No Child Left Behind Growth Model Pilot Proposal

U. S. Department of Education

Submitted by:

Iowa Department of Education

January 19, 2007
Revised April 30, 2007

Contact Information:

Judy Jeffrey, Director
Iowa Department of Education
400 E. 14th Street
Des Moines, IA 50319
(515) 281-3436
judy.jeffrey@iowa.gov

Pamela Pfitzenmaier, Administrator
Division of PK-12 Education
Iowa Department of Education
400 E. 14th Street
Des Moines, IA 50319
(515) 281-3333
pam.pfitzenmaier@iowa.gov

Tom Deeter, Lead Consultant
Bureau of Instructional Services
Iowa Department of Education
400 E. 14th Street
Des Moines, IA 50319
(515) 242-5616
tom.deeter@iowa.gov

STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF EDUCATION
JUDY A. JEFFREY, DIRECTOR

October 31, 2006

Dr. Catherine Freeman
Office of Elementary And Secondary Education
United States Department of Education
Federal Office Building – 6
400 Maryland Avenue, SW
Washington, DC 20202

Dear Dr. Freeman:

On behalf of the Iowa Department of Education, I am pleased to submit Iowa's application for consideration under the NCLB Growth Model Pilot. We believe our application is consistent with the core principles Secretary Spellings established in her letters of November 21, 2005, and October 11, 2006, to Chief State School Officers as well as consistent with the key educational principles that Iowa educators, parents, and citizens have long valued.

In Secretary Spellings' letter of March 31, 2006, it was determined that our previously submitted growth model proposal did not meet two of the conditions for review. We wish to assure you that both conditions now are met. First, Iowa will have two years of data in 2006-07 for all students in grades 3-8 and 11. Second, elementary teachers who are new to the profession are being assessed using the Praxis II exam. Further, we have submitted all requested revisions for Iowa's standards and accountability system. We anticipate receiving full approval following additional peer review. In addition, we have revised our Highly Qualified Teacher plan and our equity plan and submitted the documents for peer review. We believe all issues related to HQT are now clarified and resolved.

Our growth model application is built upon the long-held conviction that Iowa schools and districts should be committed to overall improvement and individual student growth. The growth model proposed allows us to better identify and focus improvement resources on those schools most in need while recognizing those schools where students achieve significant growth. We know that some of our schools have student achievement levels that are below proficiency targets but are making great strides in educating their low-achieving students toward proficiency. The growth model will pinpoint such schools so that they can be studied to learn what strategies they are implementing so that we can share those practices with other less successful schools. We wish to note that our statewide averages indicate that districts are making progress to close achievement gaps, especially at grade 11 for Hispanic, low SES students, students with IEPs, and English language learners.

We also recognize that we have some schools that are below proficiency targets and that are not successfully educating their low-achieving students toward proficiency. The growth model will allow us to better identify and customize our support team resources.

Of primary significance is the message that the growth model sends to educators and students in schools with the most challenges. "Growth" recognizes that even if students enter school achieving below proficiency, the hard work of the students and educators in these schools can yield benefits. Their concentrated efforts can make a measurable difference for students and growth can and will be recognized and rewarded. The use of growth also sends the right message to parents and the public: All students, regardless of their "starting point" in achievement, are capable of growth and of being on a pathway for academic proficiency and success in a career and/or postsecondary education. This proposed growth model is the starting point for long-term development of a system that will incorporate the monitoring of growth at <u>all</u> stages of the developmental continuum, not just for those who are not proficient.

I wish to affirm that our application demonstrates an adherence to the above convictions as well as to the seven principles Secretary Spellings outlined to us on November 21, 2005, and October 11, 2006:

- We define Adequate Yearly Growth (AYG) as more than a typical year's growth in a year's time.
- We base our growth determination on student achievement, rather than on demographic variables.
- We have a process for making separate accountability decisions for reading and mathematics.
- Schools and districts are held accountable for the performance of all students and all subgroups.
- We have a historical database of vertically scaled assessments that yield comparable results across grades and years. At the end of the 2006-07 school year, we will have two years of data for all students in all public schools, grades 3-8 and 11.
- We have unique student identifiers capable of tracking student progress over grades and years.
- We will continue to use the current Adequate Yearly Progress (AYP) status model expectations for participation rates and other academic indicators.

As you will see in the application that follows, Iowa school districts have a long history of looking at individual student growth using the Iowa Tests. The growth model we propose builds upon that strong foundation while focusing our sights higher for academic growth for all our students.

We look forward to hearing from you as you review our application.

Sincerely yours,

Judy Jeffrey

Judy A. Jeffrey
Director

Introduction

Even before No Child Left Behind (NCLB) was enacted, the state of Iowa was committed to overall school/district improvement and individual student growth. All Iowa school districts have been required by Iowa Code 256.7 and 281-Iowa Administrative Code 12.8 (3)-(4) to establish annual improvement goals, regardless of whether the district has already met Adequate Yearly Progress (AYP) for NCLB purposes. Districts must annually report these improvement goals and their progress toward meeting them to their communities along with a corrective plan if they have not met their improvement goals.

In addition to establishing district improvement goals, Iowa districts have an even longer history of monitoring individual student growth at the local level on the *Iowa Tests of Basic Skills* (*ITBS*) and the *Iowa Tests of Educational Development* (*ITED*). While districts are not required to track individual student growth over time, historically the majority of Iowa districts have utilized individual student growth profiles through data reported to the district by the Iowa Testing Programs (ITP). An individual Student Profile Chart (or graph) has typically been part of the information shared by the classroom teacher with a child's parents during parent-teacher conferences. The concept of individual student growth over time is inherently part of the culture in Iowa's districts. It should be noted that this individual growth history is due to the fact that the Iowa Tests have been used in the vast majority of Iowa districts for decades and that the Iowa Tests are vertically scaled making valid and reliable growth interpretations possible. This vertical scaling extends from Kindergarten through Grade 12.

Five factors make Iowa a strong candidate for adding a growth model to its current School and District Accountability Plan:

1. Iowa Code has established annual testing requirements and annual improvement goals as a requirement for all districts.
2. Iowa districts have a history of using individual student growth, as measured by the Iowa Tests, as an indicator of student achievement gains.
3. The Iowa Tests are vertically scaled from the elementary through the middle and high school levels.
4. All Iowa students, grades 3-8 and 11, will have been tested for two years. Iowa has a long historical database for Grades 3-11.
5. Iowa is in its third year of implementation of a student-unit database containing unique student identification numbers, enabling the monitoring of student growth.

Because of our state's commitment to overall school/district improvement, we anticipate that "growth" (as defined in this application) will be embraced by districts as more accurately measuring their overall student achievement goals. Iowa districts must continually improve, even if the majority of their students are already proficient. The growth described herein will be used not only for NCLB accountability purposes, but also as an overall measure of whether students are improving.

Overview of Growth Model Proposal
Iowa Department of Education

Purpose of the Growth Model

The opportunity for the state of Iowa to submit this proposal to include student growth in AYP determinations is a welcome flexibility, with growing consensus and approval across the state among educational leaders. The possible inclusion of a growth model in the decision process to determine if a school or district meets AYP is a component that has been viewed as missing from the NCLB Act of 2001. As such, school leaders anticipate and are willing to be held accountable for the achievement of all of their students, including those students who are not yet proficient, but who are "on track to be proficient."

How the Pilot Changes the Current AYP Model

The Iowa Department of Education (IDE) proposes to incorporate growth determinations into the current AYP model. Accountability determinations will maintain the current status determinations, but will incorporate student growth during the AYP decision process. Briefly, we propose two parallel AYP processes built to incorporate Iowa's approved accountability plan for status:

Status process:

- The first step is to evaluate school performance by examining status gauged against the current Annual Measurable Objective (AMO), using a proficiency index, established at the state level.
- The second step is to evaluate safe harbor. For schools/districts who do not meet the AMO, the IDE would determine if the school/district qualifies for safe harbor. This is done by a school/district reducing the percent of non-proficient students by at least 10 percent from year 1 to year 2, for example, Grade 3 in year 1 to Grade 3 in year 2. If that occurs, the reduction in the percent of non-proficient students would enable the school/district to meet AYP through safe harbor.
- The third step is to utilize two years of uniformly averaged data, using a proficiency index, to determine if the school/district met AYP.
- The fourth step is to utilize three years of uniformly averaged data, calculating a weighted percent proficient, to determine if the school/district met AYP.

Growth process:

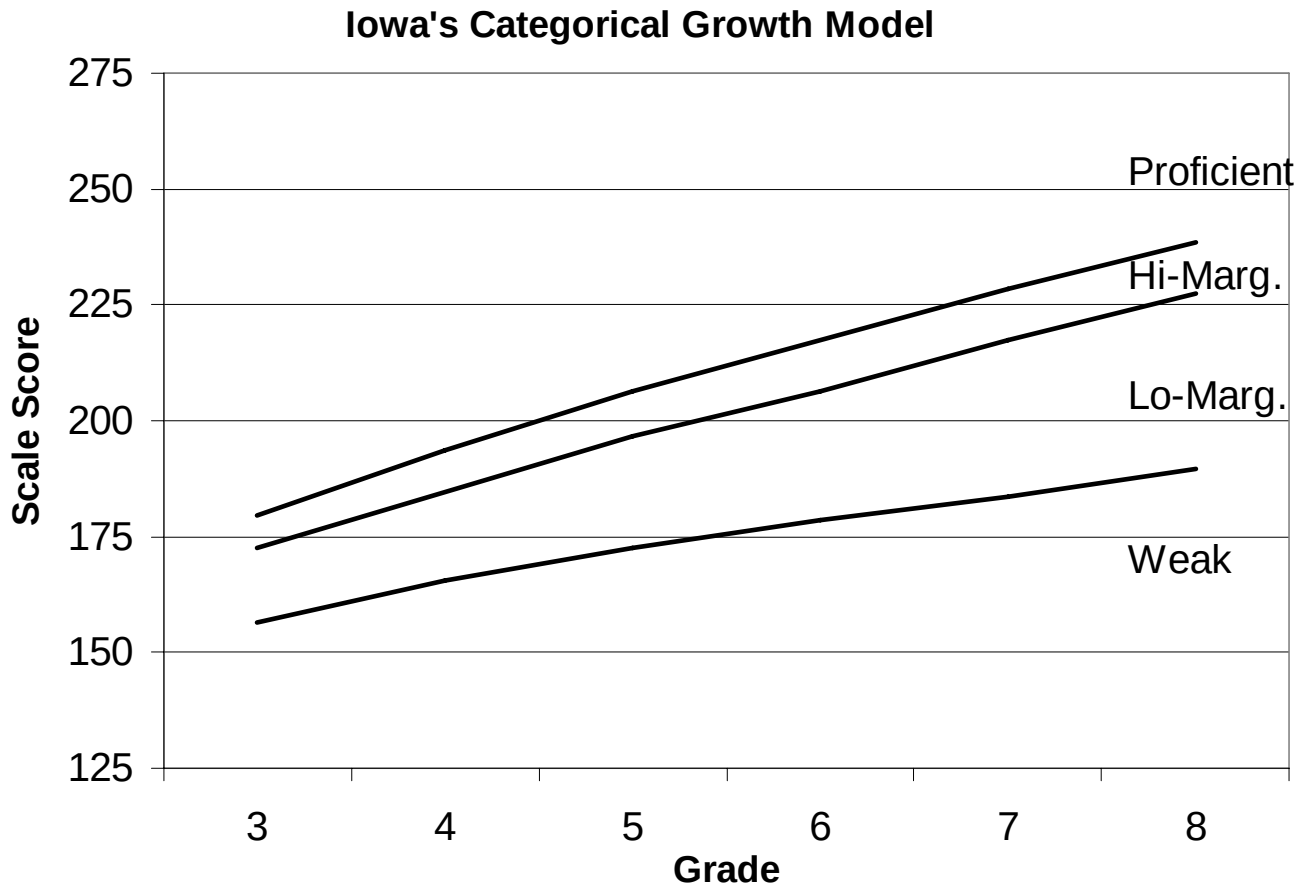
- The IDE proposes the following growth model: Iowa currently utilizes three achievement levels (Low, Intermediate, and High) for AYP decisions. The Intermediate and High achievement levels are considered Proficient. The Low achievement level is further divided into two achievement levels: Weak and Marginal. The Marginal level contains two regions: Lo Marginal (containing the lowest part of the Marginal level) and Hi Marginal (a region that contains the scale score points that are within one standard error of measurement below the cut score for Proficient). This process would begin with the percent of students proficient from, for example, Grade 3 to Grade 4. Non-proficient students who make "Adequate Yearly Growth" or AYG (defined as a movement from the Weak achievement level to the Marginal level, or from the Lo Marginal region to the Hi Marginal region) will be counted as proficient for AYP purposes.
- In the proposed model, students will have four consecutive years to attain proficient status, beginning with their initial participation in the statewide assessment. Under the proposed model, a particular student may only count for AYG a maximum of two times in their entire testing history.

