



Arkansas Comprehensive Testing, Assessment, and Accountability Program

REPORT INTERPRETATION GUIDE

IOWA ASSESSMENTS™
GRADES 1 AND 2

APRIL 2015 ADMINISTRATION

Arkansas public schools may reproduce this document in full or in part for use with teachers, students, and parents. All other uses of this document are forbidden without written permission from the Arkansas Department of Education. All inquiries should be sent to the Office of Student Assessment at the Arkansas Department of Education, 501-682-4558.

Arkansas Department of Education

Developed at The University of Iowa by

Iowa Testing Programs



Copyright © 2015 by The University of Iowa. All rights reserved. This Report Interpretation Guide may be reproduced with the copyright notice by Arkansas school personnel only. For any other purpose other than internal district use, no part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without the prior written permission of The Riverside Publishing Company unless such copying is expressly permitted by federal copyright law. Requests for permission to make copies of any part of the work should be addressed to Houghton Mifflin Harcourt Publishing Company, 9400 Southpark Center Loop, Orlando, FL 32819-8647; <https://customercare.hmhco.com/permission/Permissions.html>.

2 3 4 5 6 7 8-RRD-19 18 17 16 15

Contents

Introduction	1
The Tests	3
<i>Iowa Assessments</i> Levels 7 and 8 (Grades 1 and 2)	3
Norm-Referenced Test Scores	5
Standard Score	5
Percentile Rank	6
Stanine	7
Normal Curve Equivalent	8
Interpreting Scores: A Caution	9
NRT Scores	11
The Reports	13
List of Student Scores	14
Student Score Labels	16
Class Summary	18
Individual Performance Profiles	20
Class Item Analysis	22
Class Diagnostic Report	24
Suggestions for Improving Achievement	27
Vocabulary	27
Reading	28
Language	30
Mathematics	31
Appendix: Item-Skill Classification Tables	33

Introduction

The Arkansas Department of Education (ADE) in accordance with Act 35 of the Second Extraordinary Session of 2003 requires the administration, scoring, and reporting of a norm-referenced examination. The assessment assists the ADE in implementing those portions of Act 35 requiring the State Board of Education to develop a comprehensive testing and assessment program to serve as a complement to a major criterion-referenced testing (CRT) program that directly measures the state content standards and is the primary instrument for school accountability. The norm-referenced testing (NRT) program helps educators better understand students' academic strengths and weaknesses in order to improve instruction; chart longitudinal growth patterns for students and schools across time; evaluate educational programs; and show Arkansas's leaders, educators, and parents how their students' achievement compares with other students across the nation.

In the spring of 2015, all eligible students in grades 1 and 2 took the *Iowa Assessments*[™]. Students took the Vocabulary, Reading, Language, and Mathematics tests from a secure form of the Complete Battery of the *Iowa Assessments*. All of the tests are in the traditional multiple-choice format. The *Iowa Assessments* are published by Riverside[®] of Rolling Meadows, Illinois.

This *Report Interpretation Guide* is designed to help teachers, counselors, and school administrators understand, explain, and use the results of the *Iowa Assessments*. Students' scores are reported by test and skill area at the individual student level and then aggregated to class/school, district, and state levels.

This guide specifies the tests used for the Arkansas Norm-Referenced Testing Program, describes the scores on the various reports so that proper interpretations can be made, and discusses the various individual, school, and district reports. Test results are one of several sources that provide teachers with an overall understanding of a student's educational development.

The Tests

The *Iowa Assessments* are a standardized achievement test battery. A standardized, norm-referenced test is a test that has been given, using specified directions and under specific conditions, to a group of students that was carefully selected to represent students nationwide. Scores derived from this “standardization” program are the norms that permit the test user to compare student performance with that of this larger representative group. Thus, the norms provide a method for comparing the achievement of specific groups of students in the same grade. Norms also provide a vehicle for comparing the performance of individual students with the performance of students in the national norm group. The spring norms window spans five weeks in April and May.

The norms being used to report scores for the *Iowa Assessments* are the Spring 2011 norms, which are interpolated to the week that included April 1, 2011.

The descriptions that follow briefly summarize the content and skills measured by each test across Levels 7 and 8. Item-skills classifications are provided in the Appendix.

Iowa Assessments Levels 7 and 8 (Grades 1 and 2)

Vocabulary. The Vocabulary tests measure reading vocabulary. A pictorial or written stimulus is followed by a set of written responses. Approximately equal numbers of nouns, verbs, and modifiers are tested. The content focus is on general vocabulary rather than the specialized vocabulary used in such areas as science or math.

Reading. The Reading tests present students with a variety of reading tasks. The first part of the test at each level presents pictures that tell a story. Students must complete sentences about the pictures by choosing a word to fill in a blank. Another part involves reading sentences. Students select a word that best completes each of several sentences. The remainder of the test consists of written stories followed by multiple-choice questions. The questions associated with both the picture stories and written stories often require more than literal comprehension. A number of the questions ask the students to make inferences or to generalize about what they have read.

Language. The Language tests are intended to assess students’ abilities to use some of the conventions of standard written English. The four test parts deal with spelling, capitalization, punctuation, and skill in usage and expression in writing. In all cases, both the question and the set of response choices are read orally by the teacher.

The Spelling tests provide two functions. They furnish not only a separate score for spelling, but they also contribute to the score for Language. Errors in tested words are based on common substitutions and omissions.

Mathematics. The Mathematics tests are administered in two parts. Questions measure the understanding of and ability to apply concepts in the areas of number sense and operations, algebraic patterns and connections, data analysis, geometry, and measurement. In some questions, students solve brief word problems with answer options that include “N,” meaning that the problem solution is not given among the choices presented. For some other questions, students select a number sentence that could be used to solve the problem.

The use of calculators is not permitted during administration of the Mathematics tests. The Mathematics test items were designed to minimize the amount of computational effort the students would need. Therefore, there should be no perceived disadvantage in not using calculators.

Norm-Referenced Test Scores

Scores from a norm-referenced test indicate how a given student's knowledge or skill compares with that of others in the norm group. They do not tell what a student knows or does not know.

The scores reported for the Arkansas Norm-Referenced Testing Program identify a student's relative strengths and weaknesses in the tested areas. Scores can be used to monitor year-to-year growth of students and groups of students in important academic areas.

The following scores are reported for the Arkansas program:

- Standard score (SS)
- National percentile rank (NPR)
- National stanine (NS)
- Normal curve equivalent (NCE)

The scores differ from one another in the kind of information they represent, the precision with which they describe achievement, and the purposes they can serve.

Standard Score

Definition. Standard scores (SS) are produced from a single, equal-interval scale of scores that is continuous from kindergarten through grade 12. Standard scores on the *Iowa Assessments* range from 80 for kindergarten through 400 for grade 12. The range of possible standard scores is different for each grade level.

Uses. The major use of the standard score is to measure achievement growth of students or groups of students from year to year. Within a school or district, successively higher standard scores from grade to grade would be expected.

Limitations. A standard score by itself has little meaning. It can be interpreted only when it is compared with some referent, such as the appropriate average standard score, as shown in the table that follows. The numbers indicate the standard scores that correspond to typical performance of grade groups on the *Iowa Assessments* during the norming period in the spring of the year. For example, a second grader's score of 168 on the Mathematics test means that the student's math performance corresponds to the median SS of the typical second grade student during the same norming period.

