

# Research-Based Test Preparation Instruction

## Review, Practice, & Mastery Arizona Academic Standards Grades 3–8



### Making Students Test Wise

**“Students who are test wise can outperform students of equal ability but lacking test-wiseness.”**

—*Scruggs & Mastropieri, 1992*

American students take more tests than any other industrialized nation in the world. This includes teacher-made tests, intelligence tests, reading-readiness tests, standardized tests, state tests, exit exams, and so forth. It’s vital that students master the content of tests they take, but it’s also important that students are knowledgeable and experienced in various test formats and the characteristics of the testing environment.

Years of research have revealed the positive effects of teaching students to be “test wise.” Millman (1969) defined test-wiseness as “a subject’s capacity to utilize the characteristics and formats of the test and/or the test-taking situation to receive a high score.”

There is an enormous difference between teaching test-taking strategies and “teaching to the test.” The latter involves teaching specific items that will appear on the test. Teaching test-taking strategies helps students understand the format and conventions of a specific type of test and makes them feel comfortable in a testing environment. Learning test-taking strategies actually improves the

validity of a test by making scores reflect more accurately what students know (Scruggs & Mastropieri, 1992). A test-wise student will answer a question incorrectly only if he or she does not know the content, not because the test format is confusing or intimidating.

The goals of the *Review, Practice, & Mastery of the Arizona Academic Standards* are to

- thoroughly review and practice the Arizona Academic Reading and Mathematics Standards
- target the Arizona Academic Standards
- prepare students for the AIMS

All of the reading and math skills on the Arizona Reading and Mathematics Standards are addressed in the student books. Lessons directly support the Arizona AIMS Dual Purpose Assessment. Test-taking strategies are embedded in each lesson so students become knowledgeable and confident test-takers.

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# A Taxonomy of Test-Taking Strategies

“Test-wiseness exists and can be measured, appears to comprise specific skills, and can be taught effectively.”

—Jongsma & Warshauer, 1975; Ligon & Jones, 1981

Millman and his colleagues developed a taxonomy of test-taking strategies that will make students test wise. These strategies are independent of content and are useful on all types of tests.

- 1. Time-using strategies.** Working quickly and efficiently, solving the problems and answering items you know, and saving more difficult items for last.
- 2. Error avoidance strategies.** Paying careful attention to directions, careful marking of answers, and checking answers.
- 3. Guessing strategies.** Making effective use of guessing when it is likely to benefit the test-taker.
- 4. Deductive reasoning strategies.** Applying a variety of strategies, including eliminating options known to be incorrect, or using content information from the stem (question) or other test information.
- 5. Intent considerations.** Understanding the purpose of the test.
- 6. Cue using strategies.** Use of known idiosyncrasies of the test maker, such as avoidance of options using words such as “always,” “all,” or “never” (specific determiners), when it is known that such options are rarely correct. Using content clues to determine answers.

*Review, Practice, & Mastery of the Arizona Academic Standards* teaches all these strategies. Students learn to skip answers they’re unsure of and return to them if time permits. They’re taught how to read all the choices in a multiple-choice item before choosing their answer. They learn to scan the questions before reading a selection on a reading test, to read all directions carefully, to use a separate answer sheet, to use content clues to find the correct answer, to analyze two or more reading selections to answer a synthesizing question, to return to the text to validate their answer, and many more strategies for taking reading tests.

Models, instruction, and practice are provided for constructing open-ended responses. Students learn how to use rubrics to evaluate their essays, just as test readers do. They practice responding to expository, persuasive, and narrative prompts.

*The Review, Practice, & Mastery of the Arizona Academic Standards* math workbooks teach students how to show their work, how to read charts and graphs to answer questions, how to answer test items that require a written response, how to read and solve story problems, and how to choose the best answer.

Every lesson includes test-taking hints and strategies that will help students improve their test scores.

### Tips for Taking Tests

Remember these tips for any test you have to take.

- Get plenty of rest the night before a test. You will do better if you are well rested and relaxed.
- Read directions carefully before answering questions. Not reading directions thoroughly can lead to incorrect responses.
- Keep track of time while you take your test. Then check the amount of time you have to complete the test. Pace yourself so that when you are about halfway through the time allowed, you have completed about half of the test.
- Do the easy questions first. When you get stuck on a question, don't spend too much time on it. Go on and answer the easy questions. Then come back to work on the hard ones. Often, a question that seemed hard in the beginning will seem easier later.
- Once you have finished most of the test, you may feel less pressure, and this could help you answer the hard questions.
- Mark your answers clearly. On multiple-choice questions, fill in the bubble completely with a dark pencil mark. Erase any mistakes as well as you can.
- If a question asks you to write an answer, write clearly. Write carefully to make sure the person who grades your test can read your responses. Even if your answer is right, you will not receive credit if the grader cannot read your handwriting!
- Use any remaining time at the end to go back over the test. First, answer questions that you skipped. Then, check your answers or check your answer sheet for stray marks.