AYP determination:

- The number of students meeting status AYP is added to the number of students making AYG. A percent of students meeting AYP/AYG is then calculated. This percent is then compared to the state target for AYP status decisions. A school/district that met the Proficiency Index (within the confidence interval) through the combination of AYP status Proficiency and AYG would make AYP.

Definition of Adequate Yearly Growth

The improvement (growth) that current non-proficient students are expected to make from one year to the next is depicted in the graph below. This plot shows the category boundaries for non-proficient students across grades. A student's growth trajectory must cross a category boundary in order to be considered for Adequate Yearly Growth.



The score range below proficient is divided into three score categories as described in section 1.2. If a student in any of these non-proficient score categories attains a higher score category, that student is considered to have made "Adequate Yearly Growth" (AYG). A typical student within in a score category must make a significant gain, well beyond expected growth, in order to make AYG. In order to be counted as having met AYG, a student would need to achieve (at least) the next higher score category. The student must also achieve proficient status in four years. As such, beginning with the baseline year, over the course of the next four years, a student will be able to count for growth a maximum of two times. When a student achieves proficiency, that student is no longer eligible to be counted for growth, because s/he is included in the status model. Further, a student who has not attained proficient status after four years is no longer eligible to be counted in the growth model in subsequent years.

If a student declines to a lower score category one year and regains the formerly held score category the next year, that student is *not* counted for AYG. In other words, a student only makes AYG if that student attains a higher and previously unattained level of achievement. We believe that these are ambitious yet attainable goals for students currently achieving below proficiency.

Evaluation of Impact

The IDE will design a study to evaluate the impact of utilizing the growth model process on:

- School/district identification for missing AYP;
- Focusing support team efforts to provide assistance to schools/districts in need of assistance differentially, as growth data indicate; and
- Impact on IDE decisions to enable local education agencies (LEAs) to use growth models for all students in support of their APRs to their communities.

During the development of Iowa's growth model proposal, impact analyses were conducted to evaluate the effects of various definitions of Adequate Yearly Growth on AYP decisions for individual schools. In general, the impact of the proposed model on individuals is in the neighborhood of 8 to 10 percent. That is, we expect applying the proposed AYG criterion to students below the cut score for proficiency to add an additional 8 to 10 percent to a school's overall percent proficient. The actual percent of additional schools that would make AYP because of the AYG criterion is expected to be much smaller than 8 to 10 percent. Because multiple reporting cells drive a great deal of the variance in AYP decisions, it is difficult to assess the actual impact of AYG when it is implemented, but it is safe to say that AYG will only affect schools that have made dramatic instructional interventions that result in greater learning for non-proficient students in cells that trigger a school's failure to reach the state target.

Core Principle 1: 100% Proficiency by 2014 and Incorporating Decisions about Student Growth into School[1] Accountability
1.1 How does the State accountability model hold schools accountable for universal proficiency by 2013-14?
Iowa Response
Iowa proposes to use the third option in the USED guidance, that of utilizing status, safe harbor, and growth. Iowa proposes to pilot a growth model that is incorporated into the current status model in order to evaluate impact for potential future use and to project that all students will be proficient by 2014. The current AYP model evaluates status, followed by safe harbor calculations, uniform averaging of two years of data, and uniform averaging of three years of data. It is proposed that the state append a growth component to the current AYP decision process, such that if a school or district did not make AYP based on status alone, safe harbor, or two or three years of uniformly-averaged data, a growth component would be evaluated to determine if a school or district would make AYP when the growth component was added to the status component. In this model, each student's results will be examined to determine if sufficient growth has been achieved. If so, that student will count toward the proficiency count (including the count for each appropriate subgroup), and the proficiency result will be compared to the state's proficiency targets. As with the current accountability plan, the growth model will be used for AYP decisions separately for reading and mathematics, and will examine growth data for Grades 3 through 11. Schools that house the grades for utilizing the growth model will be eligible. For example, a K-5 elementary school will be able to use growth data from 3-4 and 4-5, whereas a K-6 elementary school will be able to use growth data from 3-4, 4-5, and 5-6. For districts having growth data resulting, for example, from student transitions from Grade 5 to 6, or from Grade 6 to 7, across buildings, will be allowed to count their growth data with the receiving building. While Grade 10 assessments are not required as part of the current accountability system, a large majority of LEAs (around 85 percent) assess students in Grade 10 As such, we would like to offer our LEAs the opportunity to evaluate a growth model for their high school or district, if they can provide

[1] The State may propose to apply the use of student growth measures to determine AYP for LEAs. If it does so, the same provisions for evidence shall apply to LEAs as apply to schools, unless specifically mentioned otherwise and peer reviewers should evaluate the soundness of the proposal for LEAs as well as schools.

assessment results for their Grade 10 students, of which they must have tested at least 95 percent of all 10th grade students enrolled (relative to their certified enrollment counts), must be able to certify students as having been enrolled for a full academic year [FAY], and must enable electronic access to their data.

1.2 Has the State proposed technically and educationally sound criteria for "growth targets"[2] for schools and subgroups?

Iowa Response

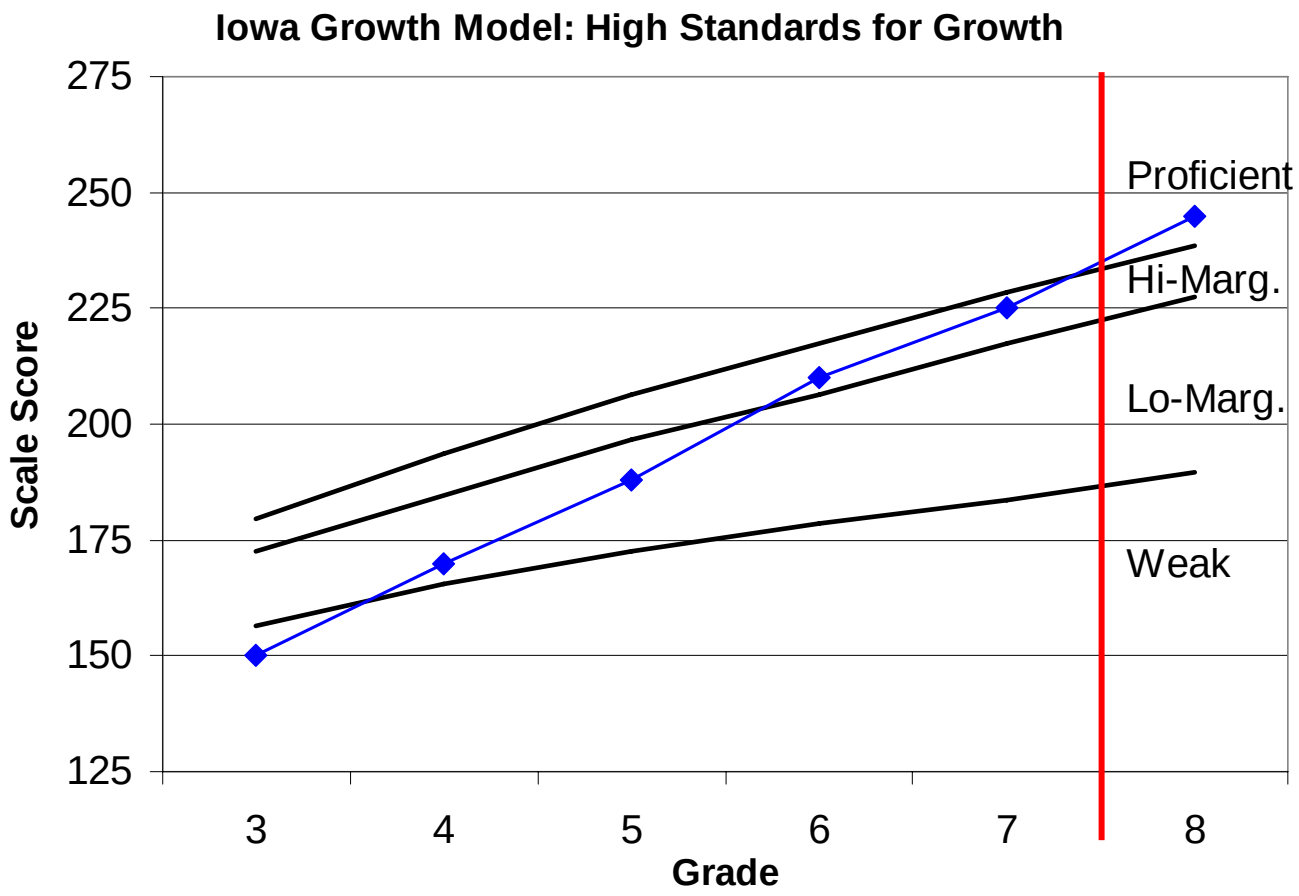
The current statewide assessments have associated academic achievement standards and performance levels. The three achievement levels (Low, Intermediate, and High) currently used for AYP decisions and reporting were previously divided into two levels each, to allow for greater precision in examining changes in student achievement. For example, the Low achievement level (which counts as non-proficient for AYP purposes) includes a "Weak" level and a "Marginal" level. Performance level descriptors for Weak and Marginal are included with this proposal (Appendix A). Weak performance represents the lowest part of the score scale. Marginal performance encompasses the part of the score scale between Weak and Proficient.

Under this proposal, the Marginal category is subdivided into two subcategories, Lo Marginal and Hi Marginal, to support greater resolution of growth trajectories. This chosen division is one standard error of measurement below the proficiency cut score. Thus, the Hi Marginal category is readily interpretable: Hi Marginal students are within one standard error of proficiency; they may be proficient but for a plausible error of measurement. Students below proficiency with score gains sufficient to rise in category classification are considered to be on track to be Proficient and are therefore included in the school count for AYP. Any non-proficient student whose growth in consecutive years moves the student: (1) out of the Weak achievement level, or (2) from the lower range of the Marginal category to within a standard error of measurement (SEM) of the cut score for Proficient (i.e., from Lo Marginal to Hi Marginal) is considered to have made AYG. Tables illustrating the proposed scale scores and standard errors for these achievement levels are included in Appendix B.

This growth model is motivated by two guiding principles. First, Adequate Yearly Growth must be greater than expected growth in order to ensure that students are on track to proficiency. Second, growth trajectories must be maintained over time in order to be considered adequate. This growth model ensures that regardless of the beginning achievement level, a student will be proficient within four years..

