods for conducting alignment studies. Some programs have the advantage of developing standards and assessments in sequence, thereby ensuring an alignment between the two. Other programs invite external content experts to help determine the degree to which assessments align with existing standards. Still other programs use a coding system to determine alignment by analyzing standards and assessments independently. In addition, tools and methodologies have been designed to empower state and district educators to conduct their own alignment studies. Many programs use a combination of these approaches in order make certain that the appropriate relationship exists between content standards and the assessments.

Alignment Process for CCSS and The Iowa Tests

Alignment is an integral part of validity. It contributes to the degree to which all evidence for a test supports the intended interpretation of test scores for proposed purposes. To that end, the alignment process described here provides the appropriate evidence to support the use of The Iowa Tests to measure essential content of the Common Core.

Participants. Participants for the alignment of The Iowa Tests to the CCSS include educators, content experts, test developers and measurement specialists. Participants are assigned to the specific grade level or content area according to their area of expertise. The goal is to have each item reviewed and aligned by a team of individuals that represents knowledge of grade-level, content and measurement.

Orientation. The alignment activities used for The Iowa Tests begin with an orientation session in which content experts, test developers and measurement experts are introduced to the process. This introduction explains how the alignment process fits into the overall content validity evidence of The Iowa Tests and describes the basic concepts and procedures involved in conducting the alignment. Primary goals of the orientation are to ensure that all participants understand the context of alignment, become familiar with the expectations of the Common Core Standards, and the content and cognitive specifications of The Iowa Tests.

Categorical Comparisons. The alignment process proceeds with a categorical comparison between the CCSS and The Iowa Tests to establish preliminary validity evidence. The extent to which the same or consistent categories of content appear in the standards and the assessments is determined (CCSSO, 2005) at this point in the alignment process. An analysis of the relationship between the content of the tests and the standards provides important validity evidence to support the use of The Iowa Tests as a measure of the Common Core State Standards. Content experts, test developers and measurement experts conduct a thorough review of the CCSS to determine whether the standards and the assessments cover the same content. The results of these categorical comparisons are outlined below. The shading on the tables indicates content covered by the CCSS, and the check marks (✓) indicate content that is covered on The Iowa Tests. Cells with both shading and check marks indicate alignment.

Common Core State Standards: Mathematics

	Grades						
Domain	**3**	**4**	**5**	**6**	**7**	**8**	**HS**
Counting and Cardinality							
Operations and Algebraic Thinking	✓	✓	✓				
Number and Operations in Base 10	✓	✓	✓				
Number and Operations—Fractions	✓	✓	✓				
Measurement and Data	✓	✓	✓				
Geometry	✓	✓	✓	✓	✓	✓	✓
Ratios and Proportional Relationships				✓	✓		
The Number System				✓	✓	✓	
Expressions and Equations				✓	✓	✓	
Statistics and Probability				✓	✓	✓	✓
Functions						✓	✓
Number and Quantity							✓
Algebra							✓

Common Core State Standards: English Language Arts

	Grades						
Domain	**3**	**4**	**5**	**6**	**7**	**8**	**HS**
READING							
Key Ideas & Details	✓	✓	✓	✓	✓	✓	✓
Craft & Structure	✓	✓	✓	✓	✓	✓	✓
Integration of Knowledge & Ideas	✓	✓	✓	✓	✓	✓	✓
Range of Reading & Level of Text Complexity	✓	✓	✓	✓	✓	✓	✓
LANGUAGE							
Conventions of Standard English	✓	✓	✓	✓	✓	✓	✓
Knowledge of Language	✓	✓	✓	✓	✓	✓	✓
Vocabulary Acquisition & Use	✓	✓	✓	✓	✓	✓	✓

Alignment Process for CCSS and The Iowa Tests (continued)

Item-level Comparisons — Round 1. Once alignment is established at the categorical level, participants must have a good understanding of the items that appear on the assessments with respect to the knowledge, skills and abilities that each assessment item requires students to demonstrate in order to assign the item to an individual standard. Participants spend numerous hours reviewing items and identifying what students must know and be able to do to answer each item correctly. After this intensive item-review process, alignment participants assign each item in The Iowa Tests to a primary standard (and any relevant secondary standards) that best reflects the academic content being tested by that item. Emphasis during the orientation and reviewing stages is placed on both the content and cognitive demand required by the item and implied by the standard. It is imperative that the assessment reflect the type of content, level of cognition, and degree of difficulty reflected in the standards. The goal of Round 1 is for content experts, measurement specialists and test developers to apply a common understanding of both the content of the items and the content standards.