### Tips for Taking Reading Tests

- Before you read a passage, scan the questions first to see what they ask. That way, you will know what to look for as you read the passage.
- On multiple-choice questions, read all of the answer choices carefully before you choose one. There may be more than one possible answer.
- Practice scanning words that you know quickly.
- Look for clues figure out word clues are other to define or explain.
- If you are asked to tell the order of events in a passage, look for key words in the selection such as *first, then, next, after, finally, and at last*. The information you seek should be close to one of these words.
- You may have to infer a meaning from a passage to answer some questions. This is called *inferencing*.

2 This chart shows the order of some events in the story.

```

graph TD
    A[Attackers came to the Cliff People.] --> B[The Cliff People prayed to the Great Spirit for help.]
    B --> C[Kokopelli took the children to a new land.]
            
```

Which statement belongs in the empty box?

- Ⓐ The Cliff People hunted and gathered food.
- Ⓑ Food and water ran low.
- Ⓒ Kokopelli gave the children seeds to start a new life.
- Ⓓ Kokopelli appeared with a large hump on his back.

Directions: Read the passage. Then answer the questions that follow.

### The Pied Piper of Hamelin

Long ago, the town of Hamelin had a problem. Rats. The rodents swarmed into town searching for food, water, and warm places to sleep. The townsfolk were desperate to get rid of these pests.

One day, a stranger came to town and made an offer. He said he would rid the town of every single rat. His fee for this service was one shilling per rat.

In desperation, the town agreed. “Please start immediately,” they begged.

The stranger took out a pipe, and he began to play a beautiful tune. From nooks and crannies, the rats began to come. They followed the piper as he walked through the streets of town. As he played the delightful music, they followed him out of town and to the river. There,

Sample pages from Reading Grade 3

Sample pages from Reading Grade 3

**READING**  
Lesson  
**4**

### Literary Elements

This lesson covers . . . comparing and contrasting plots, identifying sequence of events, and making connections between earlier and later events in a narrative.

Directions: Read the passage. Then answer the questions that follow.

#### Kokopelli

Long ago and far away, the Cliff People lived in houses in the sides of cliffs. Some farmed. Others hunted or gathered food. They caught rainwater for their fields.

One day, attackers came. The Cliff People hid in their cliff dwellings. The attackers could not reach them, so they camped at the base of the cliffs. They kept the Cliff People from going to their fields.

Soon, food and water ran low. The Cliff People prayed to the Great Spirit to save their children.

Just before dawn, Kokopelli appeared. He had a large hump on his back. He danced through the attackers, merrily playing his flute.

The attackers enjoyed the music and thought they were dreaming. Kokopelli reached the cliff dwellings and gathered all the children behind him.

He led them to the edge of the steepest cliff. Kokopelli stopped playing the flute. The parents of all the children hugged and kissed them good-bye. Then Kokopelli changed the children into butterflies. They flew away, and Kokopelli went with them. In Kokopelli's hump were seeds for all the plants in the world. Kokopelli took the children to a new land. Then he gave them seeds so they could start a new life.

1 Which word best describes the Cliff People?

- Ⓐ dangerous
- Ⓑ angry
- Ⓒ peaceful
- Ⓓ threatening

Sample pages from Reading Grade 3

of the jumped was swept

of town hlk grew to pay" an being t." And and he piper k went dren ed, they brightly ying a Laughing allowed

The piper led the children to the hills outside of town. There, he stood beside the mouth of a large cave. One by one, every child danced into the cave. When the last one had entered, the piper stopped his music. Like magic, a huge rock appeared, sealing up the cave. The piper turned and walked away, never to be seen again.

But all the children were not in the cave. One child who had sprained her ankle remained outside. She had not been able to keep up with the rest. And even though she told everyone in town where the children were, no one could get them back.

The piper had taught everyone a harsh lesson. It is best to pay the piper or worse things will happen.

