ADOPT

Plan

Administer

Finalize

Interpret

Implement

CogAT® FORM 7
Product Guide

Cognitive Abilities Test™   FORM 7

Product Guide

Version 4

CogAT®

Cognitive Abilities Test™

David F. Lohman

Houghton Mifflin Harcourt

Riverside

Table of Contents

Appendices 55

Part 1: About This Guide

Purpose

The *Cognitive Abilities Test™* (*CogAT®*) *Product Guide* helps school administrators and test coordinators understand and select *CogAT* products and services in preparation for ordering.

This guide supports the **Adopt** phase of the assessment life cycle. As you consider your purposes for testing, use this guide to learn about the options for testing with *CogAT* so that you can select and order the products that best meet your testing needs.

ADOPT	PLAN	ADMINISTER	FINALIZE	INTERPRET
Understand your options and make informed decisions	**Get organized and prepare for testing**	**Administer the tests according to the directions**	**Prepare answer documents for scoring**	**Analyze test results and communicate with students, parents, and staff**

Getting More Help

If you need help beyond the information provided in this guide, please make use of the following resources:

- Your HMH—Riverside Assessment Account Executive

- HMH—Riverside Customer Service
  E-mail: RPC_Customer_Service@hmhco.com
  TEL: 1-800-323-9540

Part 2: About the *Cognitive Abilities Test (CogAT)*

About the Author

David F. Lohman, Ph.D.

David F. Lohman is a professor in the Department of Educational Psychology at the University of Iowa, Director of Research at the Belin-Blank International Center for Talent Development, and on the staff of the Iowa Testing Programs. Since 1998, he has authored the *Cognitive Abilities Test*™ (*CogAT*®). He is a fellow of the American Psychological Association, the American Psychological Society, and the American Educational Research Association. He serves on many national and international advisory panels, including the committee that oversees the design and analysis of the *National Assessment of Educational Progress* (NAEP) and the Committee on Psychological Tests and Assessments of the American Psychological Association. He is the recipient of numerous awards, including a Fulbright Fellowship, the Iowa Regents Award for Faculty Excellence, and the Distinguished Scholar Award from the National Association of Gifted Children. His research interests include the effectiveness of different curricular adaptations for students who differ in ability or personality, conceptualization and measurement of reasoning abilities, and the identification and development of talent.

Awards

2010
Research Paper of the Decade Award, National Association for Gifted Children

2008
Charter Fellow, American Educational Research Association
Research Paper of the Year, National Association for Gifted Children

2007
Distinguished Scholar Award, National Association for Gifted Children

What is *CogAT*?

CogAT has long been one of the most trusted and widely used ability tests in the United States and abroad. It has set standards for excellence in group-administered ability testing for several generations of test users.

CogAT appraises the cognitive development of students from kindergarten through grade 12. The test measures students' **learned reasoning abilities** in the three cognitive domains most closely related to success in school: verbal reasoning, quantitative reasoning, and nonverbal reasoning.

CogAT consists of the following three batteries:

- The Verbal Battery assesses students' abilities to use search, retrieval, and comparison processes that are essential for verbal reasoning.

- The Quantitative Battery assesses students' abilities to reason about patterns and relations using concepts that are essential in quantitative thinking.

- The Nonverbal Battery assesses students' abilities to reason with somewhat more novel questions that use spatial and figural content.

By measuring the three reasoning domains, *CogAT* provides a broad perspective on each student, identifying profiles of cognitive strengths and weaknesses critical for talent identification that single-score instruments would miss. Thus, *CogAT* is a reliable and valid tool that assists in planning effective instructional programs and adapting instruction to enhance the student's chances of success in learning.

Major Changes in Form 7

Form 7 of *CogAT* incorporates the most substantial enhancements to the test since it was first published in 1963. The major changes in Form 7 are described below.

New Design Elements – Form 7 was designed according to principles of Universal Design in an effort to eliminate barriers and increase the test's accessibility for all students. The test design includes ample white space, clearly separated items, increased font size, and both item and page locator art for students in kindergarten through grade 2. All art and graphics are appropriately sized and feature bright colors with sufficient contrast. Each subtest has a uniquely colored header so that teachers can easily scan the classroom and ensure that all students are in the right place in their test books. These purposeful changes reduce distractions and help level the playing field for all students.

New Subtests and Item Types – Levels 5/6–8 (kindergarten through grade 2) now contain three subtests in each battery that blend seamlessly with the subtests at Levels 9–17/18 (grades 3 through 12). Levels 9–17/18 have two new quantitative subtests that better measure quantitative reasoning for today's students. These levels also have a new Figure Matrices subtest that increases the ceiling on the Nonverbal Battery to better measure the abilities of the most capable students.

More ELL-Friendly – Each level of the new subtests was developed to be English language learner (ELL) friendly.

- At kindergarten through grade 2, ELL students actually perform better on the new picture-verbal and picture-quantitative tests than they do on conventional nonverbal tests. Only the English/Spanish Sentence Completion subtest requires comprehension of oral language. This subtest can be omitted or not scored for ELL students.

- At grades 3 through 12, none of the items on the Quantitative Battery use language, so both the Quantitative and Nonverbal batteries can be administered to ELL students. ELL students typically perform as well or better on the Quantitative Battery than on the Nonverbal Battery. Combining these two scores into the Quantitative-Nonverbal partial composite provides an even more reliable measure of ability because it shows higher correlations with academic success than using the separate score from either battery.

Form 7

Form 7 of CogAT *incorporates the most substantial enhancements to the test since it was first published in 1963. Major changes include new design elements, new subtests and item types, and more ELL-friendly.*

- For all grades (K–12), *Spanish Directions for Administration* are available for students whose native language is Spanish. Directions can be translated into other languages as needed. In addition to offering local norms, data manipulation tools available from the publisher allow users to compare students' scores with those of other students who share the same socioeconomic or ELL status. This improvement in measuring a student's opportunity to learn promotes the use of more equitable talent identification procedures for all students.

  Online testing with Spanish audio is available for all levels for students whose native language is Spanish.

Reduced Item Overlap and Higher Ceilings – Level-to-level item overlap was reduced from five to two levels so that every other test level now presents a completely new set of items. All test levels have higher ceilings, which reduces the need for above-level testing.

Form 7 Standard Age Scores (SAS) now extend up to 160 for better discrimination among the highest levels of ability.

Practice Activities – Thorough Practice Activities with teacher guides are available for download from HMH—Riverside at no cost. These activities allow students to solve simple and complex items so they will be familiar with the item formats and reasoning tasks in the test. These Practice Activities help level the playing field by ensuring that all students are prepared to do their best on the test.

What are the purposes for testing with *CogAT*?

CogAT has been designed and developed to support a variety of important educational purposes. These purposes require the collection and use of information that describes either the individual student or groups of students.

Identifying the testing purposes that are most important to your school or district will provide focus and help you determine how best to interpret test results. The following examples of appropriate uses of results from *CogAT* show how the test supports a broad range of educational decisions.

Guide efforts to adapt instruction to the needs and abilities of students. *CogAT* scores help teachers adapt instructional goals, methods, and materials to the individual needs of students. The key to adapting instruction is the **ability profile**, an indicator derived from the level and pattern of each student's *CogAT* scores. The ability profile is unique to *CogAT* and links the student's test scores to instructional strategies.

Measure cognitive development to help identify academically talented students. Using *CogAT* as a measure of cognitive development provides a more complete picture of students' abilities across the academic spectrum. *CogAT* captures important information not represented in report card grades or in other measures of school achievement.

Identify students whose predicted levels of academic achievement differ markedly from observed levels of achievement. When academic achievement is markedly above or below that expected from a student's *CogAT* scores, determining the cause helps guide instructional decisions. Are students underachieving, overachieving, or performing in line with their abilities? *CogAT* results provide a measure by which to identify ability-achievement discrepancies.

The *CogAT Score Interpretation Guide* provides instructional suggestions or recommendations for additional follow-up based on specific ability-achievement discrepancies.

Ability Profiles

CogAT *links ability profiles to instructional strategies for all students in the class. Learn more about ability profiles at* www.cogat.com.

What is the structure of the test?
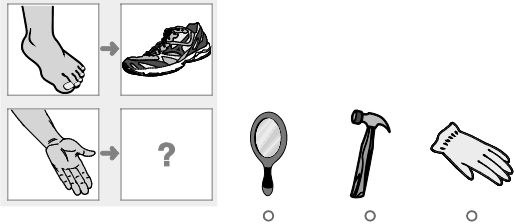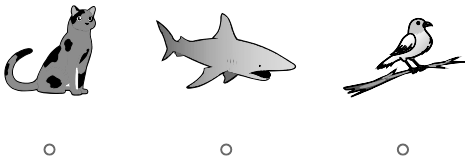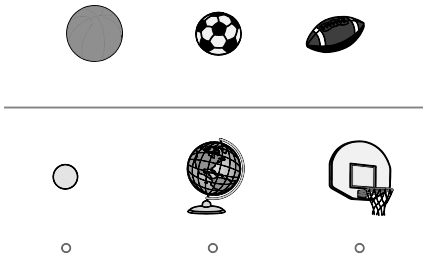
The ten levels of *CogAT* span kindergarten through grade 12. All levels have three batteries: Verbal, Quantitative, and Nonverbal. Each battery includes three distinct subtests relevant to its domain. The use of three different subtest formats in each battery increases both the fairness and the validity of scores.

All of the test questions are designed to show how well students use reasoning skills they have developed to solve problems they have **not** been directly taught.

For Levels 5/6, 7, and 8 (kindergarten through grade 2), with the exception of the optional Sentence Completion subtest, questions are entirely pictorial. No reading is required of students in any subtest.
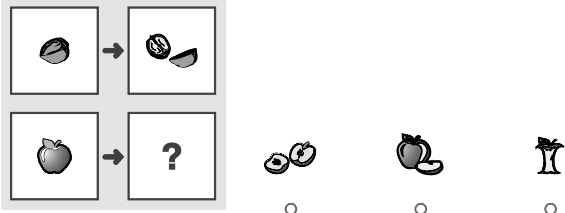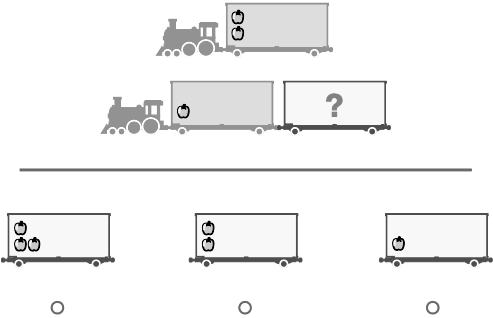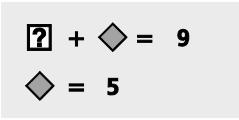
The table beginning on the following page shows examples of the nine different formats implemented at Levels 5/6–8 (column 1) and at Levels 9–17/18 (column 2). Exceptions to the formats are noted within the table.

