



## Guide for Interpreting Your PLAN® Item-Response Summary Report

The *PLAN Item-Response Summary Report* consists of the following:

- Interpretive Guide (this booklet)
- PLAN Test Booklet
- Item-Response Summary:
  - Table 1: English
  - Table 2: Mathematics
  - Table 3: Reading
  - Table 4: Science

Your *PLAN Item-Response Summary Report* shows the percentage of your students who selected the correct response to each item, the percentage of your students who selected each incorrect response, and the percentage who did not answer the item. In addition, the report gives the average percentage of students who responded correctly to the items in each content area. Reference group results are provided to assist you in evaluating your students' performance on each item relative to that of other PLAN-tested students. A booklet containing the test items is included to further assist you in identifying the specific knowledge or skills being tested.

The item-level information in this report can help you relate your students' overall performance on the PLAN tests to your local curriculum, including identifying consistent patterns of strength or weakness in your tested students' performance across areas of your curriculum measured by the test. If, for example, you find that your students perform consistently lower than the reference group on items within a content area such as Punctuation, you can examine the text of the Punctuation items to obtain specific examples of the skills or knowledge involved. In using the report, you should determine your students' academic strengths and weaknesses relative to the skills and knowledge measured by the test items, and address apparent weaknesses at the content area level.

If you have questions about the *PLAN Item-Response Summary Report*, please call ACT at 319/337-1741.

As you interpret your results, please note that test items within a content area are to be treated as samples of skills and knowledge from a broader content domain. New PLAN forms are developed and administered each year that cover the same content area, but not with the same items. For a given content area within a PLAN test form, test items are a carefully selected sample of items from the content domain.



School Report

Code: 99999999

Report Group: 10TH GRADE

**SECTION A**

SCHOOL NAME

Reference Group: FALL 10TH GRADE

SOMETOWN, USA

Total students in report group: 311

Administration Date: 10-2010

**TABLE 1: Item-Response Summary for English**

SECTION B Item Number	Percent of report group selecting each option, by response position					REFERENCE group percentage correct	Percentage difference (report group minus reference group percentage correct)			Item Number
	Asterisk marks correct response						Report group responded correctly			
	A / F	B / G	C / H	D / J	Omit		Less often	As often	More often	
Usage/Mechanics: Punctuation										
2	*71	3	10	16	0	60			11	2
14	14	1	14	*71	0	56			15	14
17	8	4	10	*77	0	62			15	17
29	*71	14	8	7	1	54			17	29
33	*72	12	13	2	1	59			13	33
35	3	*74	20	3	0	60			14	35
39	18	5	23	*54	0	41			13	39
			<b>SECTION C</b>							
									<b>SECTION D</b>	
Avg. % Correct			<b>70</b>			<b>56</b>				
Usage/Mechanics: Grammar and Usage										
1	2	16	*80	2	0	72		8		1
3	9	*89	0	2	0	75			14	3
21	9	38	3	*50	0	47		3		21
31	23	12	*55	10	0	40			15	31
32	8	6	16	*69	1	78		-9		32
37	17	*80	1	2	0	62			18	37
40	5	14	*78	2	1	58			20	40
4	6	*86	6	2	1	63			23	4
15	5	*75	8	12	1	77		-2		15
Avg. % Correct			<b>74</b>			<b>64</b>				
Usage/Mechanics: Sentence Structure										
6	2	11	7	*80	0	67			13	6
7	1	12	3	*84	0	76		8		7
11	4	23	4	*69	0	52			17	11
16	*79	18	3	0	0	71		8		16
18	13	16	*61	10	0	71	-10			18
20	*87	6	4	3	0	76			11	20
22	5	11	3	*81	0	72		9		22
25	17	17	*63	2	1	68		-5		25
27	8	10	9	*73	1	65		8		27
28	2	24	*70	4	0	54			16	28
30	7	*80	4	8	1	67			13	30
34	14	12	*53	21	1	64	-11			34
38	*62	27	9	2	0	44			18	38
9	10	11	4	*74	1	42			32	9
Avg. % Correct			<b>73</b>			<b>64</b>				

**KEY**

 Section A

 Section B

 Section C

 Section D

 Section E

### **SECTION A. Identify your report group and reference group (top of first page of report for each subject area).**

- ? Does your report group represent your entire 10th-grade class or some portion of your 10th-grade class? (Note: Only the records of students tested in standard-time test administrations are included.)
  - If your report group represents only a portion of your class, your results may not apply to your entire class.