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# Test-Wiseness Maximizes Performance

**“Programs in training of test-wiseness produce, on average, significant improvements in students’ scores on achievement tests. Programs extending over a period of five weeks or more have a significantly greater impact.”**

—Samson, 1985

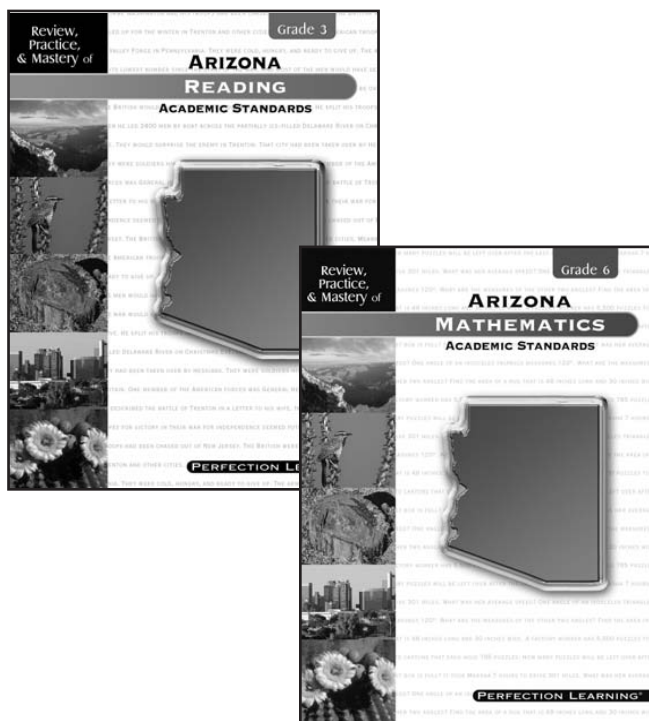
The vast amount of research on teaching test-taking strategies actually creates a template for instruction.

- Test “coaching” has been shown to raise a student’s score from the 50th to the 60th percentile, or by about 2.5 months on a grade-equivalent scale. (Bangert-Drowns et.al., 1983)
- There is a direct relationship between time spent teaching test-taking strategies and subsequent gains in achievement test scores. Berliner (1986) concluded that “for 2 hours of instruction, a student at the 50th percentile would end up at the 55th. With 3.2 hours training the gain would be about 8 percentile ranks; with five hours training—10 percentile ranks. Ten, 20, and 30 hours of instruction should yield, respectively, 14, 17, and 19 percentile gains.

Hours of Training	Percentile Points
5	+10
10	+14
20	+17
30	+19

**NOTE:** Results begin to diminish after 30 hours of training.

- Low-income students and those not proficient in English may gain more from test preparation than their more academically proficient peers (Berliner, 1986). This includes students characterized as “special” or “remedial” or culturally diverse. (Dreisbach & Keogh, 1982; Kalechstein, Kaleschstein & Doctor, 1981; Scruggs & Mastropieri, 1987.)
- There is strong indication that poor readers benefit from learning test-taking strategies in a large group setting. This finding is important because “slow learners” often spend the majority of their school day in special education classes. In a study involving middle school students of varying abilities, lower-level readers improved in test-wiseness as did the average and above-average students.
- Research suggests that test-wiseness training might need annual repetition. Effects seem higher right after training and go down considerably two months later (Casanova, 1986).



Mastery Test

Directions: Read the passage. Then answer the questions that follow.

### You Are What You Drink

What do you reach for when you are really thirsty? Many kids first go for a soft drink, or soda. In fact, 56 percent of 8-year-olds in America drink soda daily. And one-third of teenage boys drink at least three cans of soda each day! But what are you really putting into your body when you chug a cola? Soft drinks are unhealthy. This is because of what they *contain* and what they *replace* in your diet.

Soft drinks contain large amounts of sugar. One can or bottle of soda contains all the sugar you need in a day. And you *haven't* even eaten anything! Think about everything else you eat each day. Do you see where your sugar intake may climb to unhealthy levels? Too much sugar can cause tooth decay. This can lead to **cavities**. Too much sugar can also cause you to gain too much weight.

Many soft drinks also contain **caffeine**. It is a natural drug found in tea leaves, coffee beans, cocoa (used to make chocolate), and cola nuts (used to give some soft drinks their flavor). It makes you feel more awake and alert. But it can also make your heart rate go up.