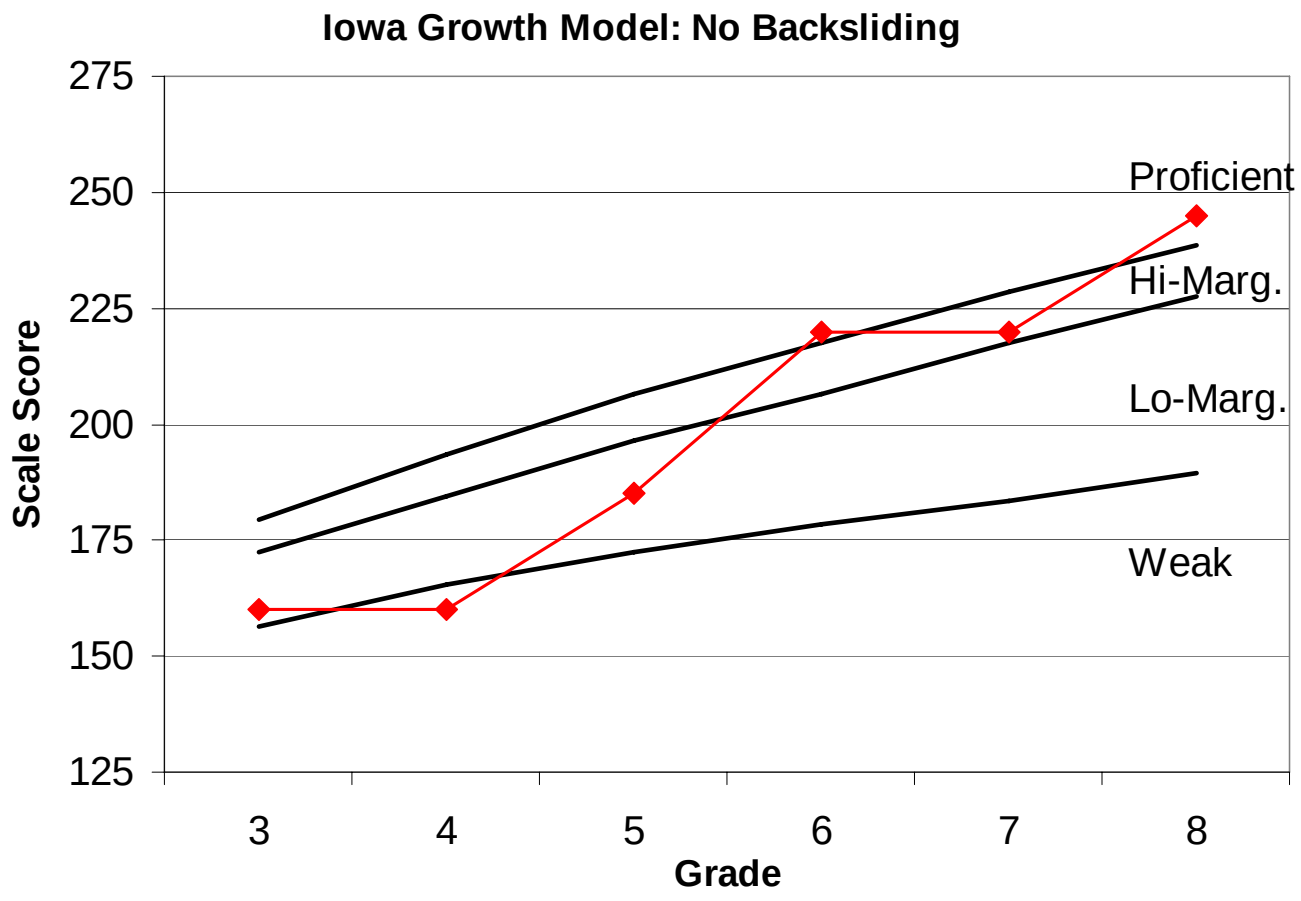
This is illustrated in the following example. The improving student represented by the blue line rises from the Weak category in Grade 3 to the Lo Marginal category in Grade 4. In Grade 3, the student was not proficient, but in Grade 4, the student has made AYG. In Grade 5, the student does not make sufficient gains for AYG and is simply classified as not proficient for the purposes of AYP calculation. The student rises to the Hi Marginal category in Grade 6 to attain AYG. The student is not proficient in Grade 7, but the student makes greater than expected growth in Grade 8 to achieve proficiency. Note that this student's growth is greater than expected growth each year, but the student only makes AYG twice, in Grades 4 and 6. Since the student exits the growth model after Grade 7 (represented by the red line), the student is no longer eligible to be included in the growth model. Furthermore, since this particular student has achieved proficiency, s/he is now included in the status calculations.

[2] "Growth target" denotes the level of performance required in order to meet AYP. The State may propose different "growth targets" for reading/language arts and mathematics, different grade spans, etc. This document uses the term "growth target" to try to minimize confusion with "expected growth," "projected growth," "growth expectations," and other terms used in value-added and other student longitudinal growth approaches that denote an empirically derived student performance score not necessarily related to the NCLB policy goals of proficiency.



A student can only attain AYG for attaining a category he or she has never held before. This prevents "backsliding": under this proposal, a student who wavers back and forth between score categories will *not* be counted for AYG with each category gain. The following example contains an unusual student's growth trajectory represented by a red line. The student is not proficient in Grades 3 and 4 – in fact, there is zero growth – and the student declines a score category. The student demonstrates considerable gains in Grade 5, but the student does not make AYG in spite of rising a score category, because the student is merely re-attaining a previously held score category. The student is proficient in Grades 6 and 8 but not in Grade 7. Note that AYG does not apply in Grade 8; the student is simply proficient, and existing policies apply.

The standards for AYG are high. A student may only qualify for AYG a maximum of two times: by moving from Weak to Lo Marginal and then Lo Marginal to Hi Marginal. A proficient student who declines to non-proficiency will never be able to qualify for AYG. In this way, each student's full testing history is taken into account when holding schools accountable for adequate yearly growth.



In 2013, AYG will not be granted for students who move from the Weak to the Lo Marginal category. These students are considered to be on track for the Hi Marginal category by 2014, but that growth is insufficient to meet the standards of NCLB, so AYG will not be granted. In contrast, students who move up to the Hi Marginal category in 2013 are on track for proficiency in 2014, and they will make AYG. Of course, in 2014, no AYG is possible, since 100 percent of students must be proficient by that time. In this way, the growth model ensures that all students who make AYG will be proficient by 2014. In fact, as previously mentioned, the features of this growth model ensure that all students who make AYG will be proficient in four years or less, well before the 2014 goal.

The following scenarios reflect specific student contexts and how their results may or may not be included in growth determinations.

Item	Scenario	Application
A student in any grade	The student changes schools within the same district.	Since student is not FAY at the school level, the student counts as a participant, but the student's academic achievement scores are not included in either the status model or the growth model at the school level, but counts toward status and growth at the district level. This is consistent with the current status model in Iowa. Each student's entire testing history will be considered. In subsequent years, if a student achieves at the same level they achieved in their previous building, they will not be eligible to count for growth in the new building.
A student in any LEA	The student changes LEAs.	Since student is not FAY at either the school or district level, the student counts as a participant, but the student's academic achievement scores are not included in either the status model or the growth model at the school or district level. This is consistent with the current status model in Iowa. Each student's entire testing history will be considered. In subsequent years, if a student achieves at the same level they achieved in their previous district, they will not be eligible to count for growth in the new district.
A student in a school or LEA	The student is retained in a grade.	Since the student was retained, they will be assessed with the same test (different form) administered during the previous year. While the student will count for the status model, they will not be eligible to be counted as part of the growth model, because they will not have taken the test at the next higher level.
An elementary school student	The student transitions to middle school (within district)	Students transitioning from elementary to a middle school will have their academic achievement score results counted for growth purposes in their middle school. Their last elementary year will serve as the baseline for the first middle school year.
A middle school student	The student transitions to high school (within district)	Because Grades 9 and 10 are not part of the AYP status model, results from Grade 8 will only be included in the growth model as it relates to Grade 7 performance in the prior year. Data from Grade 10 will be included as baseline data for determining growth for students in Grade 11.
Any student with significant cognitive disabilities	The student participates in the Iowa Alternate Assessment	The Iowa Alternate Assessment is based on alternate academic achievement standards. As such, these achievement standards were developed to reflect three levels of achievement (non-proficient, proficient, and advanced). The IAA currently is not constructed to yield different levels of non-proficiency. Thus, students participating in the IAA are not currently eligible to be included as part of the growth model.
Any student requiring an accommodation	The student participated in the assessment with allowable accommodations	Students participating in the general statewide assessment with allowable accommodations are eligible to be included in the growth model, and will have their results included with students who take the assessment without accommodations.

The following chart reflects scenarios of starting points for students, how their achievement progresses over time, and how their results are included in growth determinations. (Note: proficient students are not included in the growth model). Student achievement after Year 4 does not count toward growth.

Baseline Level	Yr 1 Level	Yr 2 Level	Yr 3 Level	Yr 4 Level	Decision
Weak	Lo Marginal	Hi Marginal	Proficient		Counts in the growth model for Yr 1 and 2
Weak	Weak	Lo Marginal	Lo Marginal	Hi Marginal	Counts in the growth model for Yr 2 and 4
Weak	Lo Marginal	Lo Marginal	Hi Marginal	Proficient	Counts in the growth model for Yr 1 and 3
Weak	Lo Marginal	Hi Marginal	Lo Marginal	Hi Marginal	Counts in the growth model for Yr 1 and 2
Weak	Hi Marginal	Lo Marginal	Proficient		Counts in the growth model for Yr 1
Lo Marginal	Hi Marginal	Proficient			Counts in the growth model for Yr 1
Hi Marginal	Lo Marginal	Hi Marginal			Does not count in the growth model

The following chart reflects scenarios of starting points for students in various grades, how their matriculation progresses over time, and how their results are included in growth determinations.

Baseline Grade	Yr 1 Grade	Yr 2 Grade	Yr 3 Grade	Yr 4 Grade	
3	4	5	6	7	Include Yr 1, 2, 3 and 4
4	5	6	7	8	Include Yr 1, 2, 3 and 4
5	6	7	8		Include Yr 1, 2, and 3
6	7	8		10 (baseline for 11 growth)	Include Yr 1, 2, and 4
7	8		10 (baseline for 11 growth)	11	Include Yr 1, 3 and 4
8		10 (baseline for 11 growth)	11		Include Yr 2 and 3
9	10 (baseline for 11 growth)	11			Include Yr 1 and 2
10 (baseline for 11 growth)	11				Include Yr 1

The following chart reflects the most common grade configurations, and how results would be included with growth determinations.

Grade Configuration	Additional Grades
3-5, 6-8	Grade 6 to 7 and 7 to 8 count for growth at middle school. Grade 5 results count as baseline for grade 6 growth.
3-6, 7-8	Grade 7 to 8 results count for growth at middle school. Grade 6 results count as baseline for Grade 7 growth.

1.3 Has the State proposed a technically and educationally sound method of making annual judgments about school performance using growth?
Iowa Response
Iowa proposes to implement parallel processes, the evaluation of which will help us improve growth modeling over time. As stated earlier, the first process will be to make accountability determinations by maintaining the current status determinations. Briefly, the current status process, corresponding to Iowa's amended and approved accountability workbook, is: Step 1: AMO status (Proficiency Index) Step 2: Safe Harbor Step 3: Two-year Uniform Averaging (Proficiency Index)- Step 4: Three -year Uniform Averaging (Grades 4, 8, 11 until three years of data allow Iowa to consider the Proficiency Index for three years.) The second process is to include a growth determination for AYP calculations. For each school and district, Iowa proposes to first make a determination, on a student-by-student basis, regarding the students who have achieved proficiency, as well as currently non-proficient students who have met the aforementioned growth targets (see 1.2). Non-proficient students who meet the individual growth goals will be added to the students achieving proficient status. This student count will then be entered into the status algorithms to determine if students counted as "on target to be proficient", when added to the proficient students, have enabled a subgroup, school, or district meet the state's AYP Annual Measurable Objectives and subsequent Proficiency Indices. The growth component, incorporated into the current AYP determination, presents an opportunity for the state, districts, and schools to gauge the change in the achievement of students who score below the proficient level, and whose progress is monitored throughout the time they attend a particular school. Because of the vertical alignment of the score scale for the Iowa Tests, as well as the vertical alignment of content standards, the expectation is that a student scoring at a level that is below proficient will need to make a substantial improvement in achievement in order to be counted as "on track to be proficient." By requiring the student to achieve at a higher level in subsequent years, the requirement will be that in order to meet AYG, the student will be expected to make more than a year's growth (for a typical student) in a year's time to be on track toward proficiency. Our growth model has established a clear trajectory toward proficiency. The AYG definitions used in this proposal are consistent with the provision of the guidance. The reader is referred to the section on growth in the overview at the beginning of this proposal. As part of the current accountability system, the IDE maintains a consistent minimum-n size of 40 for participation and 30 for proficiency. An evaluation plan will be designed and implemented to examine the impact of the use of growth calculations on AYP, at the student, school, and district levels. As stated earlier, a unified AYP judgment will be made by combining the number of students who meet AYP with the number of students who achieve AYG. That sum will be compared to the annual measurable objectives for the AYP decision. Since the determination of AYG is made for each student, each student's result will be included in the appropriate subgroup to evaluate subgroup performance. Like AYP status, this will result in a potential duplicated count from the All Students group to the Low-SES, students with disabilities (SWDs), English language learner (ELL), or racial/ethnic subgroups. Descriptions for understanding student achievement at the student and school levels have already been determined for students in the "weak" and "marginal" levels. Beginning with the 2006-07 school year, Iowa Testing Programs will provide growth information for districts as well as reports on individual students to be distributed to a child's parents.

