

## Interpreting National Performance using the *Iowa Assessments*™

Educators, parents, policymakers, and students rely on the *Iowa Assessments* to provide important information about students' current achievement and growth in their achievement across years. These nationally standardized achievement tests are designed to allow the comparison of each student's performance in key content areas to that of students across the nation.

The *Iowa Assessments* are the most current edition of a nationally renowned achievement test that measures student achievement in reading, mathematics, language, science, and social studies. Results of the *Iowa Assessments* are reported in several metrics. These metrics have been designed to support a variety of interpretations including growth and relative comparisons. One metric, National Percentile Rank (NPR), indicates the status or relative rank of a student's achievement compared with that of a nationally representative sample of students. This metric has allowed Iowa Testing Programs to chart educational progress since the 1950s, providing a basis for examining changes in national performance over time. The most recent NPRs for the *Iowa Assessments* are based on the standardization studies conducted in 2010–2011 in which nationally representative samples of public and private school students were assessed in all content areas. As a result, information from the *Iowa Assessments* allows educators and parents to compare an individual student's or a local group of students' performance to the most current estimate of national student performance available.

### Results

The tables on the following pages provide information on the 2000 and 2011 norms comparisons. The tables compare the percentile ranks from the 2011 national norms with those from the 2000 national norms for reading, math, language, science and social studies. Only selected percentiles (10, 25, 50, 75 and 90) are shown in each table as a means of describing the general trend of score changes due to changes in national performance.

In the tables, the left column shows the selected percentiles for the given base year (2000). The remaining columns show the associated percentile ranks for the 2011 norms. For instance, to determine how a Grade 3 student who was at the 90th percentile on the Reading Test using the 2000 norms would have scored using the 2011 norms, go to the row labeled 90 and then read across to find the corresponding PR in grade 3. In this example, a student who scored at the 90th percentile on the Reading Test based on the 2000 norms would receive an NPR of 87 using the 2011 norms. Furthermore, a student in grade 3 in mathematics at an NPR of 50 in 2000 would have scored at an NPR of 42 using the 2011 norms. A comparison of the 2000 to 2011 national norms can be used to make the following general observations for grades 1 to 7:

- The 2011 norms are generally harder than the 2000 norms, as there are more decreases in PRs from 2000 to 2011 across grade levels. When the 2011 value is lower than the 2000 value, the newer norms are “harder.”
- In reading, the average student (NPR = 50) in 2011 outperformed the average student in 2000.
- In math, students at all performance levels (low, average and high) in 2011 outperformed students in 2000.
- In language, students in 2011 in grades 3 to 5 tended to outperform students in 2000.
- In social studies, students in 2011 in grade 3 outperformed students in 2000.
- In science, all students in 2011 generally outperformed students in 2000.
- Science and social studies in grades 1 and 2 are exceptions to these observations.

For grades 8 to 11, performance of all students in 2011 was comparable to that of students in 2000.