Caffeine can make you **dehydrated**. This means that your body gets weak because it doesn't have enough water. So on hot days or after you've exercised hard, it's more important to choose a drink without

caffeine. Have you tried to talk to your mom, dad, or teacher before his or her first cup of morning coffee? This is not always pleasant. That's because caffeine can also be **addictive**. If you drink beverages with caffeine on a regular basis, your body will think it *needs* the caffeine for you to feel normal. Going without the caffeine can cause headaches and grumpiness.

Depending on the level of addiction, after a few days or weeks of going without caffeine, these withdrawal symptoms go away. Your body goes back to feeling normal without the drug.

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Sample page from *Reading Grade 3*

# Teaching Test-Taking Strategies

**“Generally, we have taught test-taking skills as classroom lessons, provided direct teaching of the skills...followed by guided and independent practice on a variety of practice tests with review, and evaluation and feedback of student progress.”**

—*Scruggs & Mastropieri, 1992*

Ideally, students’ test-taking abilities should be assessed before instruction begins, and their improvement should be monitored as they progress. The *Review, Practice, & Mastery of the Arizona Academic Standards* program includes a pretest that covers all types of question formats on a specific test. Students chart their results to reveal the types of questions they answered incorrectly. This shows students where they need reinforcement and they can measure their progress throughout the book. Posttest scores are also charted to show exactly where growth has occurred.

The strategies students learn should be specific to the type of test they will take. To prepare for a test with multiple-choice items, students should have guided practice reading the items and choosing the correct answers. If a test includes open-ended or constructed response items, students should understand the characteristics of good written answers and how to produce them in a timed environment. Students are likely to be less anxious about test items that are familiar to them and performance will improve.

The *Review, Practice, & Mastery of the Arizona Academic Standards* student books include strategies for answering multiple-choice and open-ended test items, including writing essays. Students follow a consistent four-step instructional design throughout the book.

1. Students take a pretest to identify the types of questions they need to master.
2. The types of questions are modeled for students, and the process for choosing a correct answer is discussed. Direct instruction of specific test-taking strategies follows.
3. Students are guided through authentic practice in a timed testing environment.
4. Students apply the test-taking strategies they have learned on a timed posttest and use a bubble answer sheet for their answers.

## Conclusion

Based on research, here are some suggested classroom practices for preparing students to take a high-stakes test.

1. Spend 10 to 30 hours directly teaching test-taking strategies over a 5- to 10-week period immediately before a test. Instruction can be interspersed with other skill lessons as students review for a test. Instruction should be completed as close as possible to the testing date. Note: results begin to diminish after 30 hours of training.
2. Include students of all ability levels in the instruction of test-taking strategies. Students should practice on grade-level materials to match the difficulty level of the test they will take.
3. Review test-taking strategies every year.

The goal of test-preparation is to align test scores with abilities. It is not a replacement for teaching the skills and content assessed on a test. By incorporating test preparation with skill lessons, teachers can feel confident that students will be able to perform to the best of their abilities.

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# Test Success with Perfection Learning

## CASE STUDY

### School Profile

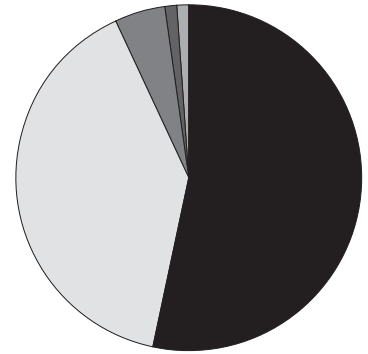
Pelham City Middle School  
 Pelham, GA  
 Enrollment: 347  
 Grades: 6-8