1.4 Does the State proposed growth model include a relationship between consequences and rate of student growth consistent with Section 1116 of ESEA?
Iowa Response

Since the growth component will be integrated with the current status model for AYP decisions, consequences for schools and districts will remain the same relative to sanctions for not making AYP. The criteria (see below) defined in the Iowa Consolidated State Accountability Workbook in Section 1.4 will be used with Iowa districts and Title I schools that don't make AYP targets.

Section 1.4 - Iowa Consolidated State Accountability Workbook

Iowa school districts have been required to submit Annual Progress Reports (APRs) to the DE, their area education agencies (AEAs), and local communities since the year 2000. The APR contains all required achievement data for state and federal reporting. The DE revises APR requirements on an annual basis to comply with any new federal and state legislation. The APR must contain the student achievement results from the past school year for the required academic indicators. Each school district, according to Iowa law, is required to report the results of multiple assessments for reading and mathematics. Each local district is also required to demonstrate alignment of assessments to their standards. It is expected that the district's assessment system provides the information needed for a district to determine needed changes in curriculum and professional development to improve instructional practices. This type of rich and deep assessment system also provides frequent data to teachers and buildings for needed adjustments and modifications to assist in improving student learning. They also provide a basis for districts to anticipate if their students will attain proficiency on the comparable measure across districts, the ITBS and the ITED

The DE will assist school districts in identifying schools in need of improvement during each summer before the school year begins. This identification will be completed around August 1 of each year.

<u>All public districts with schools identified as in need of improvement for two consecutive years are required to offer school choice for their enrolled students during the school year in which they are identified.</u>

<u>All public districts with Title I schools identified as missing AYP for three or more consecutive years are required to offer school choice and supplementary services and take corrective actions, as required by NCLB, during the school year in which they are identified.</u>

Iowa currently utilizes SINA (schools in need of assistance) Support Teams to provide additional technical assistance to schools identified for improvement, with the goals of improving teacher capacity and thus student achievement. By utilizing the growth component, this specific information will be able to be used by the SINA support teams to enhance support for helping lower performing students grow. As well, these data will enable efforts to be focused differentially on schools in which students are not growing, compared to schools in which students are showing adequate growth.

Core Principle 2: Establishing Appropriate Growth Targets at the Student Level
2.1 Has the State proposed a technically and educationally sound method of depicting annual student growth in relation to growth targets?
Iowa Response
This component has been addressed in the response to section 1.2. The pre-test can be considered the test result from “year 1” of the assessment, and the post-test can be considered to be the test result from “year 2” of the assessment, or, in future years, previous year and current year, respectively. Typically, pre- and post- tests are conceptualized as occurring within the same year, the pre-test being utilized for diagnostic/planning (formative) purposes, and the post-test being utilized for summative purposes. The proposed model uses tests from different grade levels, designed for the same purposes and measured at about the same time of each year. Full academic year in a public school district is defined as the time from the first day of a testing window in the previous school year to the first day of the testing window in the current school year. Students enrolled and tested during the previous school year who enroll in another school district the current school year will not be counted as meeting FAY requirements at the district level, but will be included in State level calculations. The IDE will continue to calculate AMO on FAY students at the district level. FAY students are those students who were enrolled at the time testing the previous year through the time of testing the subsequent year irregardless if they have moved from school to school within the district. AMO at the school level will be calculated on FAY students. FAY students are those students who were enrolled at an individual school at the time of testing the previous year through the following year at the same school or at a school that follows the district progression of grade levels. Participation rates will continue to be calculated using all students enrolled annually at the time of testing. The proposed determination of AYG for each student is determined by a student’s growth in terms of scale score points (which can be translated into percentile rank scores or proficiency levels). Movement from the Weak level to the Hi Marginal region counts the same as growth from Weak to Lo Marginal or from Lo Marginal to the Hi Marginal region. Whenever a student counts as having grown, their count is added to the number of proficient students, and applies to all appropriate subgroup categories. There is no differential weighting for a student who grows two levels. For a student to be counted for AYG, s/he must have been counted as non-proficient for both years in the status model. A student who is non-proficient the first year and proficient the second year would be counted as being proficient, and would be ineligible for the growth determination. The “change” scores determined by the proposed model would require a student to achieve the next higher range of scale scores on the next higher level of the test. Growth targets remain constant. Targets are not reset. Growth expectations are not established on student demographics or school characteristics. They are based on the same proficiency levels that are applied to all students. The IDE does not propose the use of a regression-type model or a multivariate or multi-level model.

In this way, required “growth” is greater than normative expectations for students, the growth targets are defined as movement from one proficiency level (or region) to the next. The rationale is this: evidence indicates that while very low performing students might have more room to grow, they might have a more difficult time achieving a growth target. For them, it may take longer to grow a given amount than it does a high achieving student. Statistically determining expected growth might yield results that would not enable some students to achieve the proficient level. For purposes of this proposal, the decision was made to use the *a priori* proficiency levels as starting points, with growth being defined as movement across levels or regions.

This procedure is not compensatory. Only students who are not proficient in year 1 are eligible for the growth determination in year 2, if they continue to be non-proficient. While higher achieving students might be expected to improve (from Iowa’s school improvement standpoint), for NCLB accountability purposes, they would not be eligible for a growth determination to combine with the proficiency count at a school or district level for AYP purposes, because they already count as proficient. Iowa will monitor schools and districts experiencing a decrease in the percent of proficient students. Schools and districts experiencing a 10 percent or more decrease in the percent of proficient students will be directed to address such decrease(s) in their Annual Progress Report (APR) (report to the IDE and to the public), with strategies described to ameliorate such decreases.

Iowa will also monitor those districts where 10 percent or more of the proficient students show a two-year decline in their proficiency levels. The IDE plan for monitoring schools and districts experiencing a 10 percent or more decrease in the percent of proficient students will include:

1. The IDE will validate the drop in the proficiency rate and explore possible causes with the district.
2. The district will submit a plan of action to address the decrease for review by the IDE.
3. Title I funding to the district will require that a complete plan has been submitted and received approval from the IDE; funding will be deferred until a satisfactory plan to improve achievement has been approved.
4. IDE school improvement consultants will examine the implementation of strategies in the plan during district on-site reviews.

The Iowa State Board of Education will recognize Iowa school districts that have an overall net gain in student proficiency in the areas of reading and mathematics using the approved Iowa Growth Model. In addition, Iowa school districts will incorporate their district growth results, where N size allows, in their Annual Progress Report that is made available in their community.

AYG is only defined for nonproficient students, but growth is clearly a concern for all students and schools. While this proposal focuses on students below proficiency, these efforts are running in parallel with a statewide effort to increase the capacity for growth reporting. Iowa Testing Programs has recently released an interactive, online tool for growth reporting for all students, and early warning systems for schools that are declining from high proficiency levels are just as feasible as growth reporting systems for students below proficiency. This growth reporting system is currently available for grades and subjects currently outside the purview of NCLB.

Core Principle 3: Accountability for Reading/Language Arts and Mathematics Separately	
3.1	**Has the State proposed a technically and educationally sound method of holding schools accountable for student growth separately in reading/language arts and mathematics?**
	Iowa Response
	As with the current AYP system, separate decisions are made for reading and mathematics. As well, separate growth decisions for reading and mathematics will be made for each non-proficient student. The ability of the IDE to identify the "right" schools for improvement will be enhanced. Some schools might not make AYP, but they may be doing a reasonable job of moving their students toward proficiency. Such schools might not need the same kind of support team interventions as those schools that are not making AYP, and whose non-proficient students are not showing any growth. For schools with higher mobility, the intent is that for students who move from school to school within the same district, their achievement growth will count at the school where the student was tested in year 2. The state does not include additional assessments in other content areas such as science and social studies for AYP determinations.

Core Principle 4: Inclusion of All Students	
4.1	**Does the State's growth model proposal address the inclusion of all students, subgroups and schools appropriately?**
	Iowa Response
	Evidence from Iowa's participation rate data would indicate that there are very few students who are not included in the statewide assessment for AYP determinations. Indeed, most of the movement of students is "within-district," and the proposed growth modeling system includes those students in the growth determination. There is no intent to impute missing data, as that may lead to errors in decisions about whether or not a school is making AYP. Since the growth determination is made at the student level first, if a student's data are missing, they will not be eligible for the AYG determination. Full academic year in a public school district is defined as the time from the first day of a testing window in the previous school year to the first day of the testing window in the current school year. Students enrolled and tested during the previous school year who enroll in another school district the current school year will not be counted as meeting FAY requirements at the district level, but will be included in State level calculations. The IDE will continue to calculate AMO on FAY students at the district level. FAY students are those students who were enrolled at the time testing the previous year through the time of testing the subsequent year irregardless if they have moved from school to school within the district. AMO at the school level will be calculated on FAY students. FAY students are those students who were enrolled at an individual school the time of testing the previous year through the following year at the same school or at a school where that follows the district progression of grade levels. Participation rates will continue to be calculated using all students enrolled annually at the time of testing.

This proposal does not include students with the most significant cognitive disabilities who participate in the Iowa Alternate Assessment at this time. At the present time, the Iowa Alternate Assessment consists of three achievement levels, non-proficient, proficient, and "better than proficient." After the IDE has a chance to evaluate the use of growth models for its general education population, and students with disabilities (SWDs) that participate in the general assessment, a decision will be made about revisiting the alternate academic achievement standards for the alternate assessment, and how to include those results to evaluate AYP and AYG.

The IDE currently counts as FAY those students who have been enrolled at the time of testing the previous year through the time of testing the subsequent year. If the IDE proposal is approved, the accountability plan will need to change to enable FAY (for growth) to include students who move from school to school within the same district. Iowa's proposal does not permit students who grow from one year to the next, and who have crossed from one district to another, to count for growth. The technical issue predicating this is the problem of attributing growth to the sending district AND the receiving district, in which case the student proficiency counts would be duplicated across districts.

The state will not include a growth measure from 2nd to 3rd grade. Because statute requires testing in Grades 3-8, the IDE will utilize the available data in those grades to carry out growth determinations for students in those grades. Because this is only a pilot project, the intent is to fully evaluate impact and consequences before including growth from Grade 2 to Grade 3.

For the IDE proposal, "between year growth" is the standard for the growth determination. First, evidence indicates that there is very little grade retention of students statewide. Second, the rationale for not counting students who are retained in the growth determination is that within-year growth might not provide enough evidence that a student is "on track to proficiency." It is also very unlikely that a student would be promoted to a subsequent grade at mid-year unless they have been able to demonstrate some level of proficiency on the current level of the statewide assessment.

Students who would be excluded from growth determinations (for AYP purposes) would include those who have been retained, those who have moved from one district to another (non-FAY students at the district level), those who were non-proficient in year 1 and proficient in year 2, those who were proficient in both year 1 and in year 2, and those who were proficient in year 1 and not proficient in year 2. In the future, as growth models are studied for school improvement purposes within the state, it may encompass non-FAY students as well as higher achieving students.

A student who changes subgroup classification over the growth time period will continue their subgroup membership. For example, a student who moves between the IEP (Individualized Education Plan, i.e., students with disabilities) and non-IEP subgroups, or between the ELL (English language learner) and non-ELL subgroups will maintain their subgroup classification (IEP or ELL) for the growth determination. These classifications reflect educational programs. Therefore, the programs that provided the support to the student should receive the "credit" for student growth. On the other hand, students in the low-SES category who move to the non-low-SES category will be counted as non-low-SES, because it is more of a demographic classification (not within the school's control) than a program classification. Also, the IDE proposal is consistent with current USED policy that allows the inclusion of former IEP or ELL students to be counted in those categories for AYP purposes for two additional years.

Mechanically, the growth model can be applied to all students statewide who are identified as non-proficient in year 1 and non-proficient in year 2. For this pilot project, the growth calculations will be combined with the AYP status data for all schools and districts. A comparison will be made among schools/districts achieving AYP through status or growth.

Regarding special circumstances:

- K-2 schools will be backmapped from the school providing the instruction to the next level of students (e.g., 3-5). The K-2 school will receive the same AYP designation as the 3-5 school. This is current practice.
- Single grade schools will be eligible to have their achievement results count toward growth in the subsequent school. Schools testing at various times during the year will count their growth data at the subsequent school. For example, a school housing Grade 5 and testing during the fall will be eligible to count 5th grade growth data at the 6th grade building. A school housing Grade 5 and testing during midyear or spring will count growth data from 4th to 5th grade at the 5th grade building.
- High schools (Grade 11) will be eligible to provide data for students who were 10th graders the previous year. While Grade 10 assessments are not required as part of the current accountability system, a large majority of LEAs (over 85 percent) assess students in Grade 10. As such, we would like to offer our LEAs the opportunity to evaluate a growth model for their high school or district, if they can provide assessment results for their Grade 10 students, of which they must have tested at least 95 percent of all 10th grade students enrolled (relative to their certified enrollment counts), must be able to certify such students as having been enrolled for a Full Academic Year (FAY), and must enable electronic access to their data.