Average Standard Scores Complete Battery (Quarter-month of April 1, 2011)

Grade	K	1	2	3	4	5	6	7	8	9
Median SS	130	150	168	185	200	214	227	239	250	260

The scale above shows that average annual achievement growth decreases as students move up from one grade to the next. For example, at the median, the average growth from grade 1 to grade 2 is 18 standard score points, but from grade 8 to grade 9 the average growth is only 10 points. Since it is widely believed that the rate of growth in most achievement areas decreases as grade level increases, the standard score scale reflects typical student development.

Norms for school averages are required to determine the relative status of standard score averages for a given school. The norms for school averages are based on weighted frequency distributions of school averages obtained in the national standardization program. An average standard score was computed for each test at each grade level for each building. The total distribution of these averages provided the basis for the norms for school averages.

Norms for school averages differ markedly from norms for student scores. To begin with, school averages are not as variable as individual student scores. Another difference between norms for school averages and norms for student scores is the median of their respective distributions. Distributions of student scores for all individual tests share a common median at a given grade level, whereas the medians for the distributions of school averages tend to vary across tests within the same grade.

Percentile Rank

Definition. A student's percentile rank shows the student's relative position or rank in a group of students who were in the same grade and who took the tests at the same time of year as the student. A student's national percentile rank (NPR) is the student's standing as compared to a large representative sample of students in the same grade from the entire nation.

Uses. The percentile rank, reported in units that range from 1 through 99, is perhaps the most useful and readily understood score for interpreting student achievement. It describes performance in small, fairly precise units. These units clearly state performance relative to the norm group. For example, if Kara earned a percentile rank score of 72 on the Mathematics test, then she scored the same as or higher than 72 percent of the students in the norm group who were in the same grade and took the same test. Conversely, 28 percent of the students scored higher than Kara.

Limitations. The percentile rank magnifies small differences in the middle raw scores while reducing differences in very high and very low raw scores. This is because the percentile rank is based on the frequency with which each raw score occurred in the norm group and denotes the percentage of individual scores that fell at or below a selected point.

Generally, very high and very low scores are infrequent, while middle scores are frequent. Smaller differences in raw score points are therefore needed to move from one percentile rank to another for middle scores, while greater differences in raw score points are needed to move from one percentile rank to another for very high or very low scores. For example, a difference of only three raw score points might be necessary to move from a percentile rank of 50 to a percentile rank of 55, while a difference of seven raw score points might be necessary to move from a percentile rank of 10 to a percentile rank of 15, or from a percentile rank of 90 to a percentile rank of 95.

Averaging narrows the range of school percentage ranks; therefore, differences between school percentile ranks are very sensitive to relatively small differences from test to test. That is, a large difference in percentile ranks can be caused by small differences in the school averages themselves, especially in the primary grades. Student percentile ranks are less sensitive to minor differences. Substantial discrepancies in student percentile ranks across subject-area tests constitute more dependable evidence of genuine strengths and weaknesses than do more substantial discrepancies in the percentile ranks of school averages.

Stanine

Definition. Stanines express test results in nine equal steps ranging from 1 (lowest) through 9 (highest). The average stanine is a score of 5. Stanines, which are similar to percentile ranks, are relatively easy to use because they are all one-digit numbers. The national stanine (NS) shows a student's standing within the group of students in the same grade who took the test at the same time of year during the national standardization.

In general, stanines 1, 2, and 3 are well below average; 4 is slightly below average; 5 is average; 6 is slightly above average; and 7, 8, and 9 are well above average.

Uses. Stanines for groups are useful for broadly identifying areas of curricular strengths and weaknesses that might be represented by a set of test scores. For example, if a stanine of the average standard score is 4 for Reading, the class as a whole is reading slightly below average. A visual display of nine stairsteps can be a helpful interpretive aid during parent conferences or in classroom score interpretation sessions with students.

Limitations. Stanines are less precise than percentile rank (PR) scores. For example, percentile ranks of 24 and 40 both represent a stanine of 4. However, PRs of 23 and 24 are consecutive PRs that represent stanines of 3 and 4, respectively.

Normal Curve Equivalent

Definition. Normal curve equivalents (NCE), derived from national percentile ranks, are normalized standard scores with a mean of 50. NCEs are equal-interval scores that result from dividing the normal curve into 99 equal units. This assures that the differences between NCE units at different positions on the scale are equal, unlike percentile ranks. For example, the difference in performance between NCEs of 50 and 55 is equal to the difference between NCEs of 10 and 15.

The NCE is a *within-grade* standard score that denotes individual or group status within a grade. The full range of NCEs, 1 through 99, may be earned in each grade level with the average NCE always at 50. By contrast, the standard score (described on pages 5 and 6) is an *across-grade* score that can be used to determine growth. Unlike NCEs, the range of possible standard scores is different for each grade level, and the average standard score increases as the grade levels advance.

Uses. NCEs can be interpreted in much the same way as percentile ranks. NCEs may be averaged to describe group performance. For these reasons, NCEs are often used in evaluating results in Title I programs. NCEs used in Title I evaluation must be based on established norms for a particular grade and time of year. This requirement enhances the standardization and comparability of test reporting procedures.

NCEs can be averaged for most groups because of their equal-interval scaling. In this way they are unlike percentile ranks, which cannot be averaged because of their frequency-based scaling. NCEs may be thought of as roughly equivalent to stanines to one decimal place. For example, an NCE of 53 may be interpreted as a stanine of 5.3.

Limitations. Although reporting procedures for various test batteries have been standardized, the NCEs from different test batteries are not interchangeable.

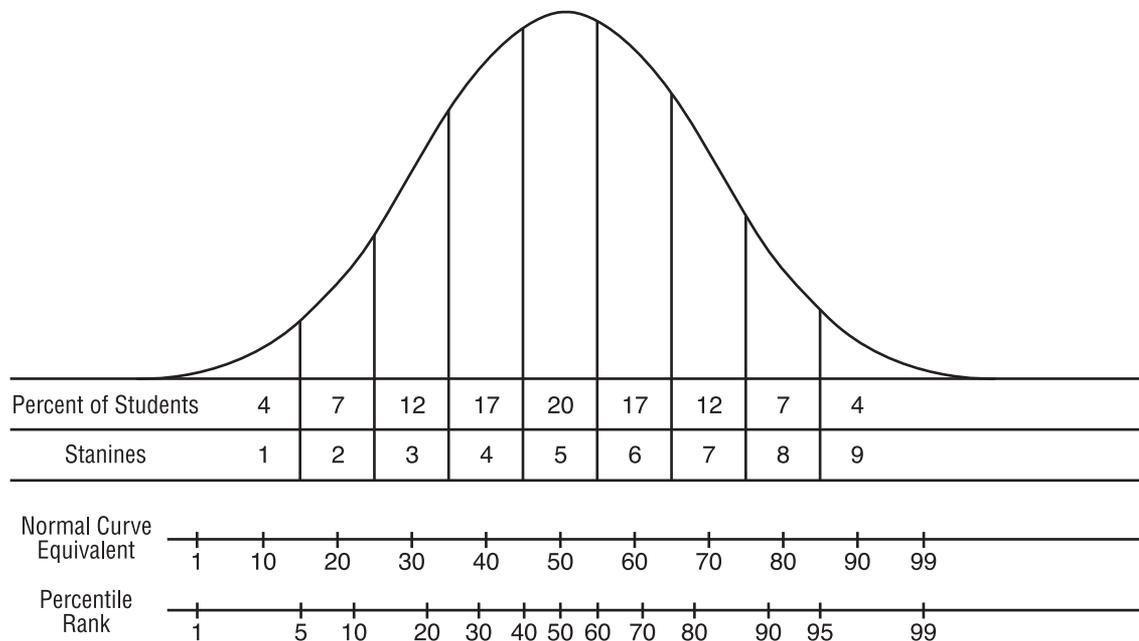
Interpreting Scores: A Caution

There is a degree of measurement error in all scores. If it were possible to administer repeated independent testings, a student's score would not be the same every time but would fall within a range. This range is due to many factors other than knowledge of test content—such as motivation, how the student is feeling, and classroom conditions—that affect student performance on the test at each sitting.