### Demographics

Low-income students: 68%  
 Students with disabilities: 18%

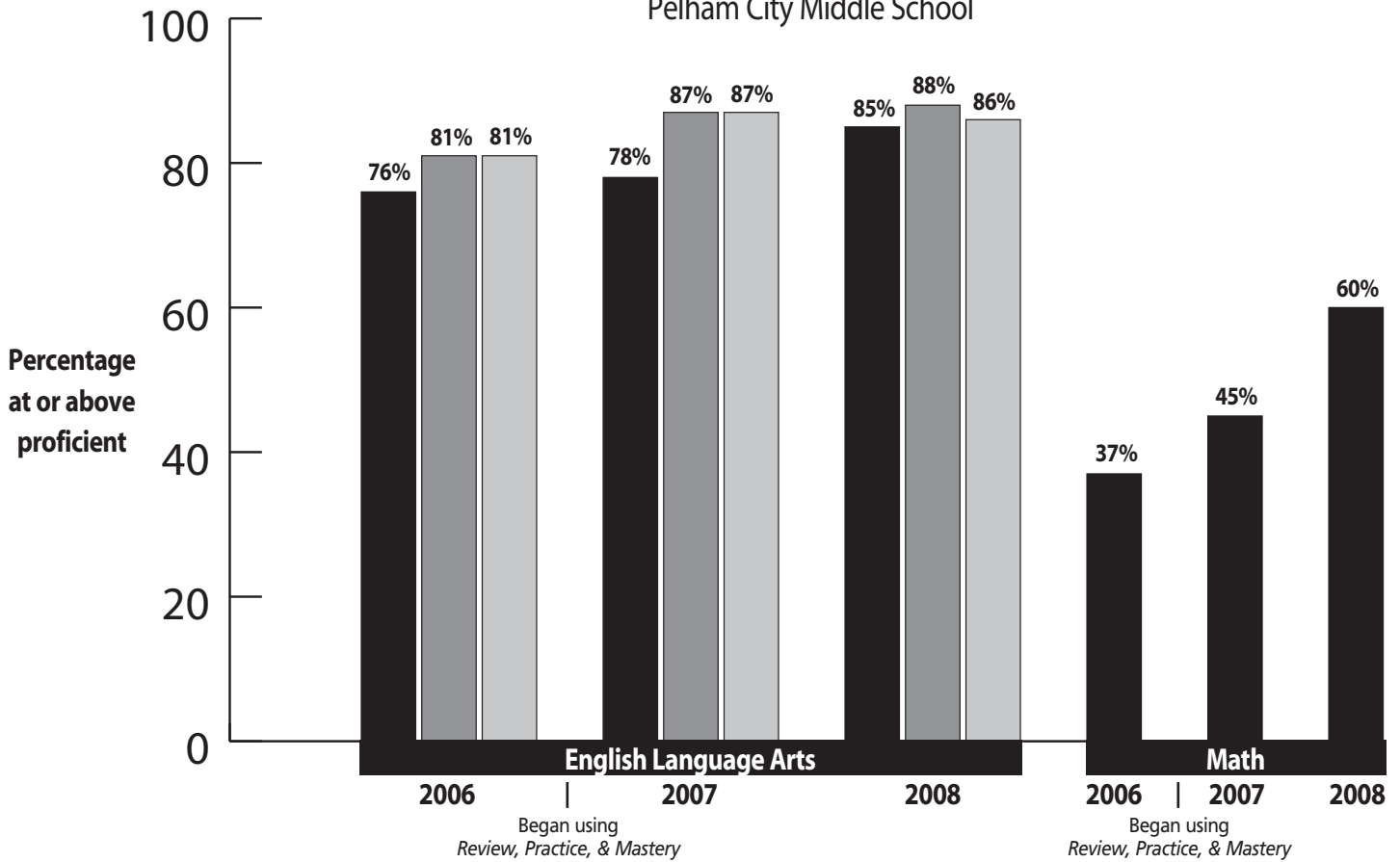
### Race/Ethnicity

- Black: 54%
- White: 40%
- Hispanic: 5%
- Asian: <1%
- Multi-Racial: <1%



### CRCT Results

Pelham City Middle School



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# Test Success with Perfection Learning

## CASE STUDY

### School Profile

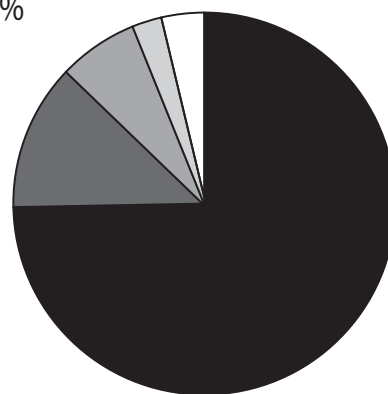
Prairie View Elementary School  
 Downers Grove, IL  
 Enrollment: 402  
 Grades: 3-5

### Race/Ethnicity

White: 74.6%  
 Asian/Pacific Islander: 12.7%  
 Hispanic: 6.7%  
 African American: 2.5%  
 Other: 3.5%

