Protocol for Review of Instructional Materials for ELLs V2

WIDA PRIME V2 CORRELATION
Introduction to PRIME

WIDA developed PRIME as a tool to assist publishers and educators in analyzing their materials for the presence of key components of the WIDA Standards Framework. PRIME stands for Protocol for Review of Instructional Materials for ELLs.

The PRIME correlation process identifies how the components of the 2012 Amplification of the English Language Development Standards, Kindergarten through Grade 12, and the Spanish Language Development (SLD) Standards, Kindergarten through Grade 12 are represented in instructional materials. These materials may include core and supplemental texts, websites and software (e.g., apps, computer programs), and other ancillary materials. PRIME is not an evaluative tool that judges the effectiveness of published materials.

Those who complete WIDA PRIME Correlator Trainings receive PRIME Correlator Certification. This may be renewed annually. Contact WCEPS for pricing details at store@wceps.org or 877-272-5593.

New in This Edition

PRIME has been expanded to include

- Correlation to the WIDA Standards Framework
- Connections to English and Spanish Language Development Standards
- Relevance for both U.S. domestic and international audiences

Primary Purposes

- To assist educators in making informed decisions about selecting instructional materials for language education programs
- To inform publishers and correlators on the various components of the WIDA Standards Framework and of their applicability to the development of instructional materials

Primary Audience

- Publishers and correlators responsible for ensuring their instructional materials address language development as defined by the WIDA English and Spanish Language Development Standards
- District administrators, instructional coaches, and teacher educators responsible for selecting instructional materials inclusive of or targeted to language learners

At WIDA, we have a unique perspective on how to conceptualize and use language development standards. We welcome the opportunity to work with both publishers and educators. We hope that in using this inventory, publishers and educators will gain a keener insight into the facets involved in the language development of language learners, both in the U.S. and internationally, as they pertain to products.
Overview of the PRIME Process

PRIME has two parts. In Part 1, you complete an inventory of the materials being reviewed, including information about the publisher, the materials’ intended purpose, and the intended audience.

In Part 2, you answer a series of yes/no questions about the presence of the criteria in the materials. You also provide justification to support your “yes” responses. If additional explanations for “No” answers are relevant to readers’ understanding of the materials, you may also include that in your justification. Part 2 is divided into four steps which correspond to each of the four elements being inventoried; see the following table.

PRIME at a Glance

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PRIME Part 1: Provide Information about Materials

Provide information about each title being correlated.

Publication Title(s): Reveal Math

Publisher: McGraw-Hill

Materials/Program to be Reviewed: Reveal Math Algebra 1, Geometry, Algebra 2 (Grades 9, 10, 11)

Tools of Instruction included in this review: Language Development Handbook, Teacher Edition and Student Edition

Intended Teacher Audiences: High School Math Teachers

Intended Student Audiences: High School Students (Grades 9, 10 & 11)

Language domains addressed in material: Listening, Speaking, Reading, and Writing

Check which set of standards will be used in this correlation:

☐ WIDA Spanish Language Development Standards
☒ WIDA English Language Proficiency Standards

WIDA Language Development Standards addressed: (e.g. Language of Mathematics). Language of Mathematics, Social and Instructional Language

WIDA Language Proficiency Levels included: The WIDA language proficiency levels are not explicitly named as WIDA levels, but the materials do provide support, activities and descriptors for three sets of levels: Entering/Emerging, Developing/Expanding, and Bridging. These are the same names as WIDA levels 1-5.

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In the space below explain the focus or intended use of the materials: Academic research and the science of learning provide the foundation for this powerful K-12 math program designed to help reveal the mathematician in every student. Reveal Math used findings from research on teaching and learning mathematics to develop its instructional model. Based on analyses of research findings, these areas form the foundational structure of the program: rigor, productive struggle, formative assessment, rich tasks, mathematical discourse, and collaborative learning.
PRIME Part 2: Correlate Your Materials

1. Asset-Based Philosophy

A. Representation of Student Assets and Contributions
The WIDA Standards Framework is grounded in an asset-based view of students and the resources and experiences they bring to the classroom, which is the basis for WIDA’s Can Do Philosophy.