Core Principle 5: State Assessment System and Methodology

5.1 Has the State designed and implemented a Statewide assessment system that measures all students annually in Grades 3-8 and one high school grade in reading/language arts and mathematics in accordance with NCLB requirements for 2005-06, and have the annual assessments been in place since the 2004-05 school year?

Iowa Response

Iowa has implemented a statewide assessment system that measures all students annually in Grades 3-8 and one high school Grade (11) in reading and mathematics in accordance with NCLB requirements for 2005-06 and 2006-07. Therefore, the state will have two years of data for all students, grades 3-8 and 11. These annual assessments have been in place for a very long time, even preceding NCLB.

Iowa's assessment system includes assessments developed or adopted at both the local and state level, although only the statewide assessment is used for AYP determinations.

(a) The statewide assessment represents the comparable indicator as a common measure. For individual district-wide assessment measures, LEAs have studied the alignment and technical properties of their measures, so as to ensure that their results are applicable for all students that they serve.
(b) The statewide assessment provides the mechanism for accountability for the state.
(c) Performance level descriptors (Appendix A) were provided to USED as part of the peer review process for standards and assessments. These are accompanied by Content Summaries for each grade that describe the content standards measured by the assessment.

(d) Each school district is required to report to their public the annual progress of their students in reading, mathematics, and science, for subgroups within each grade span, for the *ITBS* and *ITED* and for their multiple measures. The *ITBS*/*ITED* reporting in the online APR is different than for AYP, since the minimum-n size for reporting is 10, and FAY does not apply when including all students. 281-Iowa Administrative Code, Chapter 12 requires all students to be included in the district-wide assessment system. By examining the technical properties of their district-wide assessments, school districts are able to develop a level of confidence that their assessments are unbiased and rational, and provide consistent determinations of academic progress for their students.

The Iowa Testing Programs (ITP) provides several documents that provide various interpretive information for students and schools. The Profile Narrative Report provides information for each individual student on content areas. This is accompanied by a flier that districts are asked to use to provide parents with achievement level descriptors, so they can better interpret their child's score report. These are parent reports that are made available to all LEAs as soon as they become available. The "hard copy" parent reports are provided to parents either through U.S. mail or during parent-teacher conferences. During that time frame, ITP also provides district and school level reports to LEAs as requested. Finally, ITP returns an electronic copy of student data to LEAs through a standard CD-ROM service.

Iowa submitted additional evidence for its statewide assessment system for NCLB peer review. Iowa has recently received full approval of its standards and assessment system.

5.2 How will the State report individual student growth to parents?

Iowa Response

In addition to the current status reports, the IDE will report growth to parents. The IDE will work with the Iowa Testing Programs to design a reporting format to enable parents to receive descriptive information about the progress of their children. The goal will be to implement the use of these reports for the 2007-08 school year. Reports will contain scores and score ranges, as well as performance descriptors. These will be similar to the Interpretive Guide for the Profile Narrative Reports that provide content specific descriptions for users.

On an annual basis, schools are provided with a Student Profile Chart that is used to monitor individual student progress over time. The IDE anticipates including individual student growth as part of these charts, along with a full explanation of what the growth data mean. Beginning in the 2006-07 school year, districts will be provided with more complete growth information on their students including interpretative materials on individual students to be shared with each child's parents.

As each student moves from one grade level to the next, assessment results will be maintained on a secure server housed at the state level.

Iowa will monitor schools and districts experiencing a decrease in the percent of proficient students. Schools and districts experiencing a 10 percent or more decrease in the percent of proficient students will be directed to address such decrease(s) in their APRs, with strategies to ameliorate such decreases.

The IDE plan for monitoring schools and districts experiencing a 10 percent or more decrease in the percent of proficient students will include:

1. The IDE will validate the drop in the proficiency rate and explore possible causes with the district.
2. The district will submit a plan of action to address the decrease for review by the IDE.
3. Title I funding to the district will require that a complete plan has been submitted and received approval from the IDE, funding will be deferred until a satisfactory plan to improve achievement has been approved.
4. IDE school improvement consultants will examine the implementation of strategies in the plan during district on-site reviews.

5.3 Does the Statewide assessment system produce comparable information on each student as he/she moves from one grade level to the next?
Iowa Response

Documents enclosed with this proposal include:

- Iowa Testing Programs' *Content Summaries and Performance Level Descriptors* describes the achievement levels used with the Iowa Tests (Appendix A)
- *Scale Score Ranges by Performance Category, Standard Errors, and Raw Score to Scale Score Conversions* (Appendix B) tabulates cut points between nonproficient categories across grades, standard errors for categories, and raw score to cut point conversions.
- *Scale Score Comparability Across Levels* (Appendix C) describes the purpose and development of the standard score scale used for reporting growth on the Iowa Tests.

The state does not use end-of-course tests as part of the AYP accountability system.

The academic achievement standards for each content area are included in Appendix A.

(a) at least three levels of achievement, including two levels of proficiency (Intermediate and High), and a third level of achievement (Low, which is equivalent to non-proficient);
(b) performance level descriptors for each level; and
(c) points of demarcation (cut scores) to distinguish among the three achievement levels

For the Iowa Tests, the achievement levels and associated cut scores follow the model described in point (a) above, with the Low achievement level reflecting students who are not proficient, the Intermediate achievement level reflecting students who are at the proficient level, and the High achievement level, reflecting students who have achieved the highest level of proficiency.

The 2000 norms resulting from the national norming study serve as an anchor point against which future student achievement comparisons are made. The Low achievement level includes students who score at the national 40th percentile and below. The Intermediate achievement level includes students who score from the 41st percentile to the 89th percentile. The High achievement level includes students who score at the 90th percentile or higher. For AYP purposes, the Intermediate and High achievement levels reflect students who are counted as proficient.

While Iowa does have alternate academic achievement standards for students who participate in the alternate assessment, at the present time, these students will not be counted in the determination of growth. Further study will guide the work of the IDE to determine multiple achievement levels for the alternate assessment that are more conducive to a growth interpretation.

The academic achievement standards for the statewide assessment are applied to all public elementary and secondary schools and all public school students in the state. The alternate academic achievement standards for the Iowa Alternate Assessment are applied to all participating public school students. The results of the Iowa Alternate Assessment are combined with the statewide assessment results to make decisions about AYP.

For reporting, Iowa Alternate Assessment results are reported for any school or district meeting the minimum-n requirement by having 10 or more students participating in the alternate assessment.

The state has not used any "smoothing techniques" to make the achievement levels comparable.

5.4 Is the Statewide assessment system stable in its design?
Iowa Response
The Iowa Tests, the statewide assessment used for AYP accountability, has been stable in its overall design for the past 70 years (S. Brookhart, Buros Test Review). No other statewide testing system can compare with that amount of longitudinal data with which to monitor student achievement trends. While districts have been required to test all students grades 3-8 and 11 for two years, it should be noted that the use of the Iowa Tests have a long history in Iowa's districts. While Iowa's accountability plan was initially implemented by collecting information on students in Grades 4, 8, and 11, almost every LEA administered the Iowa Tests to students at several grade levels. Past studies indicated that about 98 percent of the LEAs administered to more than Grades 4 and 8 at elementary and middle school, and over 80 percent of the LEAs administered to more than Grade 11 at high school, even before NCLB was implemented. Over the past two years, over 95% of LEAs administered the Iowa Tests at Grade 9, and around 85% of LEAs assessed students at Grade 10. Iowa anticipates making no changes to the current accountability system, unless elicited by NCLB reauthorization. At least until 2013-2014, Iowa anticipates conducting the same program. In the event that any modification of the Iowa Tests changes the assessments, equated scale scores will be developed to maintain consistency and comparability with the current vertical developmental score scale, enabling student achievement to be monitored from the inception of NCLB through 2014. Further, the state will continue to use the 2000 norms, even if a new generation of test forms are introduced in Iowa with updated test norms.

Core Principle 6: Tracking Student Progress
6.1 Has the State designed and implemented a technically and educationally sound system for accurately matching student data from one year to the next?
Iowa Response
Iowa is in its third year of full implementation of a longitudinal student record system, with unique student identification numbers, and ability to monitor the movement of students across time. For the statewide assessment, LEAs are required to "extract" and submit student information from their systems that is used to create bar-coded labels that are attached to each student's test answer document. After the answer folders are scanned, the student data taken from the "extract" files are merged with the results, which enables the IDE to know where each student was when they were tested, and what their district of residence is. Once the student data are returned from Iowa Testing Programs and loaded onto the state's secure server, it can be used to track the movement of students across time and across schools or districts. Monitoring of the match rates will be built into the data analysis system. Prior to full implementation of unique student identifiers, Iowa Testing Programs utilized a cascading set of criteria to match student records across years, starting with the unique student identifier (if available), then continuing to match on student name, district code, birth month and year, and the like until a match is established. The initial match on the student identifier results in a match rate of 86.3%. Subsequent matching on student name, district code, and other criteria increases the overall match rate to 95%. The table below shows the disaggregated match rate for numerically significant subgroups. The confidence is very high that the IDE will be able to achieve matching for all students with the unique student ID system now in place.

Disaggregated Match Rates for Academic Years Ending ’05 and ’06

Gender		
	Male	95%
	Female	95%
Race/Ethnicity		
	Asian	88%
	Black	78%
	Hispanic	84%
	Native American	84%
	White	97%
Free or Reduced Price Lunch		
	Yes	91%
	No	97%
English Language Learner		
	Yes	81%
	No	95%

Part of the evaluation design of the pilot project will include a process to ensure that the IDE can identify the location and movement of each student from one year to the next.

Iowa has had a student identification system since 2004. Since the IDE proposal will only be examining change from one year to the next year, there is no reason to need to look at multiple years of matched files prior to 2004. Over time, as the student record system grows, the IDE will have the capacity to look at multiple years, as the need arises.

The current student record system includes information on demographic characteristics. In fact, this information is used to respond to federal requests through the PBDMI/EDEN project (now known as ED*facts*).

Since the growth model examines student growth prior to aggregation at the school or district level, a student moving from one school to another within the same district will count at the school of attendance. Students who have moved across district lines will not currently be eligible for growth determination.

6.2 Does the State data infrastructure have the capacity to implement the proposed growth model?

Iowa Response

The storage capacity for student information is currently met by the state’s secure servers. The IDE intends to continue storing data on the state’s secure servers.

The state has capacity to examine longitudinal student data. Iowa Testing Programs has followed student achievement trends for at least 45 years. The IDE publishes the Annual Condition of Education Report, which displays results of longitudinal data analyses beginning with the early 1990s.

The proposed model will not conduct a statistical adjustment to compensate for missing data or low match rates. Based on the matching criteria and decision rules about which students count and where, nearly every student who attends a public school in the state should be able to be matched across time. This is not anticipated to affect the school accountability criteria at all.

Core Principle #7: Participation Rates and Additional Academic Indicator	
7.1	**Has the State designed and implemented a Statewide accountability system that incorporates the rate of participation as one of the criteria?**
	Iowa Response
	In order to be eligible for the growth determination, a student would need to have participated in the statewide assessment for at least two years. Regarding participation rates at the school AYP level: In order for a school or district to be eligible to take advantage of the growth model to be included with the AYP decision, that school or district must have met the 95 percent participation rate criteria for all eligible student subgroups for both years, calculated in the same manner as the status AYP model (participation rate equals the number of students tested divided by the number of students enrolled at the time of testing, times 100 percent).
7.2	**Does the proposed State growth accountability model incorporate the additional academic indicator?**
	Iowa Response
	The other academic indicator continues to be part of the accountability plan. If a school makes AYP for the assessment, but does not achieve the other academic indicator, it misses AYP. The IDE has an approved plan that states for a district to miss AYP for the other academic indicator, it must miss at all levels. The other academic indicators used by Iowa are graduation rate at high school, and average daily attendance at the elementary and middle school levels. Graduation rate is calculated using the suggested NCES protocol. Attendance rates are calculated by dividing the average daily attendance (ADA) by the average daily membership/enrollment. With the inception of the student record system, the IDE is able to capture this information for each student. As such, ADA will be able to be calculated from existing data. The other academic indicator will be used in the same manner as it is currently used in the accountability system. That is, if a school meets the AMO (without or with the growth component), and/or if it misses the other academic indicator, it will miss AYP. The same will occur at the district level, with the exception of needing to miss the other academic indicator for all levels in order for the district to miss AYP for the other academic indicator.