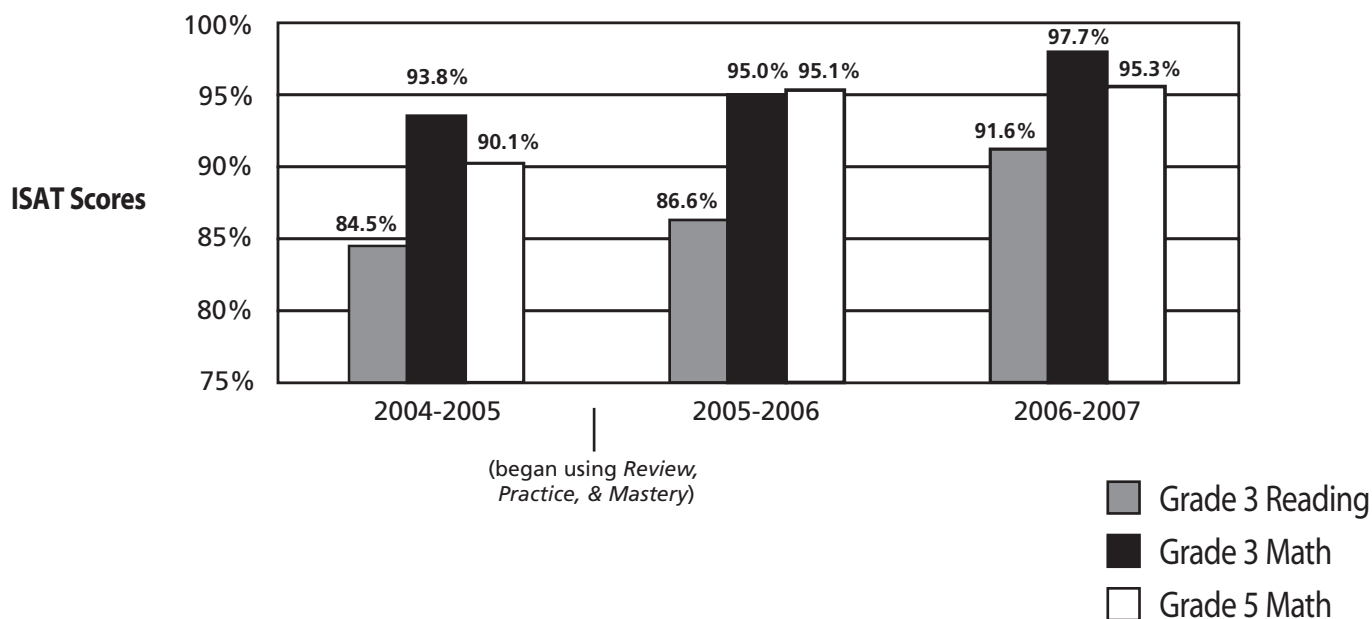
### Demographics

Low-Income Students: 3.7%  
 Limited English-Proficient Rate: 3.2%



### ISAT Scores from *Review, Practice, & Mastery* Classrooms

Prairie View Elementary School



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# Test Success with Perfection Learning