The range within which the scores for these repeated testings would be expected to fall is called an accuracy (or confidence) band. This accuracy band is calculated through use of a statistic called the *standard error of measurement*, a statistical index that represents the reliability factor, or measurement error, in test scores.

Riverside has established a simple method for determining students' relative strengths and weaknesses by using a confidence range that takes into account the standard error of measurement. This rule is 12 points for NCE scores, and it is applicable at all points along the score range because the NCE is an equal-interval scale. When NCEs are used to determine relative strengths and weaknesses, a difference of 12 points between the NCEs in test Totals is considered significant. For example, if Matthew has a Reading Total of 55 and a Mathematics Total of 43, he is considered to have a relative strength in reading.

Relationship of Stanines, Normal Curve Equivalents, and Percentile Ranks



The graph above compares stanines, normal curve equivalents, and percentile ranks. These NRT scores are summarized on the following page.

NRT Scores

Iowa Assessments Comparison of NRT Scores

NRT Scores	Definition	Score Range	Characteristics	Uses	Example	Limitations
Standard Score (SS)	Equal-interval scale of scores that is continuous from kindergarten to grade 12	80–400	<ul style="list-style-type: none"> Shows year-to-year growth Median SS for each grade reflects typical student performance in that grade 	To measure achievement growth from year to year	Sam is in second grade. His Mathematics SS of 168 means that his math level is like that of the typical second grade student in spring.	For interpretation of the SS, a benchmark value associated with typical performance in each grade is needed.
National Percentile Rank (NPR)	Percent of students in the national norm group who earned raw scores the same as or lower than a particular raw score	1–99	<ul style="list-style-type: none"> Shows a student's relative positioning in a group of students in the same grade tested at the same time of year Frequency-based scale 	<ul style="list-style-type: none"> To describe student performance in small, fairly precise units relative to the norm group To describe areas of relative strength and weakness for an individual student, class, or grade group 	Lisa's NPR of 43 for Mathematics means that 43 percent of the national norm group scored at or below Lisa's raw score and 57 percent scored higher.	NPRs cannot be averaged. Group averages must be reported in terms of other scores, such as the NPR of the average SS.
National Stanine (NS)	A grouping of percentile ranks	1–9	<ul style="list-style-type: none"> A stanine of 5 is average; stanines 1–4 are below average; 6–9 are above average Equal-interval scale 	To broadly identify areas of strength and weakness	Lara's stanine of 3 for Reading means that she is in the below average stanine group.	NSs are less precise than percentile ranks.
Normal Curve Equivalent (NCE)	Equal-interval scores that result from dividing the normal curve into 99 equal units	1–99	<ul style="list-style-type: none"> Equal-interval score Scores can be added, subtracted, and averaged 	<ul style="list-style-type: none"> To compare tests in terms of strengths and weaknesses To compare groups of students 	If Tanya's Reading NCE is 46 and her Math Concepts NCE is 58, you can say that she has a relative weakness in reading and a relative strength in math.	NCEs from different test batteries (e.g., the <i>Stanford 10</i> and the <i>Iowa Assessments</i>) cannot be interchanged.
Raw Scores (RS)	Number of test questions student answered correctly	Number of items varies per test	Can be used to calculate percent correct	Can be converted to other scores: SS, NS, NCE, NPR	If Jesse's raw score on a 40-item test is 30, he answered 30 of the 40 items correctly.	Meaning varies from test to test.

The Reports

Districts will receive the following reports:

- List of Student Scores
- Student Score Labels
- Class Summary
- Individual Performance Profiles
- Class Item Analysis
- Class Diagnostic Report

Sample reports are included on the following pages. The reports are located as follows:

Report	Page
List of Student Scores	14
Student Score Labels	16
Class Summary	18
Individual Performance Profiles	20
Class Item Analysis	22
Class Diagnostic Report	24

List of Student Scores

LIST OF STUDENT SCORES Iowa Assessments™

Class: Green
Building: Longfellow
Form-Level: E-7
System: Dalen Community
Test Date: 09/2012
Norms: Fall 2011
Grade: 2
State: State 1
Page: 1



STUDENT NAME ID Number 1 ID Number 2 ABCDEFGHIJKLMNOPZ	Birth Date Age Form	Level (Gender)	ENGLISH LANGUAGE ARTS					MATHEMATICS			CORE COM- POSITE	Social Studies	Science	COM- PLETE COM- POSITE		
			Reading	Language	Vocabulary	Word Analysis	Listening	EXTENDED ELA TOTAL**	Mathematics	Compu- tation					MATH TOTAL	
Aubright, Grace 0000131179	09/04	7 (F)	SS	180	177	200	182				183					
	08-00	E	NPR	92	89	98	92				96					
			GE	3.4	3.3	4.8	3.6				3.6					
Cardomone, Marcus 0000143521	11/04	7 (M)	SS	150	145	145	147				166					
	07-10	E	NPR	32	20	26	24				73					
			GE	1.8	1.6	1.6	1.6				2.6					
DaBrier, Alexa 0000130898	02/05	7 (F)	SS	145	147	157	148				154					
	07-07	E	NPR	20	24	51	27				42					
			GE	1.5	1.7	2.1	1.7				2.0					
Eber, Ethan 0000127631	05/05	7 (M)	SS	186	190	186	188				200					
	07-04	E	NPR	95	96	93	95				99					
			GE	3.8	4.1	3.9	4.0				4.8					
Handerson, Molly 0000133734	12/04	7 (F)	SS	154	164	165	161				150					
	07-09	E	NPR	43	69	68	62				32					
			GE	2.0	2.6	2.6	2.4				1.8					
Konnow, Jasen 0000129642	09/04	7 (M)	SS	141	139	138	139				150					
	08-00	E	NPR	12	9	15	9				32					
			GE	1.4	1.3	1.2	1.2				1.8					
Luxmann, Bailey 0000121684	03/05	7 (F)	SS	190	173	170	178				183					
	07-06	E	NPR	96	84	76	90				96					
			GE	4.1	3.1	2.9	3.3				3.6					
Mabrie, Madyson 0000141922	06/05	7 (F)	SS	126	119	121	122				#					
	07-03	E	NPR	1	1	3	1				#					
			GE	K.5	K.1	K.2	K.1				#					
Robertos, Miguel 0000132808	01/05	7 (M)	SS	170	162	176	167				147					
	07-08	E	NPR	79	64	84	76				25					
			GE	2.9	2.5	3.2	2.7				1.6					
Talagaza, Aaron 0000122173	10/04	7 (M)	SS	149	170	150	160				126					
	07-11	E	NPR	29	81	35	59				2					
			GE	1.7	2.9	1.8	2.3				K.5					

SS = Developmental Standard Score NPR = National Percentile Rank GE = Grade Equivalent NS = National Norm
* = Too few items attempted

Data in the sample reports are for illustrative purposes only.