Summary

The IDE is excited about the opportunity to engage schools and districts about improving the achievement of their students from one year to the next. The approval of this proposal would validate those efforts. We believe that this proposal meets all of the core principles specified in Secretary Spellings' November 21, 2005, and October 11, 2006, communications to state chiefs.

Specifically,

- We have defined AYG as more than a typical year's growth in a year's time.
- We have based the growth determination on student achievement, rather than on demographic variables.
- We have outlined a process for making separate accountability decisions for reading and mathematics.
- Because the model is integrated with the current AYP-status model, schools and districts are held accountable for the performance of all subgroups, indeed, all students.
- We will have two years of data for all students, grades 3-8 and 11 as well as a historical database of vertically scaled assessments that yield comparable results across grades and years.
- We have a longitudinal student-unit data storage system, containing unique student identifiers, capable of tracking student progress across grades and time.
- We continue to use the current AYP status-model expectations regarding participation rates and other academic indicators.

The IDE is poised to engage the work necessary to implement the proposed growth model, and to evaluate its effects on AYP decisions, and on instructional practices that are designed to lead to improved student achievement.

Appendix A

Content Summaries and Performance Level Descriptors

Content Summary
Grade 3 Reading Comprehension

Students in grade 3 read a variety of fiction (e.g. stories, folktales), non-fiction (e.g., general science, social studies, biography), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

Performance Level Descriptors
Grade 3 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): Understands factual information and new words in context, is able to make inferences, can interpret non-literal language and information in new contexts, and usually can determine a selection's main ideas and analyze its style and structure.

> Distinguished (95-99): Understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.
>
> Accomplished (90-94): Usually understands factual information and new words in context. Usually can make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas and analyze its style and structure.

Intermediate Performance Level (41-89): Usually understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas or analyze its style and structure.

> Skilled (76-89): Usually understands factual information and new words in context. Often can make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas and analyze its style and structure.
>
> Moderate (41-75): Usually understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas and analyze its style and structure.

Low Performance Level (1-40): Seldom understands factual information or new words in context. Rarely is able to make inferences and interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze its style and structure.

> Marginal (10-40): Seldom understands factual information or new words in context. Rarely is able to make inferences and interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas and analyze aspects of its style and structure.
>
> Weak (1-9): Seldom understands factual information or new words in context. Rarely is able to make inferences or to interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze aspects of its style and structure.

Content Summary
Grade 3 Mathematics

Students in grade 4 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge at this grade level include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Use place value; write numbers in standard, expanded, and exponential form
- Use and interpret operational and relational symbols
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Solve equations and inequalities
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter, area, and volume

Measurement

- Measure length/distance, time, temperature, weight, mass, and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability

Problem Solving

- Solve single- and multiple-step math problems
- Identify extraneous or insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of bar and line graphs and locate amounts in tables
- Determine ranks, sums, or differences and find ratios from data displays
- Determine rates, identify trends, understand functional relationships, and generalize from data displayed in graphs and tables

Performance Level Descriptors for
Grade 3 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually is able to use estimation methods.

> Distinguished (95-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.
>
> Accomplished (90-94): Understands math concept, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.

Intermediate Performance Level (41-89): Usually can understand math concepts and solve word problems. Sometimes is able to use estimation methods and usually can interpret data from graphs and tables.

> Skilled (76-89): Usually can understand math concepts use estimation methods. Is able to solve word problems and interpret data from graphs and tables.
>
> Moderate (41-75): Usually can understand math concepts and solve word problems. Sometimes can use estimation methods; usually can interpret data from graphs and tables.

Low Performance Level (1-40): Sometimes can understand math concepts, but seldom is able to solve word problems. Rarely is able to use estimation methods or interpret data from graphs and tables.

> Marginal (10-40): Sometimes can understand math concepts but seldom is able to solve word problems or use estimation methods. Rarely can interpret data from graphs and tables.
>
> Weak (1-9): Seldom can understand math concepts or solve word problems. Rarely can use estimation methods or interpret data from graphs and tables.

Content Summary
Grade 4 Reading Comprehension

Students in grade 4 read a variety of fiction (e.g. stories, folktales), non-fiction (e.g., general science, social studies, biography, functional text), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students in grade 4 must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

At this level, the content and process dimensions of reading comprehension emphasize factual understanding, inference, and interpretation of grade-appropriate text.

Performance Level Descriptors
Grade 4 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): When reading **grade-appropriate texts**, a student who performs at this level understands factual information and new words in context, is able to make inferences, can interpret either non-literal language or information in new contexts, and can determine a selection's main ideas and analyze its style and structure.

> Distinguished (95-99): Understands factual information and new words in context. Makes inferences and interprets either non-literal language or information in new contexts. Determines a selection's main ideas and analyzes its style and structure.
>
> Accomplished (90-94): Usually understands factual information and new words in context. Usually makes inferences and interprets either non-literal language or information in new contexts. Determines a selection's main ideas and analyzes its style and structure.

Intermediate Performance Level (41-89): When reading **grade-appropriate texts**, a student who performs at this level usually understands factual information and new words in context. Usually is able to make inferences and interpret either non-literal language or information in new contexts. Often can determine a selection's main ideas and analyze its style and structure.

> Skilled (76-89): Usually understands factual information and new words in context. Often makes inferences and interprets either non-literal language or information in new contexts. Determines a selection's main ideas and analyzes its style and structure.
>
> Moderate (41-75): Usually understands factual information and new words in context. Sometimes makes inferences and interprets either non-literal language or information in new contexts. Usually can determine a selection's main ideas and analyzes its style and structure.

Low Performance Level (1-40): When reading **grade-appropriate texts**, a student who performs at this level seldom understands factual information or new words in context. Sometimes is able to make inferences and interpret either non-literal language or information in new contexts. Rarely can determine a selection's main ideas or analyze its style and structure.

> Marginal (10-40): Seldom understands factual information or new words in context. Sometimes makes inferences and interprets either non-literal language or information in new contexts. Sometimes determines a selection's main ideas and analyzes its style and structure.
>
> Weak (1-9): Seldom understands factual information or new words in context. Rarely makes inferences or interprets either non-literal language or information in new contexts. Rarely determines a selection's main ideas or analyzes aspects of its style and structure.

Content Summary
Grade 4 Mathematics

Students in grade 4 must understand mathematical concepts and estimation strategies, solve single- and multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge in grade 4 include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Use place value; write numbers in standard and expanded form
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Use operational and relational symbols
- Solve equations
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter and area

Measurement

- Measure length/distance, time, temperature, weight
- Estimate measurements with appropriate precision
- Identify appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Apply measures of central tendency

Problem Solving

- Solve single- and multiple-step math problems
- Identify insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of pictographs and bar graphs and locate amounts in tables
- Determine ranks, sums, and differences from data displays
- Identify trends and generalize from data displayed in graphs and tables

Performance Level Descriptors
Grade 4 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): In a **grade-appropriate context**, a student who performs at this level understands math concepts, solves word problems, and often is able to use estimation methods. Can interpret data from graphs and tables.

> Distinguished (95-99): Understands math concepts and is able to solve word problems. Uses estimation methods and interprets data from graphs and tables.
>
> Accomplished (90-94): Usually can understand math concepts and solve word problems. Often uses estimation methods and interprets data from graphs and tables.

Intermediate Performance Level (41-89): In a **grade-appropriate context**, a student who performs at this level usually can understand math concepts and solve word problems. Sometimes is able to use estimation methods and usually can interpret data from graphs and tables.

> Skilled (76-89): Sometimes understands math concepts and usually is able to solve word problems. Often uses estimation methods and interprets data from graphs and tables.
>
> Moderate (41-75): Sometimes understands math concepts and solves word problems. Sometimes is able to use estimation methods and interpret data from graphs and tables.

Low Performance Level (1-40): In a **grade-appropriate context**, a student who performs at this level sometimes can understand math concepts, but seldom is able to solve word problems. Rarely is able to use estimation methods or interpret data from graphs and tables.

> Marginal (10-40): Sometimes understands math concepts but seldom is able to solve word problems or use estimation methods. Sometimes interprets data from graphs and tables.
>
> Weak (1-9): Seldom understands math concepts or solves word problems. Rarely uses estimation methods or interprets data from graphs and tables.

Content Summary
Grade 5 Reading Comprehension

Students in grade 5 read a variety of fiction (e.g. stories, letters), non-fiction (e.g., general science, social studies, biography, essays, functional texts), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

Performance Level Descriptors
Grade 5 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): Understands factual information and new words in context, is able to make inferences, can interpret non-literal language and information in new contexts, and usually can determine a selection's main ideas and analyze its style and structure.

> Distinguished (95-99): Understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.
>
> Accomplished (90-94): Usually understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.

Intermediate Performance Level (41-89): Usually understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas or analyze its style and structure.

> Skilled (76-89): Usually understands factual information and new words in context. Often can make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas and analyze its style and structure.
>
> Moderate (41-75): Usually understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas and analyze its style and structure.

Low Performance Level (1-40): Seldom understands factual information or new words in context. Rarely is able to make inferences and interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze its style and structure.

> Marginal (10-40): Sometimes understands factual information or new words in context. Sometimes is able to make inferences and interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas and analyze aspects of its style and structure.
>
> Weak (1-9): Seldom understands factual information or new words in context. Rarely is able to make inferences or to interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze aspects of its style and structure.

Content Summary
Grade 5 Mathematics

Students in grade 5 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge at this grade level include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Use place value; write numbers in standard, expanded, and exponential form
- Use and interpret operational and relational symbols
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Solve equations and inequalities
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter, area, and volume

Measurement

- Measure length/distance, time, temperature, weight, mass, and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability

Problem Solving

- Solve single- and multiple-step math problems
- Identify extraneous or insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of bar and line graphs and locate amounts in tables
- Determine ranks, sums, or differences and find ratios from data displays
- Determine rates, identify trends, understand functional relationships, and generalize from data displayed in graphs and tables

Performance Level Descriptors for
Grade 5 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.

> Distinguished (95-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.
>
> Accomplished (90-94): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.

Intermediate Performance Level (41-89): Usually can understand math concepts, solve word problems, and interpret data from graphs and tables. Sometimes is able to use estimation methods.

> Skilled (76-89): Usually can understand math concepts and solve word problems. Often can use estimation methods and interpret data from graphs and tables.
>
> Moderate (41-75): Usually can understand math concepts. Sometimes is able to solve word problems, use estimation methods, and interpret data from graphs and tables.

Low Performance Level (1-40): Seldom can understand math concepts or solve word problems. Rarely is able to use estimation methods or interpret data from graphs or tables.

> Marginal (10-40): Sometimes can understand math concepts, solve word problems, use estimation methods, and interpret data from graphs and tables.
>
> Weak (1-9): Seldom can understand math concepts or solve word problems. Rarely can use estimation methods or interpret data from graphs and tables.

Content Summary
Grade 6 Reading Comprehension

Students in grade 6 read a variety of fiction (e.g. narratives, letters), non-fiction (e.g., general science, social science, biography, essays, functional texts), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

Performance Level Descriptors
Grade 6 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): Understands factual information and new words in context, is able to make inferences, can interpret non-literal language and information in new contexts, and usually can determine a selection's main ideas and analyze its style and structure.

> Distinguished (95-99): Understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.
>
> Accomplished (90-94): Usually understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.

Intermediate Performance Level (41-89): Usually understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas or analyze its style and structure.

> Skilled (76-89): Usually understands factual information and new words in context. Often can make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas and analyze its style and structure.
>
> Moderate (41-75): Sometimes understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas and analyze its style and structure.

Low Performance Level (1-40): Seldom understands factual information or new words in context. Rarely is able to make inferences and interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze its style and structure.

> Marginal (10-40): Seldom understands factual information or new words in context. Sometimes is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas and analyze aspects of its style and structure.
>
> Weak (1-9): Seldom understands factual information or new words in context. Rarely is able to make inferences or to interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze aspects of its style and structure.