## CASE STUDY

### District Profile

Valle Lindo District

South El Monte, CA

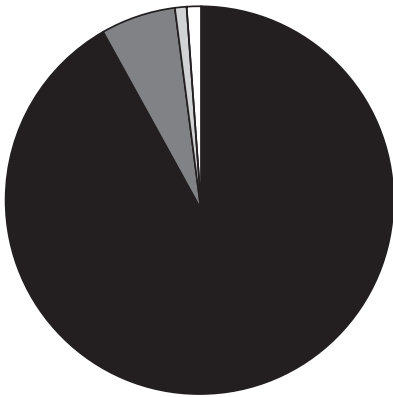
Total Enrollment: 1274

New Temple Elementary, Grades K-3

Dean L. Shively Middle School,  
Grades 4-8

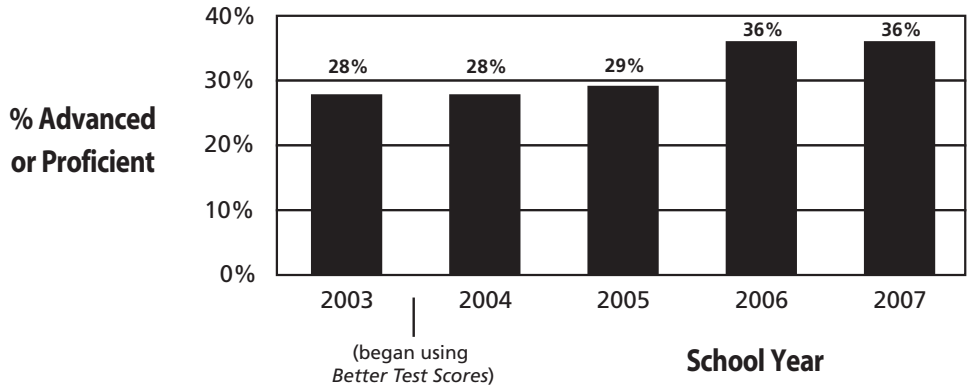
### Race/Ethnicity

- Hispanic: 92%
- Asian: 6%
- White: 1%
- Other: 1%

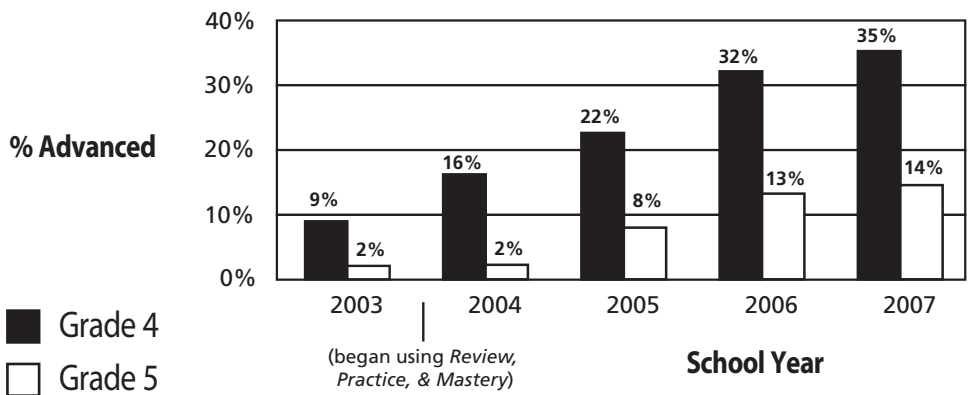


### CST Scores Valle Lindo District

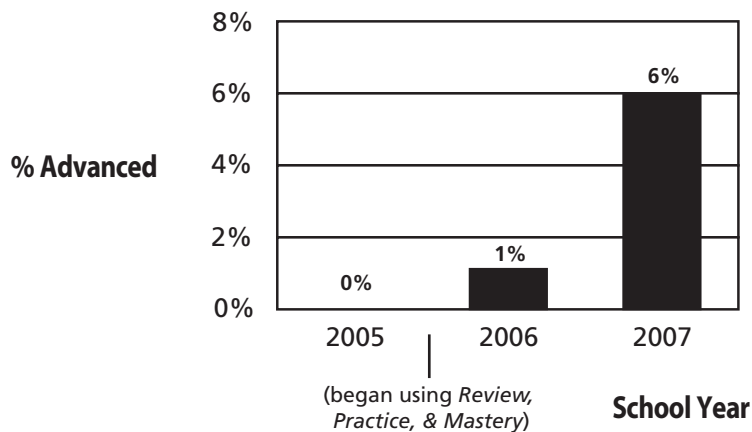
#### GRADE 3 ENGLISH LANGUAGE ARTS



#### GRADES 4 AND 5 MATHEMATICS



#### GRADE 5 SCIENCE



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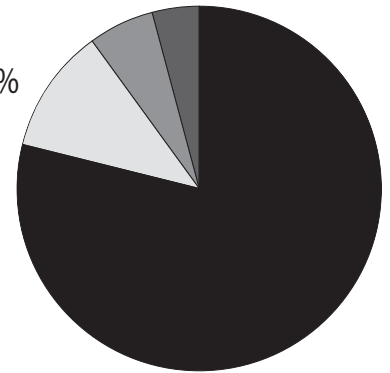
## CASE STUDY