### **SECTION B. Study the items within each content area (PLAN test booklet).**

- ? What differences are there between your curriculum and the skills and knowledge covered by each PLAN content area?
  - Use the descriptions of the tests given on the back page of this guide to determine the skills and knowledge tested within each content area. Use the items themselves to identify more specific skills or knowledge required to answer correctly the items in each content area. Identify the skills and knowledge you emphasize in your curriculum, and determine the similarities and differences between your curriculum and the test contents.
  - PLAN test items represent skills and knowledge from broader content domains. Focus on each domain of skills and knowledge, rather than the contents of specific items. Specific items will not be used again on future forms of PLAN.

### **SECTION C. Evaluate your report group performance in each content area (percentage selecting each response option).**

- ? Given your curriculum, is the percentage of your report group answering each item correctly consistent with your expectations? (The correct response is indicated by an asterisk.)
  - Determine whether your students tended to respond correctly to items in a content area that you emphasize in your curriculum.
- ? Is a large percentage of your report group choosing incorrect response options?
  - Incorrect options may represent common misconceptions related to the skill or knowledge measured by the item. If your students did not perform as well as you expected on some items, the incorrect options can help you identify the source of errors being made.

- ? Is a large percentage of your report group omitting responses to items?

- If you have high omit rates at the end of the test, you may want to consider other factors, such as general test-taking skills, that can influence your students' performance.
- High omit rates near the beginning of the test or on difficult items may indicate that your students did not know the answer.

### **SECTION D. Compare the performance of your report group with that of a national reference group.**

In order to give you an idea of how well your students did on PLAN compared to other students from across the nation, ACT has included test results from a national reference group. This group consists of several thousand fall 10th graders who had previously taken the same test form as your students as part of a special study.

- ? Is there a consistent pattern of your report group responding correctly less often, as often, or more often than the reference group in a content area?
  - Differences in percentage correct that occur in the "Less often" and "More often" columns are likely to reflect real differences between the report and reference groups. When differences across items in a content area consistently fall in these columns, your report group is more or less prepared than the reference group in that content area. Some individual items may appear in these columns solely due to chance and should be interpreted cautiously, however. Look for consistent patterns of difference between your report group and the reference group performance.
  - Differences in percentage correct between your report group and the reference group that occur in the "As often" column are likely not to be significant.

### **SECTION E. Examine the overall performance of your report group in each content area (average percentage correct).**

- ? Is your report group's average percentage correct similar to that of the reference group?
  - If consistent patterns of item-level performance occur in a content area, comparing report and reference group average percentage correct will help confirm your report group's strengths and weaknesses in that content area. Where no consistent pattern is apparent, differences between the report and reference group average percentage correct are likely due to chance.
  - Report and reference group comparisons of average percentage correct (as well as patterns of item-level performance) should always be interpreted relative to the skills and knowledge emphasized in your curriculum.

# Description of the PLAN Tests

## The English Test (50 questions — 30 minutes)

The English Test measures your students' understanding of the conventions of standard written English and of rhetorical skills. The test consists of several prose passages, each accompanied by a number of multiple-choice test items.

### Usage/Mechanics

**Punctuation.** The items in this category test the student's knowledge of the conventions of internal and end-of-sentence punctuation, with emphasis on the relationship of punctuation to meaning.

**Grammar and Usage.** The items in this category test the student's understanding of agreement between subject and verb, between pronoun and antecedent, and between modifiers and the words modified; verb formation; pronoun case; formation of comparative and superlative adjectives and adverbs; and idiomatic usage.

**Sentence Structure.** The items in this category test the student's understanding of relationships between and among clauses, placement of modifiers, and shifts in construction.