Content Summary
Grade 6 Mathematics

Students in grade 6 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge at this grade level include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Use place value; write numbers in standard, expanded, and exponential form
- Use and interpret operational and relational symbols
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Solve equations and inequalities
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter, area, and volume

Measurement

- Measure length/distance, time, temperature, weight, mass, and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability

Problem Solving

- Solve single- and multiple-step math problems
- Identify extraneous or insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of bar and line graphs and locate amounts in tables
- Determine ranks, sums, or differences and find ratios from data displays
- Determine rates, identify trends, understand functional relationships, and generalize from data displayed in graphs and tables

Performance Level Descriptors for
Grade 6 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): Understands math concepts and solves word problems. Usually is able to use estimation methods and interpret data from graphs and tables.

> Distinguished (95-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.
>
> Accomplished (90-94): Understands math concepts and solves word problems. Usually can use estimation methods and interpret data from graphs and tables.

Intermediate Performance Level (41-89): Usually can understand math concepts, solve word problems, and interpret data from graphs and tables. Sometimes is able to use estimation methods.

> Skilled (76-89): Usually can understand math concepts, solve word problems, and interpret data from graphs and tables. Sometimes can use estimation methods.
>
> Moderate (41-75): Usually can understand math concepts and interpret data from graphs and tables. Sometimes is able to solve word problems and use estimation methods.

Low Performance Level (1-40): Sometimes can understand math concepts, but seldom is able to solve word problems, use estimation methods, or interpret data from graphs and tables.

> Marginal (10-40): Sometimes can understand math concepts, solve word problems, and interpret data from graphs and tables. Seldom can use estimation methods.
>
> Weak (1-9): Seldom can understand math concepts or solve word problems. Rarely can use estimation methods or interpret data from graphs and tables.

Content Summary
Grade 7 Reading Comprehension

Students in grade 7 read a variety of fiction (e.g., narrative), non-fiction (e.g. general science and social science, biography, history), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

Performance Level Descriptors
Grade 7 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): Understands factual information and new words in context, is able to make inferences, can interpret non-literal language and information in new contexts. Can determine a selection's main ideas and analyze its style and structure.

> Distinguished (95-99): Understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.
>
> Accomplished (90-94): Usually understands factual information and new words in context. Can make inferences and interpret either non-literal language or information in new contexts. Can determine a selection's main ideas and analyze its style and structure.

Intermediate Performance Level (41-89): Usually understands factual information and new words in context. Often is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas or analyze its style and structure.

> Skilled (76-89): Usually understands factual information and new words in context. Often can make inferences and interpret either non-literal language or information in new contexts. Usually can determine a selection's main ideas and analyze its style and structure.
>
> Moderate (41-75): Usually understands factual information and new words in context. Sometimes is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas and analyze its style and structure.

Low Performance Level (1-40): Seldom understands factual information or new words in context. Rarely is able to make inferences and interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze its style and structure.

> Marginal (10-40): Seldom understands factual information or new words in context. Sometimes is able to make inferences and interpret either non-literal language or information in new contexts. Sometimes can determine a selection's main ideas and analyze aspects of its style and structure.
>
> Weak (1-9): Seldom understands factual information or new words in context. Rarely is able to make inferences or to interpret either non-literal language or information in new contexts. Seldom can determine a selection's main ideas or analyze aspects of its style and structure.

Content Summary
Grade 7 Mathematics

Students in grade 7 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge at this grade level include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Use place value; write numbers in standard, expanded, and exponential form
- Use and interpret operational and relational symbols
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Solve equations and inequalities
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter, area, and volume

Measurement

- Measure length/distance, time, temperature, weight, mass, and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability

Problem Solving

- Solve single- and multiple-step math problems
- Identify extraneous or insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of bar and line graphs and locate amounts in tables
- Determine ranks, sums, or differences and find ratios from data displays
- Determine rates, identify trends, understand functional relationships, and generalize from data displayed in graphs and tables

Performance Level Descriptors for
Grade 7 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.

> Distinguished (95-99): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.
>
> Accomplished (90-94): Understands math concepts, solves word problems, and interprets data from graphs and tables. Usually can use estimation methods.

Intermediate Performance Level (41-89): Usually can understand math concepts, solve word problems, and interpret data from graphs and tables. Sometimes is able to use estimation methods.

> Skilled (76-89): Usually can understand math concepts, solve word problems, use estimation methods, and interpret data from graphs and tables.
>
> Moderate (41-75): Sometimes can understand math concepts and use estimation methods. Usually is able to solve word problems and interpret data from graphs and tables.

Low Performance Level (1-40): Seldom can understand math concepts, solve word problems, or use estimation methods. Sometimes can interpret data from graphs or tables.

> Marginal (10-40): Sometimes can understand math concepts, use estimation methods, and interpret data from graphs and tables. Seldom is able to solve word problems.
>
> Weak (1-9): Seldom can understand math concepts or solve word problems. Rarely can use estimation methods or interpret data from graphs and tables.

Content Summary
Grade 8 Reading Comprehension

Students in grade 8 read a variety of fiction, non-fiction (e.g., general science and social science, biography, narrative, journalism, history), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students in grade 8 must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

At this level, the content and process dimensions of reading comprehension emphasize in equal proportions critical thinking through factual understanding, inference and interpretation, and analysis and generalization of grade-appropriate text.

Performance Level Descriptors
Grade 8 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): When reading **grade-appropriate texts**, a student who performs at this level understands factual information and new words in context, is able to make inferences, and can interpret information in new contexts. The student also can determine a selection's main ideas, identify its author's purpose or viewpoint, and analyze its style and structure.

> Distinguished (95-99): Understands factual information and new words in context, and makes inferences and interprets information in new contexts. Is able to determine a selection's main ideas and analyze its style and structure. Identifies the author's purpose or viewpoint.
>
> Accomplished (90-94): Usually understands factual information and new words in context, makes inferences and interprets information in new contexts, and is able to determine a selection's main ideas and analyze its style and structure. Identifies the author's purpose or viewpoint.

Intermediate Performance Level (41-89): When reading **grade-appropriate texts**, a student who performs at this level usually understands factual information and new words in context. Often is able to make inferences and interpret information in new contexts. The student can sometimes determine a selection's main ideas, identify its author's purpose or viewpoint, and analyze its style and structure.

> Skilled (76-89): Usually understands factual information and new words in context. Makes inferences and interprets information in new contexts. Usually determines a selection's main ideas and analyzes its style and structure. Usually is able to identify an author's purpose or viewpoint.
>
> Moderate (41-75): Usually understands factual information and new words in context. Often makes inferences and interprets information in new contexts. Sometimes determines a selection's main ideas and analyzes its style and structure. Sometimes can identify an author's purpose or viewpoint.

Low Performance Level (1-40): When reading **grade-appropriate texts**, a student who performs at this level seldom understands factual information or new words in context. The student rarely is able to make inferences or interpret information in new contexts. The student seldom can determine a selection's main ideas, identify its author's purpose or viewpoint, or analyze its style and structure.

> Marginal (10-40): Seldom understands factual information or new words in context. Sometimes makes inferences and interprets information in new contexts. Sometimes determines a selection's main ideas and analyzes its style and structure. Sometimes is able to identify an author's purpose or viewpoint.
>
> Weak (1-9): Seldom understands factual information or new words in context. Rarely makes inferences and interprets information in new contexts. Seldom determines a selection's main ideas or analyzes its style and structure. Rarely can identify an author's purpose or viewpoint.

Content Summary
Grade 8 Mathematics

Students in grade 8 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge in grade 8 include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Write numbers in standard and exponential form
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Use and interpret operational and relational symbols
- Solve equations and inequalities
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter, area, and volume

Measurement

- Measure length/distance, time, temperature, weight, mass, and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability

Problem Solving

- Solve single- and multiple-step math problems
- Identify extraneous or insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of bar, circle, and line graphs; locate and interpret amounts in tables
- Determine ranks, sums, or differences and find ratios from data displays
- Determine rates, identify trends, understand functional relationships, and generalize from data displayed in graphs and tables

Performance Level Descriptors
Grade 8 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): In a **grade-appropriate context**, a student who performs at this level understands math concepts and is able to solve word problems. The student usually can use estimation methods. The student is able to interpret data from graphs and tables.

Distinguished (95-99): Understands math concepts and is able to solve word problems. Usually uses estimation methods. Interprets data from graphs and tables.

Accomplished (90-94): Understands math concepts and is able to solve word problems. Usually uses estimation methods. Interprets data from graphs and tables.

Intermediate Performance Level (41-89): In a **grade-appropriate context,** a student who performs at this level usually can understand math concepts and sometimes is able to solve word problems. The student sometimes is able to use estimation methods and usually is able to interpret data from graphs and tables.

Skilled (76-89): Understands math concepts and usually is able to solve word problems. Often uses estimation methods and interprets data from graphs and tables.

Moderate (41-75): Usually can understand math concepts and sometimes is able to solve word problems. Sometimes uses estimation methods and interprets data from graphs and tables.

Low Performance Level (1-40): In a **grade-appropriate context**, a student who performs at this level seldom can understand math concepts or solve word problems. The student seldom can use estimation methods or interpret data from graphs or tables.

Marginal (10-40): Sometimes understands math concepts but seldom is able to solve word problems. Sometimes uses estimation methods and interprets data from graphs and tables.

Weak (1-9): Seldom understands math concepts or solves word problems. Rarely uses estimation methods or interprets data from graphs and tables.

Content Summary
Grade 11 Reading Comprehension

Students in grade 11 read a variety of previously published fiction (e.g. narrative), non-fiction (e.g., general science and social science, history, essay, memoir, general interest, informational), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students in grade 11 must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the literal meaning of words or phrases

Inference and Interpretation

- Draw conclusions
- Infer traits, feelings, and motives of characters
- Infer relationships
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Make generalizations and interpret non-literal language
- Determine the main idea of a text
- Identify the author's viewpoint or purpose
- Distinguish among facts, opinions, assumptions, observations, conclusions
- Recognize literary or argumentative techniques
- Analyze the style or structure of a text

At this level, the content and process dimensions of reading comprehension emphasize in equal proportions critical thinking through factual understanding, inference and interpretation, and analysis and generalization of grade-appropriate text.

Performance Level Descriptors
Grade 11 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

High Performance Level (90-99): When reading **grade-appropriate texts**, a student who performs at this level understands stated information and ideas; infers implied meaning, draws conclusions, and interprets non-literal language; makes generalizations from or about a text, identifies the author's purpose or viewpoint, and evaluates aspects of its style or structure.

> Distinguished (95-99): Understands stated information and ideas; makes inferences about implied meanings, draws conclusions, and interprets non-literal language; and makes generalizations from or about a text, identifies the author's purpose or viewpoint, and evaluates aspects of its style or structure.
>
> Accomplished (90-94): Usually understands stated information and ideas; makes inferences about implied meanings, draws conclusions, and interprets non-literal language; and usually makes generalizations from or about a text, identifies the author's purpose or viewpoint, and evaluates aspects of its style or structure.

Intermediate Performance Level (41-89): When reading **grade-appropriate texts**, a student who performs at this level usually understands stated information and ideas; sometimes infers implied meaning, draws conclusions, and interprets non-literal language; often makes generalizations from or about a text, identifies the author's purpose or viewpoint, and evaluates aspects of its style or structure.

> Skilled (76-89): Usually understands stated information and ideas; usually makes inferences about implied meanings, draws conclusions, and interprets non-literal language; sometimes makes generalizations from or about a text, identifies the author's purpose or viewpoint, and evaluates aspects of its style or structure.
>
> Moderate (41-75): Sometimes understands stated information and ideas; sometimes makes simple inferences about implied meaning, draws conclusions, and interprets non-literal language; sometimes makes generalizations from or about a text, identifies the author's purpose or viewpoint, and evaluates aspects of its style or structure.

Low Performance Level (1-40): When reading **grade-appropriate texts**, a student who performs at this level seldom understands stated information and ideas; rarely infers implied meaning, draws conclusions, or interprets non-literal language; and rarely makes generalizations from or about a text, identifies its author's purpose or viewpoint, or evaluates aspects of its style or structure.

> Marginal (10-40): Seldom understands stated information and ideas; rarely makes inferences about implied meaning or interprets non-literal language; and rarely makes generalizations from or about a text, identifies the author's purpose or viewpoint, or evaluates aspects of its style or structure.
>
> Weak (1-9): Rarely understands stated information and ideas; rarely makes inferences about implied meaning or interprets non-literal language; and does not make generalizations from or about a text, identify the author's purpose or viewpoint, or evaluate aspects of its style or structure.