### School Profile

Howitt Middle School  
 Farmingdale, NY  
 Enrollment: 1,585  
 Grades: 6–8

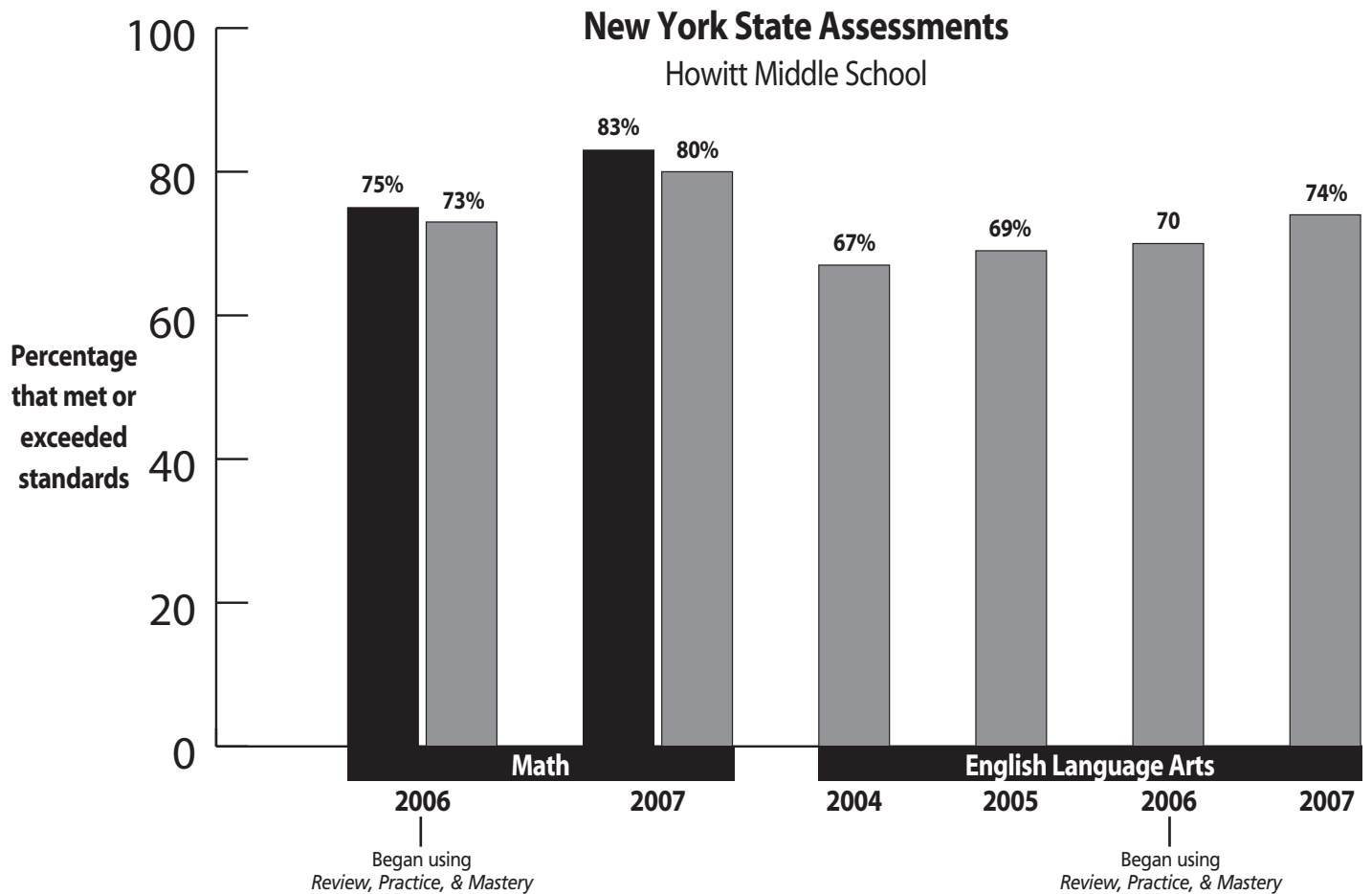
### Race/Ethnicity

- White: 79%
- Hispanic or Latino: 11%
- Black or African American: 6%
- Asian or Native Hawaiian/  
Other Pacific Islander: 4%

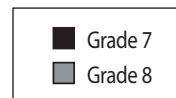


### Demographics

Low-income students: 13%  
 Limited English proficient: 1%



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# Test Success with Perfection Learning

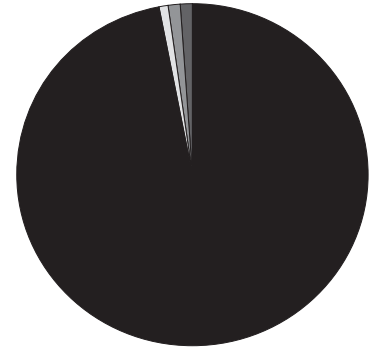
## CASE STUDY

### School Profile

Roosevelt Elementary School  
Union City, NJ  
Enrollment: 1,000  
Grades: K-8

### Race/Ethnicity

■ Hispanic: 98%  
□ White: 1%  
■ Asian: <1%  
□ Black: <1%



### Demographics

Low-income students: 91%  
Students with Individualized Education Program: 11%  
English language learners: 48%