Order#: 000000000

Copyright © 2011 The Riverside Publishing Company. All rights reserved.



List of Student Scores

The *List of Student Scores* lists students alphabetically with their scores for each test. Students are grouped by class and by grade within each school. The report shown on page 14 is for the Mr. Green’s class at Longfellow School in the Dalen Community School System.

Individual scores are provided for all students who took the tests. Class, school, and norms information are provided in the upper right-hand corner of the report. Student names and other identifying information are provided on the left side of the report. The first row of information for the first student, Grace Aubright, shows that Grace was born in September 2004; she took Level 7 of the *Iowa Assessments*; and she is female. The second line shows that her ID number is 0000131179; she was eight years old when she took the test; and she took Form E of the *Iowa Assessments*. Any program codes would be listed on the third line in the “Program” position. A key for all program codes used in this report is provided below. Any ESI codes and accommodations would be listed on the last line in the “G” and “H” positions. Keys for the ESI codes and accommodations are provided to the right.

The scores reported are standard score (SS), national percentile rank (NPR), and national stanine (NS).

Definition of Program Codes

MG	Migrant
GT	Gifted/Talented
LEP	Limited-English Proficient
O1	Highly Mobile
F/RL	Free and/or Reduced Lunch
MFLEP1	Monitored Former LEP Year 1
MFLEP2	Monitored Former LEP Year 2

Definition of ESI Codes (Column G)

1	Autism
2	Deaf-Blindness
3	Hearing Impairment
4	Mental Retardation (both TMR and EMR)
5	Multiple Disabilities
6	Orthopedic Impairment
7	Other Health Impairment
8	Emotional Disturbance
9	Specific Learning Disability
10	Speech/Language Impairment
11	Traumatic Brain Injury
12	Visual Impairment

Accommodations (Column H)

1	Transferred Answers
2	Recorded Responses
3	Directions Signed
4	Preferential Seating
5	Small Group Testing
6	Individual Testing
7	Read Aloud Math or Writing
8	Magnifying Device
9	Noise Buffers
10	Student Scheduled Individually and Given Extended Time
11	Extended Time
12	Large Print Test Booklet
13	Braille
14	Abacus

Cardomone, Marcus		ID Number 1 0000143521	DOB 11/04	Grade Level 2	Form E	Test Date 09/12	Norms Fall 2011	Calc. ID Number 2	Code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Z	Program	IEP	Iowa Assessments		
Scores Reported	ENGLISH LANGUAGE ARTS										MATHEMATICS				CORE COMPOSITE		Iowa Assessments														
	Reading	Language	Vocabulary	ELA TOTAL	Word Analysis	Listening	EXTENDED ELA TOTAL**	Mathematics	Computation	MATH TOTAL	Science	Social Studies	COMPOSITE	Science	COMPOSITE	COMPOSITE															
SS GE 150	1.8	145	1.6	147	1.6	147	166	2.6	73	6																					
NPR NS 32	4	20	3	24	4	24	73	6																							

Data in the sample reports are for illustrative purposes only.

Student Score Labels

Student Score Labels contain the same information about students that would be found on the *List of Student Scores*. A press-on label from each year of testing can be affixed to a designated area of a student's file, enabling a cumulative record to be kept of a student's *Iowa Assessments* scores.

Up to eight scores can be printed on each label, but one of these scores must always be the national percentile rank (NPR). Others that could be selected include: standard scores, grade equivalents, national stanines, local percentile ranks, local stanines, normal curve equivalents, and raw scores.

The label for Marcus Cardomone is shown on page 16.

Class Summary

CLASS SUMMARY Iowa Assessments™

Class: Green
 Building: Longfellow
 System: Dalen Community
 State: State 1
 Form-Level: E-7
 Test Date: 09/2012
 Norms: Fall 2011
 Grade: 2
 Page: 1

ACTAAP

	ENGLISH LANGUAGE ARTS					MATHEMATICS			CORE COM-POSITE	Social Studies	Science	COM-PIETE COM-POSITE		
	Reading	Language	Vocabulary	ELA TOTAL	Word Analysis	Listening	EXTENDED ELA TOTAL*	Mathematics					Computation	MATH TOTAL
Green Level: 7	14	161.2	14	161.9	14	161.9	13	155.4						
Number of Students Tested = 14	60	29	29	64	36	36	45	31						
Number of Students Included	21	36	50	36	36	36	15	15						
Average Standard Score (SS)	36	21	7	21	21	21	31	23						
National Percentile Rank of Average SS	14	14	7	7	7	7	23	20						
Percent of Students in NPR Range 75-99	2.4	2.4	2.7	2.4	2.4	2.4	2.0	5						
50-74	6	6	6	6	6	6	5	5						
25-49	55	56	62	57	62	57	47	47						
1-24														
Grade Equivalent of Average SS														
National Stanine of Average SS														
Normal Curve Equivalent of Average SS														

Data in the sample reports are for illustrative purposes only.

Order#: 000000000



Copyright © 2011 The Riverside Publishing Company. All rights reserved.

Class Summary

The *Class Summary* is a one-page report that provides the names of the tests administered to the class and descriptors for the data. The data descriptors indicate the total number of students tested and the number of students whose scores are included in the calculations listed for each test. Other descriptors presented are the score types that were selected when the report was ordered.

The sample *Class Summary* shown on page 18 is for Mr. Green's second grade class at Longfellow School in the Dalen Community School System. The students were given the *Iowa Assessments* Form E in September 2012, and the Fall 2011 norms were used to calculate percentile ranks.

The top row of numbers indicates how many students' scores were used to calculate each average score that is reported. In this example, the number varies between 13 and 14. That means that 1 of the 14 students tested was not included in all of the average scores reported for the class. The second row of numbers shows the average standard score (SS) (computed to the nearest tenth) for each test and the Composite. The third row shows the national percentile rank (NPR) that corresponds to the average SS above it.

The next four rows show the percent of students in each of four national percentile rank ranges (75–99, 50–74, 25–49, 1–24). The last three rows show the grade equivalent (GE), the national stanine (S), and the normal curve equivalent (NCE) of the average standard score (SS) reported in the second row.

Note: Because there are no norms for class groups (as there are for individual students and for school buildings), remember that class averages like these need to be interpreted as if they were the scores for the average student in the class.

Individual Performance Profiles

Class: Green
 Building: Longfellow
 System: Dalen Community
 State: State 1

Student: Tokura, Aki
 Student ID: 0000147548
 Form-Level: E-7
 Test Date: 09/20/12
 Norms: Fall 2011
 Grade: 2

PERFORMANCE PROFILE FOR AKI TOKURA Iowa Assessments™



In the upper part of this report, scores are printed for the tests, totals, and composites. Several types of scores are reported, including the NPR and LPR. The NPR represents the percent of students in the same grade throughout the nation with a lower score. The LPR represents the percent of students in the same grade in your local area with a lower score.