Verbal Battery Subtest Items
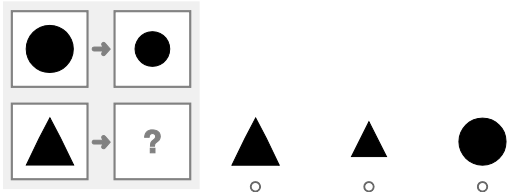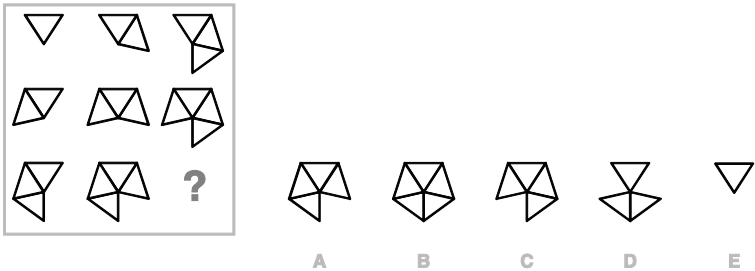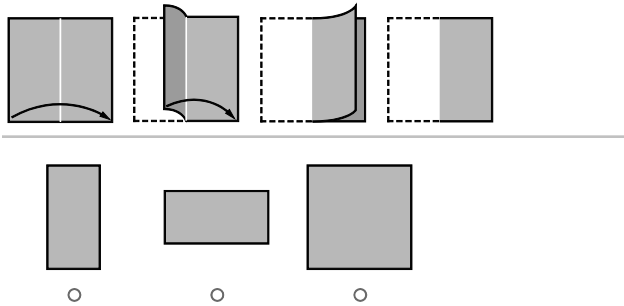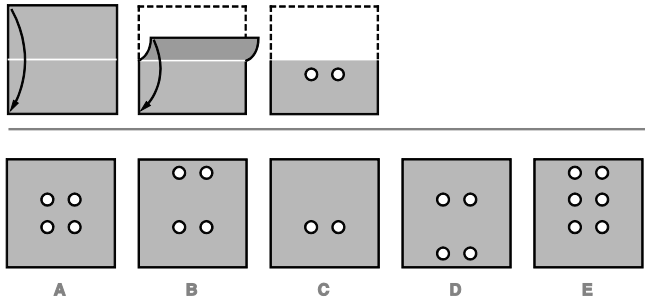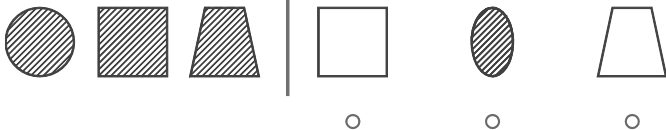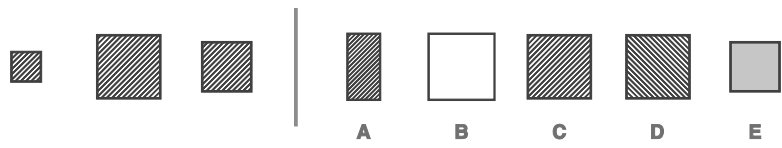
Subtest	Levels 5/6–8	Levels 9–17/18
Subtest 1: Picture/Verbal Analogies*	 Each question shows a 2 x 2 matrix with three pictures and one empty cell. Students examine the two pictures in the top row to determine how they are related. Then they apply this relationship to the picture in the bottom row and choose the answer that generates a second pair of pictures related to each other in the same way as the first pair.	**right → left : over →** A finished B out C above D around E under First students examine a pair of words and think of ways in which they are related. Then students apply this relationship to a third word to generate a new pair of words that goes together in the same way. Finally students select the best answer choice or, if none seems correct, they look for a different way in which the first two words are related.
Subtest 2: Sentence Completion	**"Which one swims in the ocean?"** Students listen to a sentence or a question the teacher reads in English or Spanish and then select the picture that best completes the sentence or answers the question.	**The fastest runner _____ the race.** A loses B wins C watches D starts E makes Students read an incomplete sentence and then select the answer choice that best completes the sentence.
Subtest 3: Picture/Verbal Classification*	 Students first examine three pictures in the top row of each question and think of ways in which the pictures are alike. Then the students select the answer picture that belongs in the same group.	**apple orange pear** A fruit B carrot C pea D lemon E onion Students examine three words and think of ways in which they are alike. Then students select an answer choice that belongs in the same group.

*Picture Analogies, Picture Classification at Levels 5/6–8; Verbal Analogies, Verbal Classification at Levels 9–17/18

Quantitative Battery Subtest Items

Subtest	Levels 5/6–8	Levels 9–17/18
Subtest 4: Number Analogies	 Each question shows a 2 x 2 matrix and requires the same processes as the Picture Analogies subtest, but it uses quantitative concepts rather than verbal concepts.	**Level 9 includes some questions in which number pairs are arranged vertically.** [1 → 2] [3 → 4] [5 → ?] A 2 B 4 C 6 D 8 E 12 Students examine two pairs of numbers and figure out the rule both pairs follow. Then they apply the rule to a given number and choose an answer that generates a third pair of numbers that follow the same rule. Some questions in this subtest at Level 9 (grade 3) use a matrix format. All others use strings of number pairs.
Subtest 5: Number Puzzles	**Level 8 includes some questions that follow the Levels 9–17/18 format.** Each question presents two trains. Students select the answer picture that makes the second train carry the same number of objects as the first train.	? + ◇ = 9 ◇ = 5 A 3 B 4 C 5 D 6 E 14 Students are presented one or more equations in which at least one number is missing. If one element is missing, students must select the missing number. If two or three elements are missing, students must substitute numbers that are provided for the missing elements and then solve the equation.
Subtest 6: Number Series	 Each question shows several strings of beads. The beads make a pattern. Students must discover the pattern and then select the string of beads that comes next in the sequence.	**Level 9 includes some questions that use beads to show a pattern.** 1 2 4 5 7 8 → A 7 B 8 C 9 D 10 E 11 Each question shows a series of numbers and requires the student to identify the pattern and then select the number that comes next in the sequence.

Nonverbal Battery Subtest Items

Subtest	Levels 5/6–8	Levels 9–17/18
Subtest 7: Figure Matrices	Each question shows a 2 x 2 matrix and requires the same process as the Number Analogies and Picture Analogies subtests but uses spatial forms.	**Levels 9–11 and some questions at Level 12 follow the Levels 5/6–8 format.** This subtest requires that students infer and then apply a simple rule. Students must determine the relationship among the first two elements, apply this relationship to the third element in the matrix, and then select the figure that completes the relationship.
Subtest 8: Paper Folding	Students must imagine what happens to a piece of paper that is folded, usually cut in some way, and then unfolded. Then students select the answer choice that shows how the paper looks when it is opened.	Students must imagine what happens to a piece of paper that is folded, has holes punched in it, and then unfolded. Then students select the answer choice that shows how the paper looks when it is opened.
Subtest 9: Figure Classification	As on the Picture Classification subtest, students must infer how three objects or figures are similar and then select the picture that goes with the target set.	Students must determine how three figures are similar and then select the answer choice that is most like the first three figures.

Is *CogAT* fair to English language learners (ELLs) and other diverse students?

Grades K–2 (Levels 5/6–8)

The most dramatic changes in Form 7 were made for students in kindergarten through grade 2, primarily to make the Verbal and Quantitative test batteries as fair to ELL students as the Nonverbal Battery. This allows the same comprehensive assessment of reasoning abilities for ELL students as for their non-ELL classmates.

The new Level 5/6–8 tests use picture-based items similar to the text-based items that are used with older students.

In order to ensure that the test items are fair, we developed items that accurately measured the ability assessed by the battery within different cultural groups of students and then selected only those items that worked well in all groups. This required much more time and effort than simply translating an English-language test. We relied on the cooperation of many school administrators, teachers, professional item reviewers, and hundreds of students who diligently worked on the "puzzles" we asked them to solve.

Our statistical analyses of the picture-based verbal subtests show they require the same verbal reasoning skills as the text-based verbal subtests used at higher grades, but the language-free picture-based subtests do not measure verbal abilities quite as well as the text-based verbal subtests used at grade 3 and higher. For this reason and because verbal abilities are so important for success in school, an **optional** Sentence Completion subtest is included in the Verbal Battery to help measure verbal abilities for students who speak English or Spanish.

Pictorial item formats were also used for the primary-level quantitative subtests. Contrary to popular belief, the near-universal exposure of students to basic quantitative concepts at home and at school makes these subtests less sensitive to cultural differences than nonverbal subtests that use unfamiliar geometric shapes.

Following the standardization study and the development of national norms, we compared the scores of ELL and non-ELL students on the new tests. Since ELL students are more likely than non-ELL students to belong to a minority group and to live in poverty, we estimated the effects of ELL status after first statistically controlling for poverty (estimated by eligibility for the free or reduced-price school lunch) and ethnicity. For the

ELL Accessibility

The greatest structural changes in Form 7 were made to the tests designed for students in kindergarten through second grade. The primary goal of the revisions was to make the tests more accessible to ELL students.

kindergarten through grade 2 student sample, the average Verbal Battery standard age score for ELL students was only 2.2 SAS points lower than the average Verbal Battery SAS for non-ELL students when the Sentence Completion subtest was omitted. The average Quantitative Battery score for ELL students was 1.4 SAS points lower than the scores of non-ELL students on the Quantitative Battery. Both of these differences were smaller than the 2.7 SAS point difference between ELL and non-ELL students on the Nonverbal Battery. Taken together, the Form 7 picture-based subtests for young students proved remarkably effective in reducing the impact of language on test scores.

Grades 3–12 (Levels 9–17/18)

The number of students classified as ELL declines across grades. Therefore, our analyses have been restricted to those grades with sufficiently large numbers of students. At grades 3–6, differences between ELL and non-ELL students on the Quantitative Battery (3.3 SAS points) were similar to the differences on the Nonverbal Battery (2.7 SAS points). Combining the quantitative and nonverbal scores into a quantitative-nonverbal partial composite often provides a better estimate of ability for ELL students than either battery alone.