### Rhetorical Skills

**Strategy.** The items in this category test the student's ability to choose expressions appropriate to an essay's audience and purpose; to gauge the effect of adding, revising, or deleting supporting material; and to judge the relevancy of statements in context.

**Organization.** The items in this category test the student's ability to organize ideas and to choose effective opening, transitional, and closing sentences.

**Style.** The items in this category test the student's ability to select precise and appropriate words and images, to maintain the level of style and tone in an essay, to manage sentence elements for rhetorical effectiveness, and to avoid ambiguous pronoun references, wordiness, and redundancy.

## The Mathematics Test (40 questions — 40 minutes)

The Mathematics Test measures your students' mathematics achievement. It emphasizes the solution of practical quantitative problems that require skills encountered in many first- and second-year high school courses (pre-algebra, elementary algebra, and plane geometry). While some material from second-year courses is included on the test, most items, including geometry items, emphasize content presented before the second year of high school. The test focuses on quantitative reasoning rather than on memorization of formulas, knowledge of techniques, or computation skill.

**Pre-Algebra.** Items in this category are based on operations with whole numbers, integers, decimals, and fractions. The topics covered include prime factorization, comparison of fractions, conversions, scientific notation, square roots, percent, absolute value, positive integer exponents, data representation, elementary counting and probability, mean, median, and mode.

**Elementary Algebra.** Items in this category are based on operations with algebraic expressions. The operations include substituting to evaluate algebraic expressions; simplifying algebraic expressions; adding, subtracting, and multiplying polynomials; factoring polynomials; and factoring to solve quadratic equations.

## Geometry

**Coordinate Geometry.** Items in this category cover topics on graphing in the standard coordinate plane. The topics include graphs of linear equations, measurement of lines, and determination of the slope of a line.

**Plane Geometry:** Items in this category cover such topics as measurement of plane surfaces, properties of polygons, properties of triangles, the Pythagorean theorem, and relationships involving circles.

## The Reading Test (25 questions — 20 minutes)

The Reading Test measures reading comprehension and requires your students to derive meaning from several reading passages by (1) referring to what is explicitly stated and (2) reasoning to determine implicit meanings and to draw conclusions, comparisons, and generalizations. The test includes three prose passages based on topics in prose fiction, the humanities, and the social sciences. The test focuses on the kinds of skills that readers must use in studying written materials across a range of subject areas, rather than on information from outside the passages, rote recall of facts, isolated vocabulary items, or rules of formal logic.

**Prose Fiction.** Intact short stories or excerpts from short stories or novels.

**Social Sciences.** Anthropology, archaeology, biography, business, economics, education, geography, history, political science, psychology, sociology.

**Humanities.** Passages from memoirs and personal essays and in the content areas of architecture, art, dance, ethics, film, language, literary criticism, music, philosophy, radio, television, and theater.

## The Science Test (30 questions — 25 minutes)

The Science Test measures your students' scientific reasoning skills with respect to information that is typically encountered in general, introductory science courses. The content of the Science Test includes biology, chemistry, physics, and the Earth/space sciences. Advanced knowledge in these subject areas is not required, but knowledge that is typically covered in early high school general science courses is needed to answer some of the questions.

The items require your students to recognize and understand the basic features of, and concepts related to, the information provided; to examine critically the relationships between the information provided and the conclusions drawn or hypotheses developed; and to generalize from the given information to gain new information, draw conclusions, or make predictions.

The test presents five sets of scientific information, each conveyed in one of three different formats.

**Data Representation.** This format presents students with graphic and tabular material similar to that found in science journals and texts. The items measure skills such as graph reading, interpretation of scatterplots, and interpretation of information presented in tables.

**Research Summaries.** This format provides students with descriptions of one or more related experiments. The items focus on the design of experiments and the interpretation of experimental results.

**Conflicting Viewpoints.** This format presents students with expressions of several hypotheses or views that, being based on differing premises or on incomplete data, are inconsistent with one another. The items focus on the understanding, analysis, and comparison of alternative viewpoints or hypotheses.