1) Are the student assets and contributions considered in the materials? Yes No

2) Are the student assets and contributions systematically considered throughout the materials? Yes No

Justification: Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) Students’ assets and contributions are considered in the materials. In the Language Development Handbook (LDH) for each grade level, the Guiding Principles for Supporting English Learners explain their philosophy about ELLs. One asset-based statement within this description on page v of the LDH says, “A great many ELLs come to school with a variety of rich linguistic and cultural backgrounds from Spanish-speaking communities and countries all throughout the Americas...The experiences and identities acquired in the context of ELLs’ homes and communities can transform the simplest classroom into a unique cultural and linguistic microcosm.” All the lessons in the LDH differentiate instruction through a table entitled “English Language Development Leveled Activities.” These activities take students’ language levels into account and often encourages collaborative learning and student engagement. There are also often “Multicultural Teacher Tips” which points out cultural differences that teachers may observe in their students during the lesson. An example can be seen here, from the LDH, Algebra 1, page T11:
Students’ assets and contributions are systematically considered throughout the materials. An asset-based philosophy is stated in the Guiding Principles for Supporting English Learners mentioned above but is also considered through the scaffolds and supporting activities which occur in each lesson. In the “Launch” component of the lesson, the students will “view a real-world scenario and image to pique their interest in the lesson content.” Then, in the “Explore” section, the students “work in partners or small groups to explore a rich mathematical problem related to the lesson content” (page iv, Algebra 1 Teacher Edition Volume 1). There are also specific resources for English Language Learners, often incorporating Spanish language materials and resources. An example can be seen here, from pages xvi-xviii of the table of English/Spanish Cognates used in Algebra 2:
These tables can be found in each Language Development Handbook for each of the three courses.

2. Academic Language
WIDA believes that developing language entails much more than learning words. WIDA organizes academic language into three dimensions: discourse, sentence, and word/phrase dimensions situated in sociocultural contexts. Instructional material developers are encouraged to think of how the design of the materials can reflect academic language as multi-dimensional.
A. Discourse Dimension (e.g., amount, structure, density, organization, cohesion, variety of speech/written text)

1) Do the materials address language features at the discourse dimension in a consistent manner for all identified proficiency levels?  
   Yes  No

2) Are the language features at the discourse dimension addressed systematically throughout the materials?  
   Yes  No

Justification: Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) The materials address language features at the discourse dimension in a consistent manner for all identified proficiency levels. The LDH provides a chart on collaborative conversations, because students engage in whole and small group and also partner discussions during each lesson. The chart, seen below, provides frames for these conversations:
In another section of the LDH, called “Strategies for Classroom Discussion,” guidance and sentence frames are provided at each identified level for helping students use discourse in the classroom:
2) Language features at the discourse dimension are systematically addressed throughout the materials. In the margins of the Student Editions are prompts that the students can use to talk or write about what they’ve just learned. Usually, there is also a prompt for students to think about something before they discuss. An example can be seen below, taken from page 238 of the Student Edition, Geometry:
B. Sentence Dimension (e.g., types, variety of grammatical structures, formulaic and idiomatic expressions; conventions)

1) Do the materials address language features at the sentence dimension for all of the identified proficiency levels?  
   Yes  No

2) Are the language features at the sentence dimension appropriate for the identified proficiency levels?  
   Yes  No

3) Are the language features at the sentence dimension addressed systematically throughout the materials?  
   Yes  No

Justification: Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) The materials address the language features at the sentence dimension for all identified proficiency levels. Each lesson contains a chart, organized by the three identified proficiency levels (Entering/Emerging, Developing/Expanding, and Bridging) with leveled
activities for the lesson topic. As seen in the example below, there are often sentence frames and other grammatical features to support student discussion. This example comes from the LDH, Algebra 1, page T19:

Additionally, students are provided with many types of graphic organizers, such as Cornell Notes, throughout the materials to help provide understanding. According to the description, on page xv of the LDH, Cornell Notes “provide students with a method to take notes, thereby helping them with language structure. Scaffolded sentence frames are provided for students to fill in important math vocabulary by identifying the correct word or phrase according to context.” An example of this method is seen here, from page 54 of the LDH for Geometry:
2) The sentence dimension language features are appropriate for the identified proficiency levels. As mentioned above, the LDH contains leveled activities for each lesson, which contain appropriate sentence dimension features. In this example, from Algebra 2, page T5, the teachers are reminded to ask questions based on their students’ level of English comprehension:
Graphing Linear Functions and Inequalities

English Learner Instructional Strategy

Language Structure Support: Tiered Questions
Before the lesson, review the terms slope, x-intercept, y-intercept, and table to ensure that students understand how to graph a function by using the given information. Provide a visual example of each, and ask students the following questions based on their language proficiency.

Beginning: Can you point to where the y-intercept goes in a table?
Intermediate: Where can you find the slope in the equation of a function? What letter is used to represent slope?
Advanced: When given the x-intercept, how can you find the y-intercept?

English Language Development Leveled Activities

<table>
<thead>
<tr>
<th>Beginning Level</th>
<th>Intermediate Level</th>
<th>Advanced Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence Frames</td>
<td>Word Knowledge</td>
<td>Word Knowledge</td>
</tr>
<tr>
<td>Identify the symbols &lt; and &gt;, and explain to students that they mean less than and greater than when used to compare two numbers. Have students draw cards from a deck with the face cards removed and use the numbers to complete the sentence frames aloud:</td>
<td>Identify the symbols ≤ and ≥, and ask students What do these symbols mean? If students are unfamiliar with them, explain that they mean less than or equal to and greater than or equal to. Explain that we use the words less and greater to compare. Ask students to identify other comparative words that end in -er and create an illustrated poster for the classroom.</td>
<td>Identify the symbols ≤ and ≥, and ask students What are these symbols called? If students are unfamiliar with them, explain that they mean less than or equal to and greater than or equal to. Explain that we use the words less and greater to compare. Ask students to identify irregular comparative words that do not follow the -er or -er ending rule (such as good/better) and create an anchor chart for the classroom.</td>
</tr>
</tbody>
</table>

Multicultural Teacher Tip
English language learners may be unfamiliar with the percent-based grading system we use in the United States. Many countries use different numbered scales, words, and standards. Before completing the real-world example in the lesson, make sure students understand the U.S. grading scale.

3) The features at the sentence dimension are present systematically throughout the materials. Every lesson contains the aforementioned English Language Development Leveled Activities, which address the lesson content in an appropriate manner for each of the three identified proficiency levels. Oftentimes there are additional tips, and language support, as seen here in this example from the LDH, Geometry, page T17, for using Tiered Questions:
C. Word/Phrase Dimension (multiple meanings of words, general, specific, and technical languageⁱ)

1) Do the materials address language features at the word/phrase dimension in a consistent manner for all identified proficiency levels?  
   **Yes**  
   **No**

2) Are words, expressions, and phrases represented in context?  
   **Yes**  
   **No**

3) Is the general, specific, and technical language appropriate for the targeted proficiency levels?  
   **Yes**  
   **No**

4) Is the general, specific, and technical² language systematically presented throughout the materials?  
   **Yes**  
   **No**

**Justification:** Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) The materials address the language features of the word/phrase dimension in a consistent manner for all three identified proficiency levels. There is a relatively strong