If ELL students in grades 3–6 take the Verbal Battery, it is usually best to compare their scores to those of other ELL students at their school. This can provide important information on the ELL students' verbal reasoning abilities that is not apparent when national or even local norms are used.

How do *CogAT* results guide teachers to adapt instruction?

Students who take all three batteries of *CogAT* receive an **ability profile** that shows the level and pattern of their scores. Teachers can look up a student's ability profile in the Interactive Ability Profile Interpretation System. This online tool interprets ability profiles and provides suggestions for adapting instruction based on students' cognitive strengths and weaknesses.

An ability profile contains a number, a letter, and, if applicable, symbols in parentheses; for example, **7C (V+ Q–)**.

Sample Score Profile

Profile

Stanine → **7C (V+ Q-)** ← Relative Weakness

Relative Strength
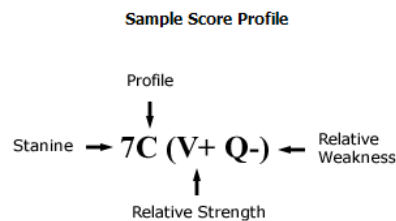
- The number shows the overall **level** of the student's scores. If the number is:
  - one, reasoning abilities are very low.
  - from two to three, the student's overall reasoning abilities are below average.
  - between four and six, reasoning abilities are average.
  - from seven to eight, reasoning abilities are above average.
  - nine, reasoning abilities are very high.
- The first letter indicates the **pattern** of the student's scores, and the second letters indicate the **relative strengths or weaknesses** evident in the student's battery scores.
  - Approximately one-third of all students have an **even** pattern. Their scores are roughly the same on all three batteries.
  - About half of all students show a strength **or** a weakness on one battery.
  - The remaining students show a strength **and** a weakness.
  - A small number of students show an extreme strength or weakness.

In general, students learn best when instruction emphasizes and builds on their strengths rather than attempting to remediate weaknesses.

A student with an extreme strength or weakness struggles when classroom instruction requires him or her to reason in the area of his or her extreme relative weakness. Teachers who have a student with an extreme profile are encouraged to look up the instructional suggestions for that student at the Interactive Profile Interpretation System located at the following website.

www.riversidepublishing.com/products/group/cogat6/input.jsp

Excerpt of Sample Ability Profile Interpretation

Search for Profile: 7C (V+) (Q-)   **Enter Another Profile**

Profiles 7C (V+ Q-), 8C (V+ Q-), and 9C (V+ Q-)

Profile Explanation

Students who obtain these profiles have generally above-average scores with a relatively higher score in verbal reasoning and a relatively lower score in quantitative reasoning. They have a median age stanine for the three *CogAT* batteries in the high (stanines 7 to 8) or very high (stanine 9) range. The majority of these students have a Composite score in the top 25 percent of their age group. Although the overall level of reasoning abilities estimated by the median stanine provides useful information (see "General Instructional Suggestions for All Students with a Median Stanine of 7, 8, or 9," below), generalizations must be qualified by the student's relatively higher score on the Verbal Battery and relatively lower score on the Quantitative Battery.

- **Characteristics of Students with These Profiles**
- **Instructional Suggestions for Profiles 7C (V+ Q-), 8C (V+ Q-), and 9C (V+ Q-)**
- **General Instructional Suggestions for All Students with a Median Stanine of 7, 8, or 9**
- **For Additional Information**

Characteristics of Students with These Profiles   [top]

Students who obtain these profiles have excellent resources for learning and generally show high levels of achievement. They have well-developed networks of verbal knowledge, and, on achievement tests, tend to do somewhat better than expected on the vocabulary, reading comprehension, and social studies subtests. However, on the math computation subtest, their scores tend to be lower than expected.

Instructional Suggestions for Profiles 7C (V+ Q-), 8C (V+ Q-), and 9C (V+ Q-)   [top]

In the primary grades, the relatively less developed quantitative reasoning abilities of these students seem to have a broader meaning and impact on achievement. Primary-grade students with V+ Q- profiles may have difficulties thinking about mathematical problems outside of their surrounding context. Help them attend to the specifically quantitative aspects of math story problems rather than to the story presented and the associations it may elicit. Selectively encoding stimuli in this way will help these students learn how to separate concepts from contexts.

This process and academic learning in general are much easier for these students than for most because of their particularly strong verbal reasoning abilities. Capitalize on these abilities by encouraging these students to talk about, write about, and read about the concepts they are expected to learn. For example, when teaching them skills and strategies, encourage them to keep track of the steps in the procedure by making a list of the required steps and committing it to memory. Then, as they execute the procedure or call up the strategy, have them say aloud each verbal prompt as they perform the associated action.

There is a good possibility that at least some of these students have simply not practiced their basic computation skills until they become automatic. This may be because the skills were not emphasized in the curriculum or because the students attempted to learn them silently using work sheets or computer-based math drills. Students with these profiles are more likely to succeed in learning math facts if the teaching methods capitalize on their strong verbal abilities. In particular, these students often learn better if they practice aloud and even in unison with other students, rather than silently in response to a visual stimulus. If such practice is not helpful, computation skills may be offloaded and calculators used when these students solve math problems.

How is *CogAT* administered?

Modes of Administration

There are three modes of administration for *CogAT*: paper-and-pencil testing with central scanning of answer documents, paper-and-pencil testing with local scanning of answer documents, and online testing. Local scanning of answer documents and online testing require the HMH—Riverside *DataManager*™ system, a comprehensive online resource for managing your assessment program that enables you to organize, assign, and implement your test events and also to access and manage your test results online. For more information about *DataManager*, see www.riversidepublishing.com/products/datamanager/.

Paper-and-pencil testing with central scanning of answer documents – Students mark their answers in machine-scorable test booklets or answer documents purchased from HMH—Riverside. Test booklets and answer documents are sent to Riverside Scoring Service™ for scanning, scoring, and report generation.

Paper-and-pencil testing with local scanning of answer documents – Students mark their answers in plain-paper answer documents that you download from *DataManager* and print at your district or school. Answer documents are scanned using equipment at your district or school and the scan file is transmitted to Riverside Scoring Service for scoring and report generation.

Online testing – Students take the tests online through *DataManager*. Answers are transmitted to Riverside Scoring Service for scoring.

Once a student begins testing in a given mode (paper-and-pencil or online), he or she must complete the test in that mode. If a situation arises that necessitates switching the mode of testing mid-assessment (for example, online to paper-and-pencil), the student must start again from the beginning and complete the entire assessment using only one mode of testing. **Students taking the Level 5/6, 7, or 8 test online must complete the test using either the proctor-led mode or the online with audio mode.** Online modes of administration must not be mixed across proctor-led and audio once a student begins testing.

Nature of the Questions

At Levels 5/6, 7, and 8, the test questions are multiple choice and, with the exception of Sentence Completion, entirely

pictorial. No reading is required of students in any of the Level 5/6–8 tests. After the students answer the sample questions, the test administrator uses generic item prompts to pace students through all subtests except Sentence Completion.

The subtests are not timed, so the test administrator can adapt the pace of testing to the rate at which the students answer the questions.

At Levels 9–17/18, for each subtest the test administrator reads aloud the directions that are printed in the student test booklet or in the student view of the online test. These directions show how to answer the sample questions. All questions are multiple choice.

Method of Marking Responses

For online testing, students use the mouse or number or letter keys to select answers. Students taking the test on an iPad review the answer choices and tap an answer choice.

For paper-and-pencil testing, there are several types of answer documents in which students mark their answers:

At Levels 5/6, 7, and 8, students use machine-scorable test booklets in which they mark their answers. For local scanning, answers must be transferred from the test booklets to plain-paper answer documents, which can be printed through *DataManager*. For more information on *DataManager*, see page 52.

At Level 9, there is an option to use either machine-scorable test booklets, which allow students to mark their answers directly in the test booklet, or reusable test booklets and separate two-page answer sheets. However, if Level 9 of the *Iowa Assessments*™ Complete or Core Battery is also being administered, a combined four-page or 12-page answer folder may be used. For local scanning, separate *CogAT* and *Iowa Assessments* plain-paper answer documents are required. Plain-paper answer documents can be printed from *DataManager*.

At Levels 10–17/18, students mark their answers on a two-page answer sheet. However, if the same level of the *Iowa Assessments* Complete or Core Battery is also being administered, a combined four-page answer folder may be used. For local scanning, separate *CogAT* and *Iowa Assessments* plain-paper answer documents are required. Plain-paper answer documents can be printed from *DataManager*.

See "Testing Materials for Paper-and-Pencil Testing" on page 41 for descriptions of the test booklets and answer documents.

The **Iowa Assessments** *are norm-referenced achievement tests that assess students' skills in Reading, Language, Mathematics, Social Studies, and Science. The tests assess both basic skills and higher-order thinking skills.*

How long does it take to administer *CogAT*?

CogAT is a group-administered abilities test that is typically administered by classroom teachers. The test administrator follows the procedures outlined in the *Directions for Administration* or the *Directions for Online Administration* for the level of *CogAT* being administered.

Estimated testing times for each battery at Levels 5/6, 7, and 8 are shown on the next page. Since the administrator paces the test, the actual testing time varies across classes. Testing times for Levels 9 and higher, however, are fixed at ten minutes per subtest. For all levels, an additional five to seven minutes per testing session may be required to distribute and collect materials or assist students in logging in if they are taking the online test. Additionally, classes will need a few minutes to answer the sample questions at the beginning of each subtest. No more than one battery should be administered at a single sitting. Short breaks between each subtest administered during the test session are recommended, especially for younger students.

Levels 5/6–8

Battery	Subtest	Estimated Testing Time (in minutes)
Level 5/6 (Grade K) [1]		
Verbal Battery	Picture Analogies	15
	Sentence Completion	14
	Picture Classification	14
Quantitative Battery	Number Analogies	13
	Number Puzzles	11
	Number Series	14
Nonverbal Battery	Figure Matrices	11
	Paper Folding	10
	Figure Classification	10
Total		**112**
Level 7 (Grade 1) [1]		
Verbal Battery	Picture Analogies	13
	Sentence Completion	13
	Picture Classification	12
Quantitative Battery	Number Analogies	13
	Number Puzzles	11
	Number Series	13
Nonverbal Battery	Figure Matrices	11
	Paper Folding	10
	Figure Classification	11
Total		**107**
Level 8 (Grade 2) [1]		
Verbal Battery	Picture Analogies	13
	Sentence Completion	14
	Picture Classification	13
Quantitative Battery	Number Analogies	15
	Number Puzzles	15
	Number Series	15
Nonverbal Battery	Figure Matrices	13
	Paper Folding	11
	Figure Classification	13
Total		**122**

[1]For Levels 5/6, 7, and 8, subtests are untimed; testing times are approximate.