The horizontal bands in the NPR Graph illustrate that each score can be thought of as falling within a range. Overlapping bands indicate results that are similar. Bands that do not overlap indicate results that are probably different.

The lower part of the report provides information about the skill domains measured by each test. It also summarizes data by the different levels of cognition required by the items in some tests. The number of items for each domain and cognitive level, the number attempted, the percent correct for the student, and the average percent correct for students in this grade throughout the nation are reported. The difference between the student's percent correct and the national percent correct is displayed as a horizontal bar.

TESTS	SCORES					NPR GRAPH						
	SS	NPR	LPR	GE	NS	LS	NCE	1	25	50	75	99
Reading	150	32	36	1.8	4	4	40					
Language	148	27	31	1.7	4	4	37					
Vocabulary	149	33	37	1.8	4	4	41					
ELA Total	149	29	33	1.7	4	4	38					
Word Analysis												
Listening												
Extended ELA Total**	152	37	41	1.9	4	5	43					
Mathematics												
Computation												
Math Total												
Core Composite												
Social Studies												
Science												
Complete Composite												

Domains/Cognitive Levels	Total No. Items Att.	%C	%C Stb.	Nat. Diff.	Differences	Total No. Items Att.	%C	%C Stb.	Nat. Diff.	Differences
Reading	3	67	59	+8		11	64	77	-13	
Informational Domains	15	60	72	-12		25	68	77	-9	
Literary Domains	11	11	64	73	-9	7	71	81	-10	
Explicit Meaning	12	12	67	80	-13	9	67	81	-14	
Key Ideas	12	12	75	77	-2	5	80	86	-6	
Cognitive Levels	9	9	67	86	-19	7	86	69	+17	
Essential Competencies	17	17	82	79	+3	11	64	77	-13	
Conceptual Understanding	9	9	44	63	-19	25	68	67	+1	
Extended Reasoning	9	9	44	63	-19	5	60	79	-19	
Language	11	11	45	77	-32	5	60	76	-16	
Spelling	5	5	60	76	-16	5	60	76	-16	
Capitalization	5	5	60	55	+5	5	60	55	+5	
Punctuation	13	13	54	66	-12	13	54	66	-12	
Written Expression	17	17	65	74	-9	17	65	74	-9	
Cognitive Levels	12	12	42	66	-24	5	40	62	-22	
Essential Competencies	12	12	42	66	-24	5	40	62	-22	
Conceptual Understanding	5	5	40	62	-22	26	58	69	-11	
Extended Reasoning	5	5	40	62	-22	26	58	69	-11	
Vocabulary	26	26	58	69	-11	26	58	69	-11	
Domains										
Vocabulary Domains										
Phonological Awareness/Decoding										
Identify & Analyze Word Parts										
Listening	13	13	46	68	-22	11	64	77	-13	
Domains	7	7	67	81	-14	25	68	67	+1	
Essential Competencies	9	9	67	81	-14	5	80	86	-6	
Conceptual Understanding	5	5	80	86	-6	7	86	69	+17	
Extended Reasoning	7	7	86	69	+17	11	64	77	-13	
Computation	25	25	68	67	+1	5	60	79	-19	
Domains	5	5	60	79	-19	5	60	79	-19	
Compute with Whole Numbers	5	5	60	79	-19	5	60	79	-19	
Social Studies	11	11	64	77	-13	11	64	77	-13	
Domains	11	11	64	77	-13	11	64	77	-13	
History	11	11	64	77	-13	11	64	77	-13	
Geography	11	11	64	77	-13	11	64	77	-13	
Economics	11	11	64	77	-13	11	64	77	-13	
Civics & Government	11	11	64	77	-13	11	64	77	-13	
Cognitive Levels	25	25	68	67	+1	25	68	67	+1	
Essential Competencies	25	25	68	67	+1	25	68	67	+1	
Conceptual Understanding	25	25	68	67	+1	25	68	67	+1	
Extended Reasoning	25	25	68	67	+1	25	68	67	+1	
Science	11	11	64	77	-13	11	64	77	-13	
Domains	11	11	64	77	-13	11	64	77	-13	
Life Science	11	11	64	77	-13	11	64	77	-13	

Data in the sample reports are for illustrative purposes only.

SS = Developmental Standard Score NPR = National Percentile Rank of Average SS LPR = Local Percentile Rank GE = Grade Equivalent of Average SS NS = National Stanine of Average SS LS = Local Stanine NCE = Normal Curve Equivalent of Average SS
 A plus sign (+) or a minus sign (-) in the difference graph indicates that the bar extends beyond +/- 20.
 Numbers may not sum to 100% due to rounding %C = Percent Correct No. Att = Number Attempted
 Order #: 000000000

Individual Performance Profiles

A profile report focuses on content and is especially useful for explaining test results in parent conferences. It contains normative data for each content area and indicates the student's performance on the skills assessed in each content area. The bar graphs illustrate the student's strengths and weaknesses. Together with portfolios and other work samples, this report can be used to describe student performance. The report for Aki Tokura is shown on page 20.

Student identification information is reported in the upper right-hand corner. This report is for Aki Tokura, who is in second grade at Longfellow School in the Dalen Community School System. This student took Level 7 of the *Iowa Assessments Form E* in September 2012, and the norms being used to report the scores are the Fall 2011 norms (which are interpolated to the week that included April 1, 2011).

The score profile section in the upper left-hand corner lists the tests Aki took and the various scores requested when the report was ordered: standard score (SS), national percentile rank (NPR), local percentile rank (LPR), grade equivalent (GE), national stanine (NS), local stanine (LS), and normal curve equivalent (NCE). The NPRs are graphed for each test in the area just to the right. The low range encompasses national percentile ranks 1 through 25; the middle range, 26 through 74; and the high range, 75 through 99. Aki's NPRs range from 27 for Language to 37 for Mathematics. To the right of the bar graph display, there is interpretive information about how to use the scores and graphs from the tests. The legend at the bottom of the page shows the meanings of the abbreviations used for the scores in the profile section.

The lower part of the report indicates the number of test items for each domain and cognitive level within each individual test. The total number of items in the skill area ("Total Items"), the number of items the student attempted ("No. Att."), the percent of questions the student answered correctly on a skill ("%C Stu."), and the percent correct score of a typical student in the nation in the same grade at the same time of year ("%C Nat.") are reported. The last column shows the difference between the student's score and the national average. A bar graph illustrates the student's performance compared with the national average on the skills assessed in each content area. Bars to the left are negative values; those to the right are positive values. When a difference is larger than 20, a plus sign (+) or a minus sign (-) appears at the end of the bar.

Three **cognitive levels**, which provide a hierarchy of critical-thinking skills, are reported in the Domain/Cognitive Levels section.

Level 1 – Essential Competencies: This level involves the recall of information such as fact, definition, term, or simple one-step procedure.

Level 2 – Conceptual Understanding: This level involves the engagement of some cognitive processing beyond recalling or reproducing a response. A conceptual understanding item requires students to make some decisions as to how to approach the problem or activity and may imply more than a single step.

Level 3 – Extended Reasoning: This level requires problem solving, planning, and/or using evidence. Items require students to develop a strategy to connect and relate ideas in order to solve the problem while using multiple steps and drawing upon a variety of skills.