Content Summary
Grade 11 Mathematics

Students in grade 11 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The primary focus of the test is on fundamental concepts and quantitative reasoning skills. The content and process dimensions of mathematics knowledge in grade 11 include:

- Applying appropriate techniques, tools, and formulas to determine measurements
- Understanding the units, systems, and processes of measurement
- Selecting and using appropriate statistical methods to analyze data
- Making inferences or predictions based on data or information
- Interpreting data from a variety of sources
- Understanding and applying the basic concepts of probability
- Making reasonable estimates
- Evaluating the reasonableness of quantitative solutions
- Solving quantitative reasoning problems
- Using scientific notation to solve problems
- Using mathematical models to represent relationships
- Understanding patterns, relations, and functions
- Analyzing characteristics and properties of two-and three-dimensional geometric shapes

Performance Level Descriptors
Grade 11 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

High Performance Level (90-99): In a **grade-appropriate context**, a student who performs at this level makes inferences with quantitative information, solves a variety of quantitative reasoning problems, and usually applies math concepts and procedures.

> Distinguished (95-99): Applies math concepts and procedures, makes inferences with quantitative information, and solves a variety of quantitative reasoning problems.
>
> Accomplished (90-94): Usually applies math concepts and procedures, usually makes inferences with quantitative information, and usually solves a variety of quantitative reasoning problems.

Intermediate Performance Level (41-89): In a **grade-appropriate context**, a student who performs at this level often applies math concepts and procedures, makes inferences with quantitative information, and solves a variety of quantitative reasoning problems.

> Skilled (76-89): Often applies math concepts and procedures, often makes inferences with quantitative information, and often solves a variety of quantitative reasoning problems.
>
> Moderate (41-75): Sometimes applies math concepts and procedures, sometimes makes inferences with quantitative information, and sometimes solves a variety of quantitative reasoning problems.

Low Performance Level (1-40): In a **grade-appropriate context**, a student who performs at this level seldom applies math concepts and procedures, seldom makes inferences with quantitative information, and seldom solves quantitative reasoning problems.

> Marginal (10-40): Seldom applies math concepts and procedures, seldom makes inferences with quantitative information, and seldom solves quantitative reasoning problems.
>
> Weak (1-9): Rarely applies math concepts and procedures, rarely makes inferences with quantitative information, and rarely solves quantitative reasoning problems.

Appendix B
Scale Score Ranges by Performance Category, Standard Errors, and Raw Score to Scale Score Conversions

- A student scoring in the Weak level in the first year would be considered to have made AYG if s/he achieved at the Marginal achievement level (either the Lo Marginal or Hi Marginal region).

Scale Score Cut Points

Fall testing	A – year 1	B – year 2	C – year 2
Reading Grade	Weak	Lo Marginal	Hi Marginal
3 to 4	125	160	177
4 to 5	130	168	188
5 to 6	135	175	200
6 to 7	140	181	211
7 to 8	140	186	222
10 to 11	165	201	245

Fall testing	A – year 1	B – year 2	C – year 2
Math Grade	Weak	Lo Marginal	Hi Marginal
3 to 4	125	163	180
4 to 5	130	173	192
5 to 6	135	182	204
6 to 7	140	191	214
7 to 8	140	198	224
10 to 11	165	215	245

Scale Score Cut Points

Spring testing	A – year 1	B – year 2	C – year 2
Reading Grade	Weak	Lo Marginal	Hi Marginal
3 to 4	130	166	185
4 to 5	135	173	197
5 to 6	140	179	207
6 to 7	140	184	218
7 to 8	145	190	228
10 to 11	165	204	249

Spring testing	A – year 1	B – year 2	C – year 2
Math Grade	Weak	Lo Marginal	Hi Marginal
3 to 4	130	170	189
4 to 5	135	180	199
5 to 6	140	188	211
6 to 7	140	195	221
7 to 8	145	202	23
10 to 11	165	217	250

- A student scoring in the Lo Marginal region, but below the SEM boundary for Proficient in the first year would be considered to have made AYG if s/he achieved a score that is above the SEM boundary (i.e., Hi Marginal) for Proficient in the second year.

Scale Score Ranges

Fall testing	Reading A – year 1	Reading B – year 2	Math A – year 1	Math B – year 2
	Lo Marginal	Hi Marginal	Lo Marginal	Hi Marginal
3 to 4	150	177	152	180
4 to 5	160	188	163	192
5 to 6	168	200	173	204
6 to 7	175	211	182	214
7 to 8	181	222	191	224
10 to 11	197	245	210	245

Spring testing	Reading A – year 1	Reading B – year 2	Math A – year 1	Math B – year 2
	Lo Marginal	Hi Marginal	Lo Marginal	Hi Marginal
3 to 4	157	185	159	189
4 to 5	166	197	170	199
5 to 6	173	207	180	211
6 to 7	179	218	188	221
7 to 8	184	228	195	231
10 to 11	199	249	213	250

Student achievement of a growth target will be done by examining the scale scores for each year, identifying an achievement level for that scale score range, and determining if the achievement level changed from the prior year to the subsequent year. A student will be required to have an achievement level change as described above in order to make AYG.

The following tables identify the raw score equivalents to the scale score cut points:

Raw Score Equivalents: Scale Score Cut Points

Reading	Raw Score	A – year 1	Raw Score	B – year 2	Raw Score	C – year 2
Grade		Weak		Lo Marginal		Hi Marginal
3 to 4	2	125	11	160	16	177
4 to 5	2	130	12	168	18	188
5 to 6	3	135	13	175	20	200
6 to 7	3	140	13	181	20	211
7 to 8	3	140	15	186	23	222
10 to 11	6	165	10	201	16	245

Mathematics	Raw Score	A – year 1	Raw Score	B – year 2	Raw Score	C – year 2
Grade		Weak		Lo Marginal		Hi Marginal
3 to 4	3	125	17	163	25	180
4 to 5	3	130	18	173	27	192
5 to 6	3	135	21	182	31	204
6 to 7	4	140	23	191	34	214
7 to 8	3	140	22	198	34	224
10 to 11	2	165	8	215	12	245

*Note: the Raw Scores for Mathematics were determined by summing the raw scores for the two Math subtests comprising the Math Total scale.

- A student scoring in the Lo Marginal region, but below the SEM boundary for Proficient in the first year would be considered to have made AYG if s/he achieved a score that is above the SEM boundary (i.e., Hi Marginal) for Proficient in the second year.

Raw Score Equivalents: Scale Score Cut Points

	Raw Score	Reading A–year 1	Raw Score	Reading B–year 2	Raw Score	Math A–year 1	Raw Score	Math B–year 2
		Lo Marginal		Hi Marginal		Lo Marginal		Hi Marginal
3 to 4	8	150	16	177	13	152	25	180
4 to 5	10	160	18	188	15	163	27	192
5 to 6	11	168	20	200	16	173	31	204
6 to 7	12	175	20	211	19	182	34	214
7 to 8	14	181	23	222	20	191	34	224
10 to 11	10	197	16	245	7	210	12	245

*Note: the Raw Scores for Mathematics were determined by summing the raw scores for the two Math subtests comprising the Math Total scale.

Standard Errors for Scale Ranges

READING	WEAK	LO MARGINAL	HI MARGINAL	MATH	WEAK	LO MARGINAL	HI MARGINAL
Grade 3	8.30	7.90	6.61	Grade 3	8.85	9.04	8.73
Grade 4	8.29	9.27	8.26	Grade 4	9.50	10.27	9.90
Grade 5	9.43	10.45	9.78	Grade 5	10.57	11.70	11.09
Grade 6	9.06	11.24	11.34	Grade 6	10.62	11.51	11.21
Grade 7	10.79	13.33	11.41	Grade 7	11.13	12.90	12.79
Grade 8	9.97	14.35	12.51	Grade 8	11.74	14.42	14.56
Grade 9	13.43	15.67	12.75	Grade 9	13.64	16.40	15.96
Grade 10	13.98	15.45	12.83	Grade 10	13.23	16.50	16.93
Grade 11	17.28	22.07	17.77	Grade 11	14.62	19.13	17.96

Appendix C
Scale Score Comparability Across Levels

The following is adapted from *The Iowa Tests: Guide to Research and Development*, Part 4, Scaling, Norming, and Equating the Iowa Tests (Hoover, Dunbar & Frisbie, 2003) with permission from The University of Iowa.

Comparability of Developmental Scores Across Levels: The Growth Model

The foundation of any developmental scale of educational achievement is the definition of grade-to-grade overlap. Students vary considerably within any given grade in the kinds of cognitive tasks they can perform. For example, some students in third grade can solve problems in mathematics that are difficult for the average student in sixth grade. Conversely, some students in sixth grade read no better than the average student in third grade. There is even more overlap in the cognitive skills of students in adjacent grades—enough that some communities have devised multi-age or multi-grade classrooms to accommodate it. Grade-to-grade overlap in the distributions of cognitive skills is basic to any developmental scale that measures growth in achievement over time. Such overlap is sometimes described by the ratio of variability within grade to variability between grades. As this ratio increases, the amount of grade-to-grade overlap in achievement increases.

Each test in the *ITBS* battery from Levels 9 through 14 is a single continuous test representing a range of educational development from low grade 3 through superior grade 9. Each test is organized as six overlapping levels. Each of the tests in the *ITED* battery for Levels 15, 16, and 17/18 consists of a single continuous test representing a range of educational development from low grade 9 through superior grade 12. Each test was organized as three overlapping levels. During the 1970s, the tests were extended downward to kindergarten by the addition of Levels 5 through 8 of the Primary Battery. Beginning in 1992, the *Iowa Tests of Educational Development*, Levels 15 - 17/18 were jointly standardized with the *ITBS*. A common developmental scale was needed to relate the scores from each level to the other levels. The scaling requirement consisted of establishing the overlap among the raw score scales to a common developmental scale. The method used to build the developmental scale for the *ITBS* and *ITED*, was Hieronymus scaling.

The National Standard Score Scale

Students in the national standardization participated in special test administrations for scaling the *ITBS* and *ITED*. The scaling tests used in the Hieronymus method were wide-range achievement tests designed to represent each content domain in the Complete Battery of the *ITBS* or *ITED*. Scaling tests were developed for three groups: Kindergarten through grade 3, grades 3 through 9, and grades 8 through 12. These tests were designed to establish links among the three sets of tests from the data collected. During the standardization, scaling tests in each content area were spiraled within classrooms to obtain nationally representative and comparable data for each subtest.

The scaling tests provide essential information about achievement differences and similarities between groups of students in successive grades. For example, the scores show the variability among fourth graders in science achievement and the proportion of fourth graders that score higher in science than the typical fifth grader. The study of such relations is essential to building developmental score scales. These score scales monitor year-to-year growth and estimate students' developmental levels in areas such as reading, language, and math. To describe the developmental continuum in one subject area, students in several different grades must answer the same questions. The score distributions on the scaling tests defined the grade-to-grade overlap needed to establish the common developmental achievement scale in each test area.

The relation of standard scores to national percentile ranks for each grade was obtained from the results of the scaling test. Given the percentages of students in the national standardization in one grade above or below the medians of other grades, within-grade percentiles on the developmental scale were determined. These percentiles were plotted and smoothed. This produced a cumulative distribution of standard scores for each test and grade, which represents the growth model for that test.

Units for the description of growth from grade to grade must be defined so that comparability can be achieved between descriptions of growth in different content areas. To define these units, achievement data were examined from several sources in which the focus of measurement was on growth in key curriculum areas at a national level. The data included results of scaling studies using not only the Hieronymus method, but also Thurstone and item-response theory methods. Although the properties of developmental scales vary with the methods used to create them, all data sources showed that growth in achievement is rapid in the early stages of development and more gradual in later stages. Theories of cognitive development also support these general findings. The growth model for the current edition of The Iowa Tests was determined so that it was consistent with the patterns of growth over the history of The Iowa Tests and with the experience of educators in measuring student growth and development.

The following table shows the developmental standard scores that correspond to typical performance of grade groups on each *ITBS/ITED* test in the spring of the year. The scale illustrates that average annual growth decreases as students move through the grades. For example, the growth from grade 1 to grade 2 averages 18 standard-score points, but from grade 7 to grade 8 it averages only 11 points.

Grade	K	1	2	3	4	5	6	7	8	9	10	11	12
SS	130	150	168	185	200	214	227	239	250	260	268	275	280