Levels 9–17/18

Battery	Subtest	Testing Time (in minutes)
Verbal Battery	Verbal Analogies	10
	Sentence Completion	10
	Verbal Classification	10
Quantitative Battery	Number Analogies	10
	Number Puzzles	10
	Number Series	10
Nonverbal Battery	Figure Matrices	10
	Paper Folding	10
	Figure Classification	10
Total		**90**

Do I have to administer all three batteries?

CogAT contains three independent batteries: Verbal, Quantitative, and Nonverbal. Students can take one, two, or all three batteries. For example, if information on the students' competence in the English language is desired, then the Verbal Battery score can help provide this information.

If students do not take all three batteries, then ability profiles or composite scores that require the omitted batteries cannot be provided. For this reason, it is usually recommended that schools administer all three batteries.

Do I have to administer all the subtests in each battery?

CogAT does not report individual subtest scores, only battery scores. The battery score will not be provided unless the student takes all three subtests in a battery.

For ELL students who take Levels 5/6, 7, or 8, you may omit (or not score) the Sentence Completion subtest in the Verbal Battery. The purpose of this modification for English language learners is to reduce the impact that their limited experience with English has on the measurement of their verbal reasoning abilities. Any students receiving this modification will be given an alternative score for the Verbal Battery that does not include a score for the Sentence Completion subtest, even if the student was administered this subtest.

Can more than one level of *CogAT* be administered in the same classroom?

For online testing, the test administrator may administer different levels of the test in the same room.

For paper-and-pencil testing at Levels 5/6–9, students being tested in the same room must take the same level of the test. Any off-level testing must occur in a room where the class is taking the same level as the student who is being tested off level.

Students who take the test in Spanish will also need their own room. As with English, students being tested in Spanish who are in the same room must take the same level of the test.

Levels 10–17/18 of the paper-and-pencil test allow much greater flexibility for administering more than one level of the test in the same classroom. All subtests have the same time limit (10 minutes). In most cases, it is quite possible for students in the same class to take different levels of the test as long as they code the correct test level on their answer sheet and receive the appropriate directions and sample items. Consistency in directions at the upper levels is shown below.

- Beginning at Level 10, the three subtests on the Quantitative Battery have the same directions and sample items across levels.

- Beginning at Level 10, all subtests on the Nonverbal Battery, with the exception of Figure Matrices, have the same directions and sample items. At Level 12, the Figure Matrices items transition between the 2-by-2 matrices used at earlier levels and the 3-by-3 matrices used at Levels 13/14 and higher. Thus, greater care must be taken with the Figure Matrices subtest to ensure that students receive the appropriate directions and sample items.

Are practice materials recommended?

Additional Practice Activities are available for Levels 5/6–12 in paper-and-pencil format for all subtests with the exception of Sentence Completion, as this item format is so commonly used in schools that it does not require additional practice. These supplemental materials are especially helpful for young students, English language learners (ELLs), and whenever test scores are used to help make high-stakes decisions about students. Research shows that the most effective test preparation occurs when teachers engage the class in the practice activities rather than when students work individually on practice tests. When using *CogAT* Practice Activities, students become familiar with the types of items that will appear on the test, which allows them to avoid mistakes and develop strategies for reasoning that can help them both on the test and in their schoolwork.

There are three Practice Activities student booklets and three teacher guides per test level—one each for the Verbal, Quantitative, and Nonverbal batteries. Each student booklet contains six practice items per subtest. Sample pages from the Level 10 Figure Matrices Practice Activities student booklet and teacher guide are shown below.

Student booklet
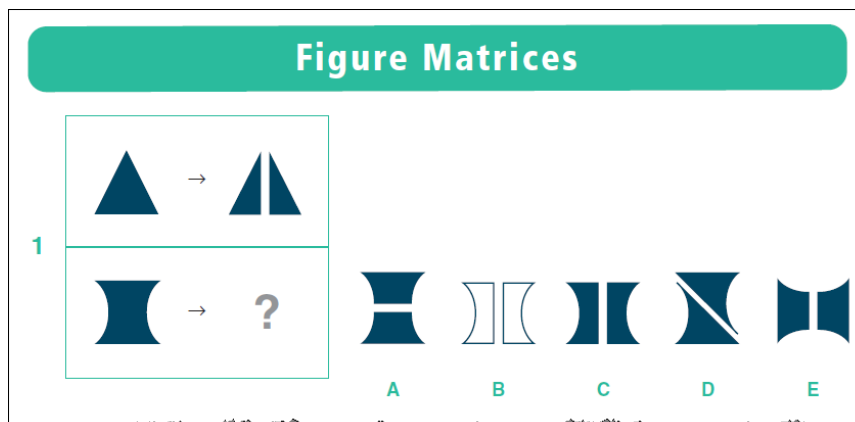
Teacher Guide

P1

Let's do the first practice question.

(Point to the large box that has pictures inside of it as you **SAY**:)

The large box has two rows. We must decide which answer choice goes in the space with the question mark.

(Point to the top row of the large box as you **SAY**:)

Look at the shapes in the top row. The first picture is a triangle, and the second picture is two triangles. How do the first and second pictures go together?

(Encourage responses.)

The second picture looks like the triangle in the first picture, but it is cut in half.

The teacher guides at each level provide the following information:

- appropriate strategies that students can use to solve each item

- common mistakes students make using each item format

- scripts for working through each practice item with students

When scheduling the Practice Activities, allow at least 15 minutes per subtest.

If you will be purchasing a *DataManager* package, you can access the Practice Activities on *DataManager*. If you will not have access to *DataManager* and want to obtain Practice Activities for the test levels you will administer, contact your local HMH—Riverside Assessment Account Executive or HMH—Riverside Customer Service.

Practice Activities

Practice Activities are available for Levels 5/6–12 in paper-and-pencil format.

You can access Practice Activities through DataManager or by contacting your local HMH— Riverside Assessment Account Executive or HMH— Riverside Customer Service.

Can *CogAT* be administered to students with special needs?

CogAT can be administered with accommodations to students whose special needs may make it difficult for them to demonstrate their abilities when standard testing procedures are used.

A testing **accommodation** refers to a change in the procedures for administering an assessment. The accommodation is intended to reduce as much as possible the effect of student characteristics that interfere with performance during testing and, subsequently, with valid inferences about the student's abilities. Testing accommodations do not change the *kinds* of abilities being measured; they change *how* those abilities are measured. If chosen appropriately, an accommodation will provide neither too much nor too little help to the student who receives it.

Given the test structure at kindergarten through grade 2, many students with special needs will be able to take *CogAT* without special accommodations. No reading is required, the pace of testing can be varied to fit the group, and repeated or translated directions are encouraged for all students.

Because *CogAT* measures how efficiently a student can hold numerical information in working memory while simultaneously performing "transformations," such as elementary calculations, students cannot use calculators even when their Individualized Education Program (IEP) permits calculator usage. Offloading calculations to a calculator removes the transformation portion and invalidates the normative scores. If the student cannot perform the required elementary mental computations, then students may omit the Quantitative Battery. Students will receive a Verbal-Nonverbal partial composite. For more information about this partial composite, see the *CogAT Norms and Score Conversions Guide*.

Appendix A, beginning on page 57, provides descriptions of accommodations that may be provided. Because the purpose of an accommodation is to reduce the impact of the student's special needs on the assessment process, the student's responses should be the same as what we would expect the student to make if that student had no special needs. In most cases, you can use scores for the student who receives accommodations in the same ways you would use the scores for other students.

Other accommodations noted in a student's IEP but not included in Appendix A may also be used. However, they should be used only if doing so will not alter the nature of the ability that the test is intended to measure.

Can *CogAT* be administered to ELL students?

CogAT can be administered to English language learners (ELLs). The purpose of using testing accommodations with English language learners is to reduce the impact that their limited experience with English has on the measurement of their reasoning abilities. *CogAT* was designed to be accessible to English language learners.

There are several options for administering *CogAT* with English language learners.

- A *Spanish Directions for Administration* booklet is available for each test level in the paper-and-pencil version of *CogAT*. In these guides, everything the test administrator says to the students is written in Spanish. For students whose home language is Spanish and who have been in an English-only classroom for a limited time, the test may be administered using the *Spanish Directions for Administration* for the appropriate level of *CogAT*.

- Directions for the tests may be administered in a language other than English if care is taken to use common words and simple sentences. Test questions may be translated except in the following cases: Sentence Completion subtest at Levels 5/6–8 or item prompts in Verbal Analogies, Sentence Completion, or Verbal Classification subtests at Levels 9–17/18.

- For Spanish-speaking students who are taking the paper-and-pencil version of *CogAT*, questions for the Sentence Completion subtest may be presented in English (using the scripts provided in the English version of the *Directions for Administration*) or in Spanish (using the scripts provided in the *Spanish Directions for Administration*).

- For students whose home language is Spanish and who have been in an English-only classroom for a limited time, the online test with Spanish audio is available for all levels.

- For ELL students taking Levels 5/6–8, the Sentence Completion subtest can be omitted if it will not be administered in their home language. Any students receiving this modification will be given an alternative score for the Verbal Battery that does not include a score for the Sentence Completion test, even if the student was administered this test.

- For ELL students who do not speak Spanish and are taking Levels 9–17/18, the Verbal Battery can be omitted, administered in English but not scored, or scored. You can obtain a more meaningful interpretation of these scores by comparing the scores of ELL students within the same grade.

For descriptions of the accommodations that may be provided at each level, refer to Appendix B: Accommodations for English Language Learners.

Can *CogAT* scores be combined with *Iowa Assessments* scores?

Combined reporting of scores from *CogAT* and *Iowa Assessments* produces reports that display both abilities and achievement scores. Reports that can display both *CogAT* and *Iowa Assessments* results include the following:

- *List of Student Scores*
- *Class Summary, Building Summary, and System Summary*
- *Student Profile Narratives*

There are several methods for setting up testing so that you can obtain combined reporting. The table on page 31 summarizes these methods and the testing materials needed for each method.