Arkansas students did not take the Word Analysis, Listening, Computation, Social Studies, or Science tests; therefore, no data will be reported for these tests.

Class Item Analysis

CLASS ITEM ANALYSIS Iowa Assessments™

Class: Green
Building: Longfellow
System: Dalen Community
State: State 1

Form-Level: E-7
Test Date: 09/2012
Norms: Fall 2011
Grade: 2

Page: 1



Number Tested = 14		14				30				70				Class/Nation Difference		
Item No.	Item Description	N=	Item Count	Class %C	Bldg. %C	Sys. %C	Nat. %C	Diff.	%C	Bldg. %C	Sys. %C	Nat. %C	Diff.	%C	Class/Nation Difference	
Reading																
Explicit Meaning and Ideas																
12	Understand stated information	11	81	83	90	88	88	-3	3	92	90	90	87	5	0	
13	Understand stated information		85	83	90	82	82	3	3	100	100	100	82	18	0	
14	Understand stated information		92	97	95	75	17			85	87	88	88	-3	0	
15	Understand stated information		92	93	95	89	3			100	93	95	91	9	0	
16	Understand stated information		77	83	82	76	1			92	90	88	81	11	0	
17	Understand stated information		85	87	87	68	17			92	93	90	86	6	0	
19	Recognize stated information		69	73	72	81	-12			69	67	72	83	-14	0	
22	Understand stated information		69	63	68	49	20			36	37	38	34	2	0	
25	Recognize stated information		62	67	66	65	-3			69	73	72	73	-4	0	
29	Recognize stated information		85	83	69	63	22			85	87	83	79	6	0	
32	Understand stated information		85	90	90	65	20			62	63	67	71	-9	0	
Implicit Meaning																
5	Draw conclusions/make inferences	12	88	90	92	80	5			69	67	67	67	2	0	
6	Discern traits/feelings/motives		92	90	94	92	0								0	
7	Discern traits/feelings/motives		92	93	95	86	6								0	
10	Draw conclusions/make inferences		100	97	100	88	12								0	
18	Draw conclusions/make inferences		85	87	89	84	1								0	
21	Draw conclusions/make inferences		100	100	100	96	4								0	
24	Draw conclusions/make inferences		69	73	74	56	13								0	
26	Draw conclusions/make inferences		69	80	78	68	1								0	
27	Discern traits/feelings/motives		100	97	98	77	23								0	
28	Draw conclusions/make inferences		85	87	90	65	20								0	
30	Draw conclusions/make inferences		100	100	100	89	11								0	
31	Make predictions		77	87	92	77	0								0	
			85	87	88	60	25								0	

Data in the sample reports are for illustrative purposes only.

A plus sign (+) or a minus sign (-) in the Difference graph indicates that the bar extends beyond +/-20.
%C = Percent Correct

Copyright © 2011 The Riverside Publishing Company. All rights reserved.

Order#: 000000000
Houghton Mifflin Harcourt

Class Item Analysis

The sample *Class Item Analysis* shown on page 22 is one page from a multipage report that provides the following information.

The area at the very left in the report lists the number of students tested followed by item numbers and descriptions by content categories or domains.

The next area lists the numbers of students included in the average scores on the report. It also presents the following data:

Item Count – Total number of test items in each domain within the test

Class %C – Average percent correct for the class

Bldg. %C – Average percent correct for all classes taking this level of the test in the building

Sys. %C – Average percent correct for all classes taking this level of the test in the school system

Nat. %C – Average percent correct for students in this grade throughout the nation

Diff. – Difference between the average percent correct for the class and for students in this grade throughout the nation

A negative value in the Difference column means that the class average score is lower than the national average.

The next area, Class/Nation Difference, shows a graphical representation of the difference between the class average percent correct and the national average percent correct for each domain and each item. Bars to the left are negative values; those to the right are positive values. The varying directions and lengths of these bars make it easy to identify skills that may represent the class's stronger or weaker areas of performance compared with students in the nation. When a difference is larger than 20, a plus sign (+) or a minus sign (–) appears at the end of the bar.

This report is page 1 of a *Class Item Analysis* for Mr. Green's second grade class at Longfellow School in the Dalen Community School System. The students were given Level 7 of the *Iowa Assessments Form E* in September 2012, and the Fall 2011 norms were used to calculate percentile ranks. Fourteen students took the test.

This page of the report lists the three domains within the Reading test: Explicit Meaning and Ideas, Implicit Meaning, Key Ideas. The items that measure each domain are listed. The remainder of the Reading test items as well as additional tests would be listed on subsequent pages of the report. In general, this class performed higher than the national average percent correct on all domains and on most of the items. In particular, the class performed significantly higher in the Implicit Meaning domain (88) compared to the national average (80), but it did not outperform the building average (90) or the system average (92).

Class Diagnostic Report

This report provides percent-correct scores for each test and skill domain for all students in a given class. The sample *Class Diagnostic Report* on page 24 is one page from a multipage report that provides the following information.

The box in the upper left-hand corner of the report shows a **testing summary** that sets out the number of students tested and the number of students whose scores are included in the group averages on the report for each test.

The report also lists the skill domains and cognitive levels assessed in each test. The number of items is listed for each domain and cognitive level. Additional pages are used to present all the tests taken.

Skill domains relate specifically to the subject being assessed. For example, skill domains for the Mathematics test are Number Sense and Operations; Algebraic Patterns and Connections; Data Analysis, Probability, and Statistics; Geometry; and Measurement.

Three **cognitive levels**, which provide a hierarchy of critical-thinking skills, are also reported.

Level 1 - Essential Competencies: This level involves the recall of information such as fact, definition, term, or simple one-step procedure.

Level 2 - Conceptual Understanding: This level involves the engagement of some cognitive processing beyond recalling or reproducing a response. A conceptual understanding item requires students to make some decisions as to how to approach the problem or activity and may imply more than a single step.

Level 3 - Extended Reasoning: This level requires problem solving, planning, and/or using evidence. Items require students to develop a strategy to connect and relate ideas in order to solve the problem while using multiple steps and drawing upon a variety of skills.

The **average percent correct** scores for each test, domain, and cognitive level for the nation, school system, and class are listed, and percent-correct scores for each student are also shown.

This sample *Class Diagnostic Report* is for Mr. Green's second grade class at Longfellow School in the Dalen Community School System. The students took Level 7 of the *Iowa Assessments Form E* in September 2012, and percent-correct scores were calculated.

Fourteen students were tested, but either 12 or 13 students were included in the average scores for the class. Students who tested with a different test level or whose scores were excluded from the class average by the school system are not included in the class average scores. This class performed higher than the national average on the Reading, Language, and Vocabulary tests, but lower in Mathematics. The class performed slightly higher than the school system average in Mathematics, but lower than the school system average on Reading, Language, and Vocabulary.

Vocabulary

Students' abilities to communicate effectively and to learn new ideas are heavily dependent upon the extent of their vocabulary development. Teachers can foster this development by providing (a) systematic instruction in new words and their meanings, (b) spontaneous instruction whenever the opportunity arises, (c) experiences such as field trips that provide natural occasions for learning new words, and (d) enjoyable opportunities to listen to stories, videos, and tapes in which new words can be heard and learned. Particularly in kindergarten and first grade, students' vocabularies grow almost exclusively through listening.

