# Introduction

*If only they understood the question, they could answer it. They know the content, they just don't know enough English.*

*Teaching Your Secondary English Language Learners the Academic Language of Tests: Focusing on Language in Mathematics, Science, and Social Studies* came about in response to remarks similar to the one above. The purpose of this book is twofold: to provide evidence-based, teacher-friendly lesson plans that will help English language learners (ELLs) deal with unfamiliar language features on standardized test questions, and to support content-area teachers in providing instruction for content-specific language skills. This book is geared toward secondary students in grades 6–12 and contains the content areas of math, science, and social studies. Strategies for teaching English language learners the academic language of tests for the English language arts can be found in *Teaching Your Secondary English Language Learners the Academic Language of Tests: Focusing on English Language Arts*, also developed by r4 Educated Solutions.

Each lesson plan provides background information for the teacher, implications for high-stakes testing, a goal, a list of materials, activities, and in many cases, graphic organizers. Some of the lesson plans support learning the language needed to gain content knowledge necessary to prepare for high-stakes tests. Other lessons deal specifically with test language and support instruction on test items. The teaching strategies included in this book are varied and differentiated in order to meet the needs of English language learners. The word lists are divided by content area and grade level, with separate lists for middle and high school students. Included with the word lists are teaching ideas for using the lists in the classroom.

Because the most common unfamiliar item in test questions is vocabulary, the appendix contains a list of academic language vocabulary for each of the three tested content areas. These vocabulary words were compiled from three sources: The *Academic Word List* from the School of Linguistics and Applied Language Studies (Victoria University of Wellington, New Zealand); *Building Academic Vocabulary*, by Robert J. Marzano; and questions from the Texas Assessment of Know-ledge and Skills—Math, Science, and Social Studies. These words are not content vocabulary that is already being taught; instead they make up an academic vocabulary that is necessary to understand the questions being asked. The term *academic English* is based on Jim Cummins' theory of language proficiency, which states that there is a distinction between conversational and academic language (Cummins, 1983).

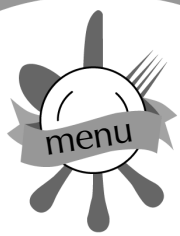
This manual draws from what the U.S. Department of Education calls professional wisdom, "the judgment that individuals acquire through experience" (Whitehurst, 2002). The foundation of solid professional wisdom can provide valuable insights into effective practice. r4 Educated Solutions presents this book in the hope that it will support and assist teachers as they work to instruct the English language learners in their classrooms.

5. Have students rotate through the stations in their groups, discuss their observations, and then write the group's words or phrases in their lab notebooks. As they rotate through, ask them to use their powers of observation to start forming a hypothesis about each object at the stations. (For example, what type of letter was in the envelope, and what are the objects in the boxes and containers?)

6. After the groups have finished rotating through all four stations, ask students to return to their seats and share with the whole group the lists of observations each group has created. Write their collective observations on the board. Ask students questions about their observations. **Which words/phrases were on more than one list? Which observations were subjective? Which observations were objective? Why do we use objective observations in science?**

7. Now have the students look at the sample Lab Report from a lab previously performed in their class, noting specifically the Results (Data) section. Ask students to locate the words and phrases used by scientists to describe their observations and then to classify them into sight, sound, touch, or smell. Compare the words and phrases from their own observations to the words and phrases used in the sample Lab Report.

8. After students have a firm grasp of the types of scientific observations and the language used to make these observations, show students the Sample Science Question With Graphic on the overhead. Explain that now that they have used their observation skills with objects, they will practice using their visual observation skills with the type of graphic they would see on a standardized science test. Ask students to make observations about the graphic before looking at the question. Then have the students note the types of observations required, as well as the language used in the question, and compare it with their initial observations about the graphic. Ask students to make inferences and discuss the difference between inference and observation. As an extension, students can look at science questions with graphics from a state or provincial assessment or other sources and make the same observations.




# The Cognate Restaurant

## Breakfast

Cereal

Toast

Banana

Coffee

Tea

## Lunch

Sandwich

Fruit Salad

Tomato Soup

Soda

## Dinner

Steak

Potato

Salad

Cauliflower

Chocolate Tart

# Appendix A: Math Academic Word List for English Language Learners

## Middle School

**Test Directions Vocabulary**

| | | | |
|---|---|---|---|
| above | document* | inaccurate | representation* |
| according to | drawing | information* | ruler |
| amount | equation* | mark* | sequence* |
| answer | explain* | necessary* | set |
| based on* | expression* | pattern* | should |
| below | fewer | point of view | shown |
| bubble | figure* | position* | similar* |
| closest | fill in | procedure | statement |
| conclusion* | following | reasonable* | support |
| consideration* | graph* | reasoning | table |
| correct* | greatest | record | term* |
| data* | include* | relationship | valid* |
| describe* | in order to | represent* | value |
| determine* | in relation* | | |

*English and Spanish cognates