Important *CogAT* Form 7 scores can only be combined with scores from Form E or Form F of the *Iowa Assessments*. Similarly, **predicted scores** (using *CogAT* results to predict *Iowa Assessments* performance) are available only if *CogAT* Form 7 is given with *Iowa Assessments* Form E or Form F.

For all methods, select the *Iowa Assessments/CogAT* combined options on the Order Form for Riverside Scoring Service (OSS).

For information on ordering reports with the combined test results option, refer to the Order Form for Riverside Scoring Service (OSS).

Methods for Receiving Combined Reporting of *CogAT* and *Iowa Assessments* Scores

Method	Planning Requirements	Outcome
Paper-and-Pencil Testing with Central Scanning of Answer Documents		
Submit combined answer documents for *Iowa Assessments* and *CogAT*.	• Order combined answer documents. NOTE: This method cannot be used with machine-scorable test booklets from Levels 5/6, 7, 8, or 9 or the machine-scorable version of *Iowa Assessments* Level 9. For the most accurate combined score reports at those levels, order barcode labels for the machine-scorable test booklets. • Administer *Iowa Assessments* and *CogAT* in the same testing time frame.	This method produces the most accurate reports because there is no need to match separate answer documents.
Submit separate *Iowa Assessments* and *CogAT* answer documents (both with barcode labels).	• Order *Iowa Assessments* answer documents and *CogAT* answer documents. • Use barcode labels for every student taking *Iowa Assessments* and *CogAT*. • Administer *Iowa Assessments* and *CogAT* in the same testing time frame. • Submit answer documents to Riverside Scoring Service at the same time.	This method produces accurate matches between answer documents with matching barcode labels.
Submit separate answer documents (without barcode labels) for *Iowa Assessments* and *CogAT* under the same class header sheet.	• Order *Iowa Assessments* answer documents and *CogAT* answer documents. • Administer *Iowa Assessments* and *CogAT* in the same testing time frame. • Ensure that each student's name, birth date, and gender are marked identically on both answer documents. • Submit answer documents to Riverside Scoring Service at the same time.	• Riverside Scoring Service matches answer documents based on identical demographic data, such as student name, date of birth, and gender. Differences in coding student demographic data may prevent the proper match of some answer documents. • Riverside Scoring Service matches an *Iowa Assessments* answer document and a *CogAT* answer document based on demographic data from the *Iowa Assessments* document.
Order combined *Iowa Assessments* and *CogAT* reports using *CogAT* scores from an earlier test administration.	Confirm assessment form compatibility: Scores from *Iowa Assessments* Form E or Form F can be reported with scores from Form 7 of *CogAT*. *CogAT* Form 7 will provide predicted *Iowa Assessments* Form E or Form F scores.	• Riverside Scoring Service data repository links the new *Iowa Assessments* scores for each student with previously stored *CogAT* scores for that student. • As long as historical data for a given student exist, this score-matching capability allows for the generation of *Iowa Assessments* longitudinal reports as well as combined *Iowa Assessments/CogAT* reports.

Continued on next page…

**Methods for Receiving Combined Reporting of *CogAT*
and *Iowa Assessments* Scores,** *continued*

Method	Planning Requirements	Outcome
Paper-and-Pencil Testing with Local Scanning of Answer Documents		
Submit separate answer documents for *Iowa Assessments* and *CogAT* under the same class header sheet.	- Order *Iowa Assessments* answer documents and *CogAT* answer documents. - Administer *Iowa Assessments* and *CogAT* in the same testing time frame. - Ensure that each student's name, birth date, and gender are marked identically on both answer documents. - Submit answer documents to Riverside Scoring Service at the same time.	- Riverside Scoring Service matches answer documents based on identical demographic data, such as student name, date of birth, and gender. Differences in coding student demographic data may prevent the proper match of some answer documents. - Riverside Scoring Service matches an *Iowa Assessments* answer document and a *CogAT* answer document based on demographic data from the *Iowa Assessments* document.
Scan separate *Iowa Assessments* and *CogAT* answer documents.	- Locally print *Iowa Assessments* answer documents and *CogAT* answer documents. - Administer *Iowa Assessments* and *CogAT* in the same testing time frame. - Scan answer documents locally and submit the data file to Riverside Scoring Service for scoring.	This method produces accurate matches between plain-paper answer documents.
Order combined *Iowa Assessments* and *CogAT* reports using *CogAT* scores from an earlier test administration.	Confirm assessment form compatibility: Scores from *Iowa Assessments* Form E or Form F can be reported with scores from Form 7 of *CogAT. CogAT* Form 7 will provide predicted *Iowa Assessments* Form E or Form F scores.	- Riverside Scoring Service data repository links the new *Iowa Assessments* scores for each student with previously stored *CogAT* scores for that student. - As long as historical data for a given student exist, this score-matching capability allows for the generation of *Iowa Assessments* longitudinal reports as well as combined *Iowa Assessments/ CogAT* reports.
Online Testing		
Order combined *Iowa Assessments* and *CogAT* reports using *CogAT* scores from an earlier test administration.	Confirm assessment form compatibility: Scores from *Iowa Assessments* Form E or Form F can be reported with scores from Form 7 of *CogAT. CogAT* Form 7 will provide predicted *Iowa Assessments* Form E or Form F scores.	- Riverside Scoring Service data repository links the new *Iowa Assessments* scores for each student with previously stored *CogAT* scores for that student. - As long as historical data for a given student exist, this score-matching capability allows for the generation of *Iowa Assessments* longitudinal reports as well as combined *Iowa Assessments/ CogAT* reports.

What types of reports are available?

HMH—Riverside offers both paper and web-based reports. Paper reports are available through Riverside Scoring Service. For information on ordering paper reports, see "How do I order scoring services?" on page 48. Web-based reports are available through HMH—Riverside *DataManager* system. For more information about *DataManager*, see page 52. Please check with your HMH—Riverside Assessment Account Executive for report availability.

Paper Reports

The table below describes each paper report; refer also to the table in "Which reports will I need?" on page 40, which shows the reports best suited for specific testing purposes. For more information on each report, consult the *HMH—Riverside Education Assessments Catalog* available at the following location: www.riversidepublishing.com/catalog/index.html.

Report Title	Description of Report Contents
List of Student Scores	Group listing of *CogAT* scores, by student—The group can be a class, a grade within a building, or a grade across the system.
Student Score Label	For each student—reports the same data as found on the *List of Student Scores.*
List of Student Scores—*Iowa Assessments*/*CogAT* Combined	Group listing of *CogAT* and *Iowa Assessments* scores, by student—The group can be a class, a grade within a building, or a grade across the system.
Group Summary	*CogAT* only or *CogAT* and *Iowa Assessments* scores for a class; provided with the *List of Student Scores*. This report is also available with school- or district-level results.
Group List of Summaries	Lists more than one group summary per page; for example, a list of results from every fifth grade class in your school.
Group List Ranked by Test	Ranks students from highest to lowest according to their age scores or grade scores for each *CogAT* battery and the composite. The group can be a class (ranking individual students), a grade within a building (ranking students at a particular grade level within the building), or a grade across the system (ranking students at a particular grade level within the system).
Student Profile Narrative	For an individual student – *CogAT* test results are presented as numerical scores, in bar graphs, and in written, narrative form. An area on the report is reserved for a standardized message from the school or a teacher's comments.
Student Profile Narrative – *Iowa Assessments*/*CogAT* Combined	For an individual student – *CogAT* and *Iowa Assessments* test results are presented as numerical scores, in bar graphs, and in written, narrative form.
Student Snapshot	For an individual student – A simplified presentation of *CogAT* test results, percentile rank scores, graphs of battery and composite scores, and a written narrative about the student's scores.
Class Snapshot	A summary of *CogAT* results for a class; provides the class scores for each battery and the composite in numerical and graphical form and quantifies results by profile pattern and by strengths and weaknesses.
Building/System Snapshot	A summary of *CogAT* results for a building or school system; provides the building/system scores for each battery and the composite in numerical and graphical form and quantifies results by profile pattern and by strengths and weaknesses.

Note: Scores and student demographic data are available on a Windows®/Macintosh® CD-ROM. See "Data Export" on page 53 for more information.

Matching Paper Reports to Web-Based Reports

If you received *CogAT* paper reports in the past and are interested in receiving web-based reports through *DataManager*, refer to the table below for a list of the web-based reports that most closely match the paper reports. *DataManager* enables you to select the level of data you want displayed for a given report type. For example, you can configure the *Student Roster* report to display a single class or all buildings and classes in a district. In the table below, the paper reports are listed with the corresponding web-based reports.

CogAT Paper Report to Web-Based Report Cross-Reference	
Paper Report Title	**Web-Based Report Title**
List of Student Scores	List of Student Scores (Scoring Service Print Style)
Student Score Label	No equivalent web-based report
List of Student Scores – *Iowa Assessments*/*CogAT* Combined	Multimeasure Student Roster (provides similar type of data)
Group Summary Report	Group Summary (Scoring Service Print Style)
Group List of Summaries	Group Roster
Group List Ranked by Test	Student Roster
Student Profile Narrative	Student Profile Narrative (Scoring Service Print Style)
Student Profile Narrative – *Iowa Assessments*/*CogAT* Combined	No equivalent web-based report
Student Snapshot	Student Profile
Class Snapshot	Group Profile
Building/System Snapshot	Group Profile

Note: Scores and student demographic data are available on a Windows®/Macintosh® CD-ROM. See "Data Export" on page 53 for more information.

Where can I find more information about *CogAT*?

The following resources provide additional information about *CogAT* and gifted and talented research.

CogAT Form 7 Website

www.riversidepublishing.com/products/cogAT7/index.html

Product information is presented by HMH—Riverside. The topics include the following:

- ELL Accessibility
- Content
- Tests and Times
- Ability Profiles
- Ancillaries
- Administration/Scoring
- *DataManager*
- Reporting
- Research
- Pricing/Order Forms
- Screening Form
- Request Review Material

Cognitively Speaking, the *CogAT* Newsletter

Meet the Author

www.riversidepublishing.com/products/cogAT7/cogspeak.html

Cognitively Speaking is a *CogAT* newsletter written by the test author, Dr. Lohman, for teachers and school administrators. It discusses common questions about ability testing and summarizes research on abilities that can help educators use *CogAT* scores more effectively.