Because students need opportunities to hear or read new words and then to use those words themselves, vocabularies develop relatively slowly. Consequently, instruction in vocabulary should be continuous and should be integrated into all academic activities. The following suggestions might be incorporated into your planned vocabulary instruction.

- Keep the emphasis on meaning rather than on mechanical pronunciation of words.
- Teach words in context rather than in isolation.
- Encourage students to ask about any unusual or confusing words as they encounter them.
- After field trips or other such activities, make lists on the board of words that were "discovered." Discuss their meanings and, as appropriate, their spellings.
- Encourage students to use new words in sentences, both orally and in writing. They will probably be more interested in trying to incorporate newly learned words into their vocabularies if the teacher also uses the new words.
- When words are misused, compare the misused word to the appropriate word. ("That jacket is mind." versus "That jacket is mine.")
- Encourage children of different language backgrounds to share interesting words, concepts, and idioms.

Reading

Students' growth as readers is influenced by many factors such as their personal interests and motivation, the opportunities for reading that are available to them in school and at home, and their language, vocabulary, and concept development. The general suggestions below offer ideas for increasing students' engagement and motivation and for encouraging frequent reading. More specific suggestions for promoting comprehension are also given. These ideas are intended to help students become reflective and thoughtful readers who monitor their own comprehension as they read.

Suggestions for Improving Reading Comprehension

- Offer students plenty of opportunities to express themselves through writing and drawing. This is one way they can share their ideas with others. Writing words and sentences can also help young children learn to listen for the sounds that make up words.
- Provide a classroom environment that is rich in print. Label classroom objects. Hang posters and signs that feature words. Post sight words or word families on the wall and make these words the focus of learning activities.
- Daily independent reading in books and materials of their own choice is important for young readers. Help students learn to select books wisely, both those that are relatively easy, for building fluency, and those that are well matched to their reading level and interests. Make available a wide variety of fiction and nonfiction so that children will be able to find reading materials they enjoy.
- Direct instruction in matching print to sound is helpful for most beginning readers. However, skills instruction and word identification should not become ends in themselves. Even for the youngest readers, meaning should be at the center of reading instruction.
- At the beginning of a book or reading assignment, read a portion of the text aloud to build momentum and interest. Occasionally interrupt to pose focusing questions. Reading aloud is a good way to build students' vocabularies and conceptual knowledge and to improve their comprehension.
- Daily independent reading, both in school and at home, of materials of their own choice is another important way for readers to build vocabulary and conceptual knowledge as well as to establish a lifelong interest in reading. Students may need help learning to select books that are well matched to their reading level and interests. At the same time, let them know that relatively easy books, which can build confidence and fluency, are good choices for independent reading, too. Make available a wide variety of fiction and nonfiction so that children will be able to find reading materials they enjoy.
- Encourage students to see the relevance of what they read by relating text materials to everyday situations. For example, help them relate topics in history or science to current events and relate themes in literary selections to situations in their own lives.
- Have students keep reading journals in which they make personal responses as they progress through a book. Prompt their thinking with thought-provoking questions.
- Model your own process of responding to a text by sharing aloud some of the questions and tentative assumptions you make as you read something with the class, particularly something challenging, such as a poem or a primary source written in an unusual style.

- Encourage students to be aware of their purposes for reading and to modify the way they approach the text in various tasks. For content that is particularly difficult, students should be encouraged to read much more deliberately than they would normally and to take notes as they work their way through the text.
- Be sure students are aware of organizational features of their textbooks and how section heads, margin notes, and other support features can aid their reading.

Suggestions for Improving Factual Comprehension

- In discussions and in writing about people, places, events, or ideas from their reading, encourage students to say things in their own way rather than simply repeat the language of the text. Ask questions that cannot be answered by “word-matching.”
- When students come across key words that they do not know, encourage them to try to identify them using their knowledge of letter-sound relationships and word structure as well as clues from the language and meaning of the text.
- Encourage students to think of what they already know about the subject of the text they will be reading. If there is cultural or historical context for a piece of writing, familiarize students with that information.
- Encourage students to be aware of their level of understanding as they read. Skilled readers routinely monitor their own comprehension, pausing during reading to consider and either question or accept what they have just read before going on.

Suggestions for Improving Inferential and Interpretive Information

- In writing about and discussing their reading, encourage students to reach conclusions that require interpretation and inference. Have students support their ideas with information from the text.
- Have students examine the motivations and feelings of characters. Ask them to consider how they would react or feel if they were in the character’s situation.
- Encourage students to go beyond the text in their responses to their reading. Ask them to predict what is likely to happen next or to suggest alternative endings to stories.
- When an author uses words in an unusual or creative way, have students discuss what the author’s meanings might be and what effect this wording might have on the reader.

Suggestions for Improving Analytic Understanding

- Give students practice in summarizing the main idea or key points of a piece of writing.
- Give students reading materials that offer them the opportunity to differentiate between facts and opinions.
- Encourage students to consider what the author’s purpose might be.
- Help students to consider how the author has used language to achieve certain effects, such as mood or a vivid image.
- Help students learn to identify some of the common ways in which authors develop ideas, such as giving examples, comparing and contrasting, or relating events in chronological order. Show how these techniques can be applied in students’ own writing.
- Have students judge the adequacy of supporting information in a persuasive or an expository piece.

Language

In the primary grades, language skills used in writing generally are developed best through the actual writing, revision, and reflection of student experience. Models they see in their reading and feedback they obtain from their teacher and peers help to shape this development. Some teachers use daily oral language exercises to introduce students to new writing skills or to monitor the use of skills previously taught. Some of the suggestions given below in each language test area might be useful supplements to your current instructional practices.

Suggestions for Improving Spelling Ability

- Together with students, develop a list of reasons why good spelling is important. Students should realize that good spelling aids communication and is rewarded in school and socially. Encourage students to take pride in being good spellers. How well a student learns to spell depends largely upon interest and desire to improve.
- Direct students' attention to similar spellings for certain words. Encourage them to use the word recognition skills learned in reading to figure out how certain words are spelled.
- As students improve their writing skills, help them understand the role of inventive spelling and the need for standard spelling conventions.
- Have students focus on learning to spell words that come up in the reading and writing they do in class. Students are more likely to remember and reuse new words they have encountered in a practical context.

Suggestions for Improving Skills in Capitalization

- Point out uncommon capitalization situations that appear in reading assignments. Discuss why some words are capitalized and others are not.
- Expect careful use of capitals in written work in all curricular areas.
- Have students edit their own papers or those of others with special reference to capitalization.
- Use oral and written language exercises that emphasize the types of situations that you have identified as causing difficulty.
- Have students compile a list of words that they frequently fail to capitalize or that they frequently over-capitalize. Help students become aware of the rules covering such situations, and use oral language exercises emphasizing these special situations.

Suggestions for Improving Skills in Punctuation

- Emphasize the importance of punctuation during oral reading. For example, show how the meaning of the words "Look out" changes when followed by a period, a question mark, or an exclamation mark.
- Have students note the rules of punctuation they have the most trouble with. Encourage them to focus on these rules as part of their revision process.
- Give students practice at revising or inserting correct punctuation into pieces that have punctuation errors or that are not punctuated at all.
- Construct oral or written lessons for punctuation rules that seem particularly difficult to students in the class.