1. Information from the *Iowa Assessments* allows educators and parents to compare an individual student's or a local group of students' performance to the **most current estimate of national student performance available based on a highly representative national sample**.
2. Since the previous standardization study in 2000, the national school population has changed in terms of **what students know and are able to do**.
3. The 2010-11 research study revealed that **student achievement in core areas such as reading and mathematics has improved, especially in the early elementary grades**. These findings are consistent with results from the National Assessment of Educational Progress over the same time span and the majority of state assessment programs.
4. Because achievement of the general school population has improved over the past few years, a student's NPRs based on the 2011 norms and reported for the *Iowa Assessments* may be lower than NPRs based on earlier norms that have been reported for the previous edition of the tests. Students taking the *Iowa Assessments* today are being compared to a group of students that, overall, outperformed comparable students during the previous norms period. This is much like running a race against a faster group of runners or comparing a student's height to that of a group of children who are generally taller. Just as the student is not necessarily running slower than before or is now shorter than in the past, student achievement—what the student knows and is able to do in a given subject area—may not have declined. Rather, a student's *relative standing* within a group may have changed.
5. Because each edition of the tests is statistically adjusted to be comparable to previous editions, **the standardization group's improved performance on the tests can be attributed to increased student achievement in general and not to a change in the difficulty of the tests**.
6. **The importance of up-to-date normative information is critical in times of change and education reform**. The *Iowa Assessments* reflect today's curricula; they have been carefully designed using the Common Core State Standards (CCSS), individual state standards, surveys of classroom teachers, reviews of curriculum guides and instructional materials, and responses from students in extensive research studies and field testing.
7. **Educators should note that *Iowa Assessments* score reports provide much additional information and other score types, including domain scores, that can help them understand student achievement in each content area**. Standard Scores and Grade Equivalents are valuable and important scores that can help monitor student growth.
8. **As students transition from one norming period to another (that is, move to comparisons using 2011 norms instead of the older 2000 norms), the expectations for growth in terms of standard scores units will be lower than would be seen across academic years within a single norming period**. For example, expected growth of 15 standard score points between two years within a single norming period may be decreased to 7 standard score points between two years across two different norming periods. In this case, the student's growth has not "slowed." Rather, differences in performance between the two norming groups account for the student's relatively smaller standard score gain.

<b>Reading</b>		<b>Corresponding 2011 NPRs</b>									
<b>Achievement Level in 2000</b>	<b>Grade</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>90</b>	82	89	87	85	87	84	89	90	90	90	90
<b>75</b>	66	71	67	69	67	68	72	74	75	75	75
<b>50</b>	40	45	41	41	44	42	46	50	50	50	50
<b>25</b>	20	20	19	21	24	24	25	26	25	25	25
<b>10</b>	8	5	5	9	9	11	10	11	10	10	10

  

<b>Math</b>		<b>Corresponding 2011 NPRs</b>									
<b>Achievement Level in 2000</b>	<b>Grade</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>90</b>	87	85	81	81	81	80	83	84	90	90	90
<b>75</b>	74	66	65	62	62	62	63	67	75	75	75
<b>50</b>	49	44	42	38	39	40	44	46	50	50	50
<b>25</b>	21	22	19	18	19	20	19	22	25	25	25
<b>10</b>	7	8	5	7	6	7	6	8	10	10	10

  

<b>Science</b>		<b>Corresponding 2011 NPRs</b>									
<b>Achievement Level in 2000</b>	<b>Grade</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>90</b>	90	92	83	84	81	85	87	91	90	90	90
<b>75</b>	75	76	64	69	62	69	70	74	75	75	75
<b>50</b>	52	52	39	44	39	43	47	47	50	50	50
<b>25</b>	24	24	25	20	17	23	25	26	25	25	25
<b>10</b>	9	9	9	7	7	9	11	10	10	10	10

  

<b>Social Studies</b>		<b>Corresponding 2011 NPRs</b>									
<b>Achievement Level in 2000</b>	<b>Grade</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>90</b>	90	92	80	86	87	85	90	92	90	90	90
<b>75</b>	73	79	64	74	70	71	76	79	75	75	75
<b>50</b>	48	56	34	47	53	50	53	57	50	50	50
<b>25</b>	23	28	14	20	21	27	24	31	25	25	25
<b>10</b>	8	10	4	8	9	12	9	14	10	10	10

  

<b>Language</b>		<b>Corresponding 2011 NPRs</b>									
<b>Achievement Level in 2000</b>	<b>Grade</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>90</b>	79	88	84	86	84	86	90	90	90	90	90
<b>75</b>	60	73	67	73	68	75	76	76	75	75	75
<b>50</b>	39	47	40	47	45	51	54	53	50	50	50
<b>25</b>	20	23	17	24	22	25	26	29	25	25	25
<b>10</b>	7	8	7	11	9	11	12	12	10	10	10