David F. Lohman, Test Author Website

faculty.education.uiowa.edu/dlohman/

Research studies, book chapters, copies of presentations, and other resources are available at this website.

Part 3: Selecting Testing Materials

Which grades should be tested?

Cognitive abilities change as students grow and complete more of their education. Information about assessing students' cognitive development at different grade levels is provided below.

Between kindergarten and grade 2, *CogAT* results help educators implement interventions that improve students' cognitive skills. Instructional interventions are likely to be more successful at this age of rapid cognitive development than when students are older.

At grades 3–5, when students rely more on their own resources for learning, retesting and updating their ability profiles lets teachers know how best to adapt instruction.

At grades 6–8, when knowledge and skills make increasing demands on specific abilities, retesting and updating students' ability profiles helps teachers further focus and adapt instruction.

At grades 9–12, many students are making decisions about courses of study or are thinking about life after high school. Current information on cognitive abilities helps both students and the adults who assist them in making these decisions.

What levels will I need?

The table below will help you identify the appropriate test level to administer based on grade level and time of year. First, identify the time of year in which the students will be tested.

If testing students…	Then use…
Between August 1st and November 30th	Fall
Between December 1st and February 29th	Midyear
Between March 1st and July 31st	Spring

Based on the time of year you identified, locate the column that best describes the ability level of the students (low, average, or high). Read down to the grade of the class that will be tested. This box shows the test level that is best for this class.

	Recommended Test Levels by Testing Period and Average Class Performance Level*								
	Fall			**Midyear**			**Spring**		
Grade	Low	Average	High	Low	Average	High	Low	Average	High
K	5/6	5/6	7	5/6	5/6	7	5/6	7	7
1	5/6	7	8	7	7	8	7	7 or 8	8
2	8	8	8	8	8	8	8	8	8 or 9
3	9	9	9 or 10	9	9	9 or 10	9	9 or 10	10
4	10	10	10	10	10	10	10	10	10 or 11
5	11	11	11	11	11	11	11	11	11
6	12	12	12	12	12	12	12	12	12
7	13/14	13/14	13/14	13/14	13/14	13/14	13/14	13/14	13/14
8	13/14	13/14	13/14	13/14	13/14	13/14	13/14	13/14	13/14
9	15/16	15/16	15/16	15/16	15/16	15/16	15/16	15/16	15/16
10	15/16	15/16	15/16	15/16	15/16	15/16	15/16	15/16	15/16
11	17/18	17/18	17/18	17/18	17/18	17/18	17/18	17/18	17/18
12	17/18	17/18	17/18	17/18	17/18	17/18	17/18	17/18	17/18

*In low-performing classes, the typical student performs at the 34th national percentile rank (NPR). In average-performing classes, the typical student performs at the 50th NPR. In high-performing classes, the typical student performs at the 67th NPR. When two levels are recommended, use the higher level if testing for gifted identification.

Out-of-Level Testing

Once the appropriate test level for the class as a whole has been determined, the teacher must decide whether a different test level may be more appropriate for certain students in the class. Such decisions must be made well in advance of the week of testing so that the correct test booklets and answer documents can be ordered or the correct online testing sessions can be set up. These decisions should be based on the same considerations that influence the choice of methods and materials when individualizing instruction.

The range of difficulty of the questions in each level allows most students to obtain accurate scores using the on-level test. Students who are working well above or well below their peers may take a higher or lower level of *CogAT* as an accommodation. In particular, the higher ceilings in Form 7 provide reliable Standard Age Scores (SAS) for most high-ability students using the on-level test. Although this lessens the need for above-level testing, such an accommodation may still be useful when precise Standard Age Scores for very high-scoring students are needed. The scores for these students would be more accurate as the average difficulty of the test items becomes closer to the ability level.

Reliable Standard Age Scores (SAS)

The higher ceilings in Form 7 provide reliable Standard Age Scores (SAS) for most high-ability students using the on-level test. Students who are working well above or well below their peers may take a higher or lower level of CogAT as an accommodation.

Which reports will I need?

Matching Testing Purposes with Reports

Each of the score reports available from Riverside Scoring Service has been designed for a particular reporting purpose. The table below shows the reports best suited for accomplishing specific testing purposes.

An HMH—Riverside Customer Service representative can offer advice about the suitability of various reports for particular purposes. Please check with your HMH—Riverside Assessment Account Executive for report availability.

Paper Reports by Testing Purpose

Testing Purpose	Reports on Individual Students			Reports on Groups of Students					
	Student Score Label	*Student Profile Narrative*	*Student Snapshot*	*List of Student Scores*	*List of Student Scores— Group Summary*	*Group List of Summaries*	*Group List Ranked by Test*	*Class Snapshot*	*Building/ System Snapshot*
Guide efforts to adapt instruction to the needs and abilities of students	✓	✓	✓	✓	✓	✓		✓	✓
Measure cognitive development to help identify academically talented students				✓			✓		
Identify students whose levels of academic achievement are substantially lower or higher than expected, given their *CogAT* results				✓	✓				

Part 4: Ordering

What materials are needed for testing?

Materials for use with *CogAT* are listed below, grouped according to their primary use: pretest, testing, or posttest/support. Materials needed for testing vary based on the mode of administration (paper and pencil or online). Materials can be ordered and received from HMH—Riverside; if you purchase a *DataManager* package, you can access many of the materials online. Refer to the HMH—Riverside *Education Assessments Catalog* for a list of materials, package quantities, and ordering information.

Pretesting Materials

Practice Activities – These supplementary student booklets and teacher guides for kindergarten through grade 6 contain simple and complex practice questions for each subtest except Sentence Completion, which uses a familiar item format.

Testing Materials for Paper-and-Pencil Testing

Test Booklets – Each student, as well as the test administrator, will need a test booklet. Two types of test booklets are available; the type of test booklet used is dependent upon the test level being administered.

- Machine-scorable test booklets, available for Levels 5/6–9, are designed for a single test administration and allow students to mark their answers directly in the test booklet.

- Reusable test booklets are available for Levels 9–17/18. These test booklets are designed for multiple test administrations. With reusable test booklets, students mark their answers on a separate answer document.

Answer Documents – The type of answer documents used in testing depends on the scanning method, test level, and assessment.

- Local Plain-Paper Scanning – If you purchase the *DataManager* Platinum Data package, you can print single-sided answer documents that you can scan locally with a plain-paper scanner.

- Central Scanning – If you will send your answer documents to Riverside Scoring Service for scanning, you will purchase catalog answer documents from HMH—Riverside.

Materials to Order

For paper-and-pencil testing with all test levels of CogAT:

- *each student needs a test booklet*

- *some students need a separate answer document*

- *each test administrator needs a* Directions for Administration *booklet*

The table below summarizes the catalog answer documents that are available for each level.

Catalog Answer Documents Available by Level		
Levels 5/6–8	Level 9	Levels 10–17/18
None needed	Two-sided answer sheet – or – Four- or 12-page answer folder, which includes space for *Iowa Assessments* Complete or Core Battery answers if both tests will be administered	Two-sided answer sheet – or – Four-page answer folder, which includes space for *Iowa Assessments* Complete or Core Battery answers if both tests will be administered

Directions for Administration – Each test administrator will need a *Directions for Administration* booklet specific to the test level to be administered. There are separate *Directions for Administration* booklets available for Levels 5/6, 7, 8, and 9. A separate *Directions for Administration* booklet is available for the Level 9 Machine-Scorable test booklets. Levels 10–17/18 use the same *Directions for Administration* booklet. These booklets describe how to prepare for testing and provide the exact script that test administrators must use during test administration. One *Directions for Administration* booklet is included with each package of 25 test booklets. Additional copies may be ordered separately. *Spanish Directions for Administration* booklets are also available for all test levels.

Testing Materials for Online Testing

Online tests are administered through *DataManager. DataManager* is a comprehensive online resource for managing your assessment program that enables you to organize, assign, and implement your test events and also to access and manage your test results online.

Directions for Online Administration – Each test administrator will need a *Directions for Online Administration* booklet specific to the test level to be administered. These booklets describe the procedures test administrators should follow to prepare for and administer the online tests through *DataManager. Directions for Online Administration* booklets can be downloaded from *DataManager*.

There are two *Directions for Online Administration* booklets:

- *Directions for Online Administration*, Levels 5/6–8

- *Directions for Online Administration*, Levels 9–17/18

Posttest/Support Materials

Scoring Key	Lists the correct answers for each subtest so the test can be hand scored
Norms and Score Conversions Guide	Provides tables for converting raw scores into other score types, such as universal scale scores, standard age scores, percentile ranks, stanines, and normal curve equivalents
Score Interpretation Guide	Provides information to help teachers, counselors, and school administrators analyze, communicate, and use results of the test

Hand-Scoring Materials – Occasionally there is a need to score a test by hand rather than sending it to Riverside Scoring Service for electronic scoring. To score a test by hand, you will need the following materials:

- *Scoring Key* to determine the number of correct answers (raw score) for each subtest (separate Scoring Keys are available for Levels 5/6–8 and Levels 9–17/18)

- *Norms and Score Conversions Guide* to convert raw scores into other score types

When should I place my order?

A planning calendar like the one shown below can be used to help determine the key activities that need to occur prior to testing in order to ensure that all materials will be available when needed.

	Weeks prior to Testing	Test Planning Activity for Paper-and-Pencil Testing	Test Planning Activity for Online Testing
District Planning Calendar for Ordering, Printing, and Distributing Testing Materials			
✔			
	8	For grades being tested, request enrollment counts and any out-of-level testing counts from each school	
	7	Receive the enrollment counts requested in Week 8 from each school Review local inventory of testing materials and determine materials needed	For grades being tested, request enrollment counts and any out-of-level testing counts from each school
	6	Order testing materials and barcode labels from HMH—Riverside	Receive the enrollment counts requested in Week 7 from each school
	4	If scanning locally, print answer documents	Submit order form for online testing
	3	Materials shipped from HMH—Riverside to the district office Verify materials received from HMH—Riverside	Receive *DataManager* system access credentials for account holder and instructions for uploading files Create and upload location, staff/user, and student data files to HMH—Riverside secure FTP site
	2	Count out and package materials for each school in the district Distribute packaged materials to schools in the district	

Continued on the next page…

✔	Weeks prior to Testing	Test Planning Activity for Paper-and-Pencil Testing	Test Planning Activity for Online Testing
		District Planning Calendar for Ordering, Printing, and Distributing Testing Materials, *continued*	
	1	Schools check materials shipment received from the district office Schools conduct training for test administrators	Receive *DataManager* access credentials for staff Set up testing sessions in *DataManager* Test administrators and proctors take *DataManager* Proctor training online
	0	Schools distribute materials to classrooms and begin testing	Begin testing

How do I order the testing materials?