Suggestions for Improving Usage

- Help students to recognize usage errors in their own writing. Provide focused mini-lessons to help them learn how to correct these errors.
- Hand out readings with nonstandard usage to students. Have students revise the readings so that they reflect correct usage. Ask them to explain the changes they made.
- Because usage is influenced by attitudes as well as knowledge, try to convince students of the importance of appropriate usage in everyday situations.

Mathematics

The mathematics tests reflect the content and process emphases of the *Principles and Standards for School Mathematics* published by the National Council of Teachers of Mathematics (NCTM) in 2000. The NCTM standards encourage teachers to expand students' understanding of mathematics concepts and to promote mathematical thinking and reasoning. The following are only a few of the ways in which teachers can assist students' mathematical development.

- Engage students in thinking and talking about mathematical ideas they encounter in their daily lives. Draw attention to number concepts, geometry relationships, and other mathematical concepts that appear in their general reading.
- Use writing activities and oral presentations to develop students' ability to communicate mathematical ideas and to establish connections between math and other curricular areas.
- Assist students in learning a variety of estimation strategies and in recognizing which strategy might give the best estimate for a specific situation.
- Present problem-solving situations as a context for introducing new concepts, and lead students in discovering how tools such as geometry and measurement help solve important problems at home and in the workplace. Relate geometric shapes and patterns to processes in artistic creation.
- Use estimation and analogy to build a mental picture of the magnitude of quantities that are not readily measurable in real life.
- Help students see that mathematics is not an isolated activity confined only to "math time" but instead is a tool that can be used for solving problems that arise during cooking projects, science activities, and art experiences.
- Addition and subtraction are easier for children to grasp in earlier grades if they can "put together" or "take away" actual objects. Rocks, buttons, straws, or macaroni pieces can be manipulated by students as they learn to add or subtract. This makes their understanding of mathematical operations more concrete.
- The ability to compare objects in size, length, or weight forms an important basis for more advanced mathematical activities. One way to provide practice in comparison is by playing adaptations of simple games like "Red Rover"—one could ask anyone who is shorter than a certain child or taller than the teacher's chair to "come over."
- Allow students to help distribute papers, materials, or snacks to the other children in the class as an opportunity to illustrate the notion of one-to-one correspondence. Ask the student distributing materials whether he or she ran out or had extras or whether there was just one item for each child.

The NCTM *Principles and Standards for School Mathematics* recommends that teachers emphasize problem solving. Teachers are urged to lead students in asking questions, describing the problem, choosing from alternative methods, obtaining and interpreting data, evaluating the proposed solution, and presenting the results. Extending problem-solving skills to such content areas as measurement, geometry, algebra, statistics, and probability is especially important. The following ideas might be used to help students learn to solve math problems and to obtain and interpret data to answer questions.

- Encourage students to identify and verbalize math problems about situations they encounter in and out of the classroom. Have them translate their verbal descriptions into mathematical sentences that can be used to solve the problem.
- Help students consider strategic questions such as “What do I want to find out?”, “What facts are given?”, and “What information is needed?”
- Encourage students to collect and organize data to answer questions they have posed and make frequent use of graphs and tables. Ask them to create visual aids to effectively present their findings to the class. Examples of good and bad ways of displaying data need to be analyzed and discussed.
- Encourage students to share examples of “bad statistics” from newspapers, magazines, and television and radio programs.
- Demonstrate and provide practice with problem-solving strategies such as trial and error, process of elimination, looking for a pattern, using manipulatives, making a table or graph, drawing a picture, or acting out the problem.
- Support the students’ use of a variety of ways to solve problems. After a correct solution has been found, explore alternative ways to solve the problem. Use estimation and mental computation to decide whether an answer is reasonable.
- Give students the opportunity to explore more complex situations in small groups with particular emphasis on multiple-step and nonroutine problems.
- Assist students in using technology to work on complicated situations.
- Present a variety of problem contexts, including problems involving measurement, geometry, patterns, and concepts of chance.
- Provide students with practice in analyzing trends and drawing conclusions.
- Provide as many opportunities for problem solving as time allows. Research suggests that practice is an important condition for becoming a good problem solver.

Iowa Assessments Reading Item-Skill Classifications

Process Skills	Level 7 (Grade 1)	Level 8 (Grade 2)
Vocabulary		
Use context to determine meaning	–	20, 29
Explicit Meaning		
Recognize stated information	19, 25, 29	2, 19
Understand stated information	12-17, 22, 32	12-18, 21, 22
Implicit Meaning		
Discern traits, feelings, or motives	6, 7, 27, 30	8, 10, 23, 24, 30
Draw conclusions or make inferences	5, 10, 18, 21, 24, 26, 28	1, 3, 5, 6, 27
Make predictions	31	9, 11
Key Ideas		
Connect or extend ideas	20, 34, 35	26, 31-38
Identify central ideas and their support	1-4, 8, 9, 11	4, 7, 25
Synthesize or summarize information	23, 33	–
Author's Craft		
Identify purpose or viewpoint; distinguish fact from opinion	–	28

Iowa Assessments Language Item-Skill Classifications

Content Skills	Level 7 (Grade 1)	Level 8 (Grade 2)
Spelling		
Consonants	3, 6, 10	1, 6, 11
Suffixes	11	4, 9
Vowel/consonant combinations	2, 8	2, 3
Vowels	1, 4, 5, 7, 9	5, 7, 8, 10
Capitalization		
Dates/holidays	16	–
Names/titles	15	15, 18
Place names	–	12, 16
Writing conventions	12-14	13, 14, 17
Punctuation		
Comma	19	21, 24
End Punctuation	17, 18, 20, 21	19, 22, 25
Apostrophe	–	20, 23
Written Expression		
Modifiers	23, 26, 34	26, 28, 30, 34, 35, 41
Nouns	25, 27	40
Pronouns	29, 32	33, 36, 39
Verbs	22, 24, 28, 30, 31, 33	27, 29, 31, 32, 37, 38, 42

Iowa Assessments Mathematics Item-Skill Classifications

Content/Process Skills	Level 7 (Grade 1)	Level 8 (Grade 2)
Number Sense and Operations		
Demonstrate ways of performing operations	36-41	41-46
Describe and apply properties of numbers	10	5
Estimate and round real numbers	20	25
Represent, compare, and order numbers	1, 9, 12, 16, 23	1, 3, 11, 12, 20, 22
Use place value and write numbers in standard, expanded, and exponential form	–	14
Algebraic Patterns and Connections		
Explore numerical patterns	19	13
Solve equations/inequalities	21	19
Use and interpret operational and relational symbols	4, 7, 11, 14, 26	10, 23
Use expressions and equations to model situations	–	4, 37-40
Data Analysis, Probability, and Statistics		
Interpret data and make predictions	27-35	27-36
Geometry		
Describe geometric properties, patterns, and relationships	5, 13, 24	8, 17, 26
Identify, classify, and compare geometric figures	2, 17	6, 18
Measurement		
Estimate measurements with appropriate precision	22	16
Identify and use appropriate units of measurement and measurement tools	6, 15	24
Measure length/distance, time, temperature, weight, mass, and volume	3, 8, 18, 25	2, 7, 9, 15, 21

ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

DEVELOPED FOR THE ARKANSAS DEPARTMENT OF EDUCATION, LITTLE ROCK, AR 72201