Item-level Comparisons — Round 2. The specific item alignments are completed individually in Round 1. At the beginning of Round 2, results from Round 1 are presented to participants in a group setting to help clarify differences between item-level alignments made by individual participants. A consensus-building process is used in Round 2 to rectify any differences between alignments by individuals. Round 2 of the process allows for a system of quality control, where checks are made to address questions, concerns or differences in ratings that arise during the alignment.

Item-level Comparisons — Round 3. After confirming the alignment of the items, a matrix is developed that contains all standards in each content area for each grade level of interest and the items aligned to the individual standards. This matrix serves as evidence of the alignment between the Common Core State Standards and The Iowa Tests. Review of the matrix by alignment participants serves to validate the overall results and to provide a global view of the correspondence in each content category.

Results. As described above, the goal of the alignment process is to assign individual items to corresponding standards in the Common Core State Standards, taking into consideration the content and cognitive requirements of the items and the standards. Provided are two sample items and the results of their alignment.

References

Common Core State Standards. Retreived from http://www.corestandards.org/about-the-standards.

Webb, Norman L., (1997). *Criteria for Alignment of Expectations and Assessments in Mathematics and Science Education, National Institute for Science Education*, University of Wisconsin-Madison, Washington, DC, the Council of Chief State School Officers.

Overview of The Iowa Tests

Common Core – Reading	
Reading Informational Texts	
Domain	Craft and Structure
Standard	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
Domain	Integration of Knowledge and Ideas
Standard	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Bright lights shine all night in cities, making it easy to work and travel after dark. But unnecessary light at night can be a form of pollution.

As cities have become more brightly lit, stars have become less visible. The nighttime glow of large cities can make the dimmer stars hard to see, even from uninhabited areas many miles from the cities. A truly dark night sky has become as hard to find as unspoiled wilderness. Astronomers now must put their telescopes on islands or high mountains.

Light pollution also affects animals. Newly hatched sea turtles normally make their way from the beach to the safety of the ocean by heading for the natural light reflected on the → water. Bright lights on the land, however, can disorient the baby turtles, leading them away from the ocean.

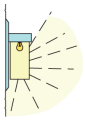
Some cities are trying to reduce light pollution. Covering outdoor lights with shades that direct light downward and turning off unneeded lights are two small ways to help bring back a darker night sky.

1 **In the line marked with →, what does "disorient" mean?**

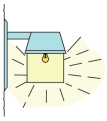
A Hide
B Comfort
C Weaken
D Confuse

2 **Which picture shows a light that helps reduce light pollution?**

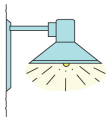
A



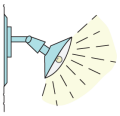
C



B

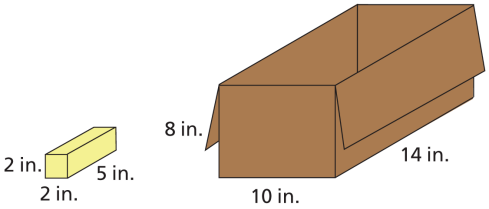


D



Common Core – Mathematics	
Domain	Geometry
Standard	Solve real-world and mathematical problems involving area volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

1 A candle company packages each candle in a box with dimensions 2 inches by 2 inches by 5 inches. The candle boxes will be placed in shipping boxes with dimensions 8 inches by 10 inches by 14 inches.



Candle Box Shipping Box

What is the greatest number of candle boxes that can fit in a shipping box?

A 14
B 23
C 40
D 56

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