For paper-and-pencil testing, the *HMH—Riverside Education Assessments Catalog* contains details about ordering, prices, and payments. This information is also available on the website at www.riversidepublishing.com. On the website, you can also print a copy of the order form or request a catalog.

To order online testing, contact your HMH—Riverside Assessment Account Executive or HMH—Riverside Customer Service. HMH—Riverside will meet with you to review product capabilities, discuss your testing plan and window, and review the system requirements for online testing.

Testing Materials Checklist

Use this checklist to determine the testing materials you will need.

✔ What grades will be tested?

✔ What test levels will be administered?

✔ What are the testing dates?

✔ Will practice activities be used?

✔ Which students require testing accommodations? What are those accommodations? Will the test administrator need a *Spanish Directions for Administration*?

✔ How will student information be added to answer documents? Will barcode labels be used?

✔ What quantities of required materials are needed?

✔ What types of answer documents are needed?

✔ How will answer documents be scanned (locally or by Riverside Scoring Service)?

✔ What scoring services will be ordered, and who will receive which reports?

✔ When are materials needed?

✔ Where will materials be shipped?

Ordering Barcode Labels and Services

The school district is responsible for the accuracy of all student information coded on the answer documents. One way to avoid coding by hand—and at the same time obtain highly accurate coding—is to use barcode labels.

Information stored in a district's student information system can often be used in preparing barcode labels. For example, if each student's race/ethnicity, free/reduced-price lunch eligibility, and participation in a gifted and talented program are stored in the district's student information system, such information can be exported to a data file that can then be used to prepare the barcode labels. HMH—Riverside provides a template to guide you in correctly formatting the required fields.

By using barcode labels on answer documents that will be scanned by Riverside Scoring Service, students (or test administrators) do not need to mark student names, dates of birth, or other identifying information before the start of the first testing session. This shortens test-administration time and promotes greater accuracy in the demographic information on reports and in score data files. It also saves time when testing is completed because the name and identification areas on the answer documents do not need to be checked for dark marks or double marks.

Place your order for barcode labels/services at the same time you order your testing materials.

Note: Answer documents printed through the *DataManager* system include student identification information; barcode labels are not needed.

How do I order scoring services?

Riverside Scoring Service provides a full array of paper score reports and scoring services. When ordering scoring services, you can select:

- specific score reports and the number of copies by grade

- the specific types of scores that will appear on each report

- student data on CD-ROM (a collection of student records in ASCII format)

- an option that permits the exclusion of the scores of specially coded students from group averages

There are several ways to order scoring services from Riverside Scoring Service. Your HMH—Riverside Assessment Account Executive or an HMH—Riverside Customer Service representative can offer suggestions and assistance regarding scoring services.

Web Reports

Web reports are included with the HMH—Riverside *DataManager* system data package purchased. If you scanned plain-paper answer documents locally, your web reports will be available in *DataManager* twenty-four hours after you transmit the scan file to HMH—Riverside for scoring. Results from online testing are also available in *DataManager* twenty-four hours after students complete and close their tests. See page 52 for more information.

Order Form for Riverside Scoring Services (OSS)

You can order scoring services by completing the OSS available at www.riversidepublishing.com. Directions for completing the OSS are available on the website, or you may contact an HMH—Riverside Customer Service representative.

Telephone Orders

An HMH—Riverside Customer Service representative can take your order by phone. The representative can answer your questions, provide information about your options, and place the order for you.

Accessing Test Results

Central Scanning through the Riverside Scoring Service – Allow 10 business days from the time the Scoring Service receives your documents for your reports to be processed. If you order paper reports, allow two days for UPS to deliver the reports to your school system.

If you order web reports, the reports will be available in the HMH—Riverside *DataManager* system within 10 business days.

Local Scanning – Plain-paper answer documents are scanned using equipment at your school or district office. Data from the answer documents are transmitted to Riverside Scoring Service for scoring and test results are available in *DataManager* within twenty-four hours.

Online Testing – Web reports from online testing sessions are available twenty-four hours after students complete a subtest.
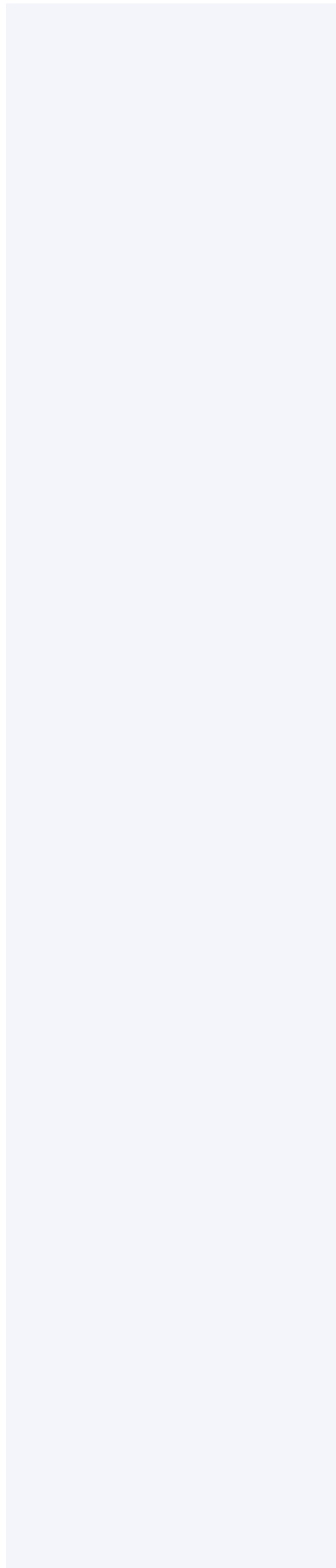
Part 5: Other Related HMH—Riverside Products

HMH—Riverside offers a number of additional products that complement *CogAT* results. For more information about these products, see the *HMH—Riverside Education Assessments Catalog*.

Assessment	Type of Test	Description	Benefit
Iowa Assessments™	Standardized test of achievement	Designed to provide critical information on a student's or a group of students' level of achievement, growth, or readiness	Offers growth monitoring as well as tracking of readiness for college and career, and reports student understanding of Common Core State Standards
Riverside® Interim Assessments	Benchmark tests	Designed to be given throughout the year to measure student progress and help all students succeed on higher-stakes tests	Features reliable growth and proficiency information, as well as cognitive-level performance reporting to reflect students' mastery of standards at each level of rigor
Woodcock-Johnson® Tests of Cognitive Abilities	Individually administered assessment of cognitive abilities	Designed to measure general intellectual ability, specific cognitive abilities, and identifies significant variations in ability across cognitive domains	Determines the contribution of basic psychological processes on academic performance for RTI models, helps diagnose learning disabilities, and informs intervention or programming decisions
Battelle Developmental Inventory™	Individually administered developmental assessment	Designed to screen, diagnose, and evaluate childhood developmental milestones in multiple domains	Evaluates developmental strengths and weaknesses, provides useful data for immediate instruction and intervention strategies, and offers longitudinal growth monitoring
Stanford-Binet Intelligence Scales	Individually administered assessment of cognitive abilities	Designed to measure strengths and weaknesses in the cognitive processes of students at all points on the ability spectrum	Measures gifted performance with extensive high-end items and includes an improved range of items to help diagnose emerging learning disabilities

Additional Products and Services

DataManager

Managing Your Assessment Program

DataManager *is your single source for supporting a comprehensive, balanced assessment program. An easy-to-navigate online resource,* DataManager *allows you to streamline the management and reporting of* Iowa Assessments, CogAT, *and the* Riverside Interim Assessments.

The *DataManager* system is a comprehensive online resource for managing your assessment program for *CogAT* Form 7, *Iowa Assessments* Form E and Form F, and the *Riverside Interim Assessments*.

DataManager enables you to organize, assign, and implement your test events and also to access and manage your test results online. *DataManager* packages allow you to choose the services you need.

Package	Mode of Administration	Reports and Services
Basic Data	**Paper/pencil testing with purchased answer documents –** After testing, send answer documents to Riverside Scoring Service for scanning and scoring.	• Paper list report and group summaries • Access to digital ancillaries online
DataPlus	**Paper/pencil testing with purchased answer documents –** After testing, send answer documents to Riverside Scoring Service for scanning and scoring.	• Web-based reporting* • Access to digital ancillaries online • Option to purchase paper reports
Platinum Data	**Paper/pencil testing with plain-paper answer documents printed at your district or school –** After testing, scan answer documents using equipment at your school and transmit scan file to Riverside Scoring Service for scanning and scoring. **Online testing –** Students take tests online and answers are transmitted to Riverside Scoring Service for scoring.	• Web-based reporting* • Access to digital ancillaries online • Ability to upload data from other assessments for co-analysis • Option to purchase paper reports

* Web-based reports are printed locally.

Data Export

Data Export files are available to *DataManager* users with Account Holder or Administrator roles. These files contain the testing data for a test event and can be exported as .txt files in the following formats: ASCII Fixed-Width, ASCII Tab-Delimited, ASCII Comma-Delimited, ASCII Pipe-Delimited.

Student Data on CD-ROM

Scores and student demographic data are available on a Windows®/Macintosh® CD-ROM. The data file is in ASCII format and can be ordered with either delimited fields (tab or comma) or fixed-width fields. The CD contains no software for using the data; it is a collection of records, one per student, with strings of numbers and letters representing the student's scores and demographic information. The data records can be imported into your district's student information system or spreadsheet program for analysis.

Uses of Score Data Files – The list below indicates some of the common uses of student data files provided through Riverside Scoring Service. Some of the uses described below require the coding of special information on students' answer documents at the time of testing. You can find details about how and where to code information in the *Supplemental Coding Guide*. Contact an HMH—Customer Service representative to obtain a copy of this guide.

- **Disaggregating data or analyzing subgroups**
  Often there is a need to examine the performance of subgroups of students in certain grades or to compare the performance of various subgroups in a given year. The information may be needed to satisfy a legislative mandate for federal funding, and sometimes it is needed to provide information to evaluate the effectiveness of an instructional program.

- **Checking the effects of student migration**
  When evaluating the year-to-year change in the achievement of grade groups, it is important to take into account the effects of students moving in and out of the school or school system in those years. If the students who left after last year and those who were new in the current year are quite different, then only the results of those students who tested in both years should be used to estimate annual growth.

- **Regrouping students into instructional classes**
  At the elementary level, the *List of Student Scores* groups students alphabetically for each classroom teacher at each grade level. These lists become dated when students are regrouped into class sections for the next grade in the following school year. Rerostering allows the original student lists to be reorganized so that each teacher can have a list of student scores for his/her section in the new school year.

- **Creating achievement levels for external reporting**
  Some school systems are required to report student performance to their state education department using achievement levels such as Advanced, Proficient, and Less-than-Proficient. States, in turn, may use these levels to report statewide achievement to the federal government. A school system could classify its students into achievement levels according to their scores and use the achievement levels in the same way its state does to monitor student progress toward local achievement goals. As an alternative, achievement levels could be defined by national quartile or stanine groupings, and the data records could be used to determine the percent of local students who scored at each achievement level.

- **Monitoring the use of accommodations**
  If a school system has developed a coding system for indicating on a student's answer document which accommodations, if any, were provided during testing, that information would appear in the student data file. The school system could summarize this information each year and use it to monitor the types and frequency of accommodation usage over time. In some cases, this information might be helpful in examining score trends over several years.

Appendices

Appendix A: Accommodations for Students with Special Needs

The testing accommodations most frequently provided to students with IEPs or Section 504 plans are described below. Accommodations vary by test level; refer to the *Directions for Administration* or *Directions for Online Administration* for level-specific information about accommodations.

Note: Accommodations listed below apply to all modes of administration unless otherwise indicated.

Typical Accommodations at Levels 5/6–8 for Students with IEPs or Section 504 Plans

Accommodation	Description
Tested Off Level	Students who work at an instructional level well above or well below that of their grade peers may take a higher or lower level of the test. (Level 5/6 is the lowest available level.) Reading skills should not be a concern, since the Level 5/6–8 tests do not require any reading on the part of the students. However, the range of difficulty of the questions in these tests allows most students to obtain accurate scores using the on-level test.
Repeated Directions	The test administrator may read aloud the directions and the item prompts as many times as necessary to ensure that all students understand what they are supposed to do. However, some students may need **all** of these directions and item prompts repeated as a testing accommodation. **Online testing with audio** For each subtest, students may play the directions and item prompts as many times as necessary to ensure they understand what they are supposed to do.
Separate Location	A separate assessment room should be made available for students who might be distracted by the pace at which their peers work, who may need extra breaks, or who might be disruptive in a larger group.

Large-Print Edition	Students with visual impairments may benefit from the use of a large-print version of the test. Follow these instructions when using the large-print edition.
	
	• Provide sufficient table area to handle an open 12.5-inch by 16-inch test booklet.
	• If students typically use book stands or low-vision aids during instruction, they may use them during testing.
	• Determine how students will record their answers.
	   – Students may mark directly in the large-print booklet with a pencil, pen, or crayon. Later, the test administrator can either transfer the responses onto a standard test booklet or into the online test, or hand score the large-print booklet using the appropriate scoring key. If answers are transferred, a school staff member should verify the transfer.
	   – Students may be tested individually and may give oral responses to the test administrator. The test administrator will mark the student's responses directly in a standard test booklet or the online test.

Assistance with the Answer Document	An assistant or proctor may record a student's answers in the test booklet if the student is unable to do so because of physical impairment.
Assistance with the Online Test	An assistant or proctor may record a student's answers in the online test if the student is unable to do so because of a physical impairment.

Continued on next page…

Accommodation	Description
Other	Accommodations noted in a student's IEP but not included in this list may be used with the exception of calculator usage. For example, a test administrator who is fluent in the signing or cueing methods used by a student may need to repeat directions or certain portions of the test administration to clarify procedures for the student. Accommodations noted in a student's IEP should be used only if doing so will not alter the nature of the ability the test is intended to measure.

Typical Accommodations at Levels 9–17/18 for Students with IEPs or Section 504 Plans

Accommodation	Description
Read Aloud	*CogAT* is not a reading test. Students who have severe reading disabilities may require some assistance reading the questions in the Verbal Battery. Questions in these subtests may be read aloud to students who require such assistance. However, words should not be defined or sentences paraphrased.
Tested Off Level	Students who work at an instructional level well above or well below that of their grade peers may take a higher or lower level of the test. However, the range of difficulty of the questions at Levels 9–17/18 allows most students to obtain accurate scores using the on-level test.
Repeated Directions	The test administrator may read aloud the directions as many times as necessary to ensure that all students understand what they are supposed to do. However, some students may need **all** of these directions repeated as a testing accommodation. **Online testing with audio** For each subtest, students may play the directions as many times as necessary to ensure they understand what they are supposed to do.
Separate Location	A separate assessment room should be made available for students who might be distracted by the pace at which their peers work, who may need extra breaks, or who might be disruptive in a larger group.
Assistance with the Answer Document	An assistant or proctor may record a student's answers on the answer document if the student is unable to do so because of physical impairment.
Assistance with the Online Test	An assistant or proctor may record a student's answers in the online test if the student is unable to do so because of a physical impairment.
Extended Time	Some students may need extra time to reduce the effect of a slow work rate on their test performance. Students who use magnifiers, have attention disorders, or need help with word identification or reading are examples. Guidance from the student's IEP should be followed when extended time is needed.

Accommodation	Description

Large-Print Edition	Students with visual impairments may benefit from the use of a large-print version of the test. Follow these instructions when using the large-print edition.
	
	• Provide sufficient table area to handle an open 12.5-inch by 16-inch test booklet.
	
	• If students typically use book stands or low-vision aids during instruction, they may use them during testing.
	
	• Determine how students will record their answers.
	
	  − Students may mark directly in the large-print booklet with a pencil, pen, or crayon. Later, the test administrator can either transfer the responses onto an answer document or into the online test, or hand score the large-print booklet using the appropriate scoring key. If answers are transferred, a school staff member should verify the transfer.
	
	  − Students may be tested individually and may give oral responses to the test administrator. The test administrator will mark the student's responses directly in an answer document or the online test.

Other	Accommodations noted in a student's IEP but not included in this list may be used with the exception of calculator usage. For example, a test administrator who is fluent in the signing or cueing methods used by a student may need to repeat directions or certain portions of the test administration to clarify procedures for the student. Accommodations noted in a student's IEP should be used only if doing so will not alter the nature of the ability the test is intended to measure.

Appendix B: Accommodations for English Language Learners

The testing accommodations sometimes provided to ELL students are described below. Accommodations vary by test level; refer to the *Directions for Administration* or *Directions for Online Administration* for level-specific information about accommodations.

Note: Accommodations listed below apply to all modes of administration unless otherwise indicated.

Typical Accommodations at Levels 5/6–8 for English Language Learners (ELLs)

Accommodation	Description
Small Group/Individual Administration	Students may be tested in small groups or individually. There is no minimum group-size requirement for test administration.
Tested Off Level	Students who work at an instructional level well above or well below that of their grade peers may take a higher or lower level of the test. (Level 5/6 is the lowest available level.) Reading skills should not be a concern, since the Level 5/6–8 tests do not require any reading on the part of the students. However, the range of difficulty of the questions in these tests allows most students to obtain accurate scores using the on-level test.
Repeated Directions	The test administrator may read aloud the directions and item prompts as many times as necessary to ensure that all students understand what they are supposed to do. However, some students may need **all** of these directions and prompts repeated as a testing accommodation. **Online testing with audio** For each subtest, students may play the directions and item prompts as many times as necessary to ensure they understand what they are supposed to do.
Test Administered by ELL Teacher or Individual Providing Language Services	This accommodation allows the student to be tested in the environment that is most comfortable. Also, it makes other accommodations more readily available if their need was not anticipated at the outset of the test administration.
Directions Administered in a Language Other Than English	The directions and item prompts may be administered in a language other than English. *Spanish Directions for Administration* are available for all levels of the paper-and-pencil version of *CogAT*. **Online testing with audio** Directions are available in Spanish for Levels 5/6–8. The online test with Spanish audio is available for all levels.

Typical Accommodations at Levels 9–17/18 for English Language Learners (ELLs)

Accommodation	Description
Read Aloud	The Verbal Battery test questions may be read aloud to ELL students who require such assistance. However, words should not be defined or translated or sentences paraphrased. **Online testing with audio** Audio is not available for Verbal Battery subtest questions. If you have an ELL student who requires this accommodation, then you will want to consider administering the proctor-led test.
Small Group/Individual Administration	Students may be tested in small groups or individually. There is no minimum group-size requirement for test administration.
Tested Off Level	Students who work at an instructional level well above or well below that of their grade peers may take a higher or lower level of the test. However, the range of difficulty of the questions at Levels 9–17/18 allows most students to obtain accurate scores using the on-level test.
Repeated Directions	The test administrator may read aloud the directions as many times as necessary to ensure that all students understand what they are supposed to do. However, some students may need **all** of the directions repeated as a testing accommodation. **Online testing with audio** For each subtest, students may play the directions as many times as necessary to ensure they understand what they are supposed to do.
Extended Time	ELL students may need extra time on the Verbal Battery to reduce the effect of a slow pace of work on their test performance. The slower work rate may be due to limited vocabulary, the need to seek assistance, or the use of a glossary. Extra time should not be necessary on the Quantitative and Nonverbal batteries.
Directions Administered in a Language Other Than English	The directions and item prompts may be administered in a language other than English. *Spanish Directions for Administration* are available for all levels of the paper-and-pencil version of *CogAT*. **Online testing with audio** Directions are available in Spanish for Levels 9–17/18. The online test with Spanish audio is available for all levels.
Provision of English/Native Language Word-to-Word Dictionary	Students may be permitted to use a glossary (no definitions) that translates an English word into the corresponding word in their home language. The need for this assistance is determined by the student's teacher and depends on whether such glossaries are routinely used by the student during classroom assessments.
Test Administered by ELL Teacher or Individual Providing Language Services	This accommodation allows the student to be tested in the environment that is most comfortable. Also, it makes other accommodations more readily available if their need was not anticipated at the outset of the test administration.

Index

CogAT®