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²General language refers to words or expressions not typically associated with a specific content areas (e.g., describe a book).
Specific language refers to words or expressions used across multiple academic content areas in school (chart, total, individual).
Technical language refers to the most precise words or expressions associated with topics within academic content areas in school and is reflective of age and developmental milestones.
emphasis on vocabulary development throughout the series. For example, in the English Language Development Leveled Activities chart in the LDH, the Entering/Emerging level often targets academic vocabulary. There are also many accompanying graphic organizers to help with these new vocabulary words. An example of a vocabulary graphic organizer can be seen below, taken from Geometry, page 7:

![Vocabulary Graphic Organizer](image)

Another example of a graphic organizer for vocabulary development gives the students opportunities to connect the vocabulary words to the same word in Spanish. These activities also give students the opportunity to recognize cognates that may be familiar to
2) Words, phrases and expressions are represented in context throughout the materials. All the vocabulary and phrases used within a lesson connect to the math content of the lesson. Often, as in the example below from Algebra 2, Module 4, the students will check off the vocabulary they already know before beginning the Module:
The students then proceed with the lesson and encounter the words in context:

3) The general, specific, and technical vocabulary are appropriate for the targeted proficiency levels. The LDH is designed for educators to be able to differentiate the language of math and provide support for students as they navigate the academic content. In the example below, from Algebra 1, Module 1, Lesson 1-1, the students will
learn about Numerical Expressions. At the Entering/Emerging level, students are using a memory device strategy to help them remember and understand the order of operations. The students then create a phrase in their native language to help them remember the order. At the Developing/Expanding level, students will engage in a listen and write activity that has them writing the order of operations on index cards, then listening to the teacher read numerical expressions. The students will then determine, by holding up the index cards, which operation should be completed first. At the Bridging level, students will be working in pairs to compare and contrast their answers from the lesson, while the teacher monitors and reminds students to use mathematical vocabulary.

<table>
<thead>
<tr>
<th>English Language Development Leveled Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning Level</strong></td>
</tr>
<tr>
<td>Memory Device</td>
</tr>
<tr>
<td>The expression <em>Please Excuse My Dear Aunt Sally</em> is often used in math classes to help students remember the order of operations. Encourage students to create a phrase in their native language to help them remember that when simplifying expressions, they should start with parentheses, then exponents, followed by multiplication and division, and ending with addition and subtraction.</td>
</tr>
</tbody>
</table>

4) The general, specific, and technical language is systematically presented throughout the materials. As mentioned above, at the beginning of each module the students see a section called “What Vocabulary Will You Learn?” which provides a checklist of the vocabulary words presented in the module, and instructions for students to check off what vocabulary they already know. Following this are explicit definitions, accompanied by graphic support and activities to help them understand and apply the meaning of the vocabulary. The LDH for every grade level provides blank templates for the vocabulary.
that will be presented in each lesson. See examples here:

**Lesson**

Use the word cards to define each vocabulary word or phrase and give an example.

<table>
<thead>
<tr>
<th>Word Cards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Example Sentence**

**Lesson**

Use the three-column chart to organize the vocabulary in this lesson.

<table>
<thead>
<tr>
<th>English</th>
<th>Native Language</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Vocabulary**

**Numerical Expressions**

Use the three-column chart to organize the vocabulary in this lesson. Write the term in your native language. Then write the definition of each term.

<table>
<thead>
<tr>
<th>Three-Column Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>numerical expression</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>define a variable</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>exponent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>order of operations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Performance Definitions

The WIDA Performance Definitions define the WIDA levels of language proficiency in terms of the three dimensions of academic language described above (discourse, sentence, word/phrase) and across six levels of language development.

A. Representation of Levels of Language Proficiency

1) Do the materials differentiate between the language proficiency levels? Yes No

2) Is differentiation of language proficiency developmentally and linguistically appropriate for the designated language levels? Yes No

3) Is differentiation of language systematically addressed throughout the materials? Yes No

Justification: Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) Although not explicitly identified as WIDA proficiency levels, the materials do differentiate between language proficiency levels that are similar in name and description to WIDA’s levels. The Language Development Handbook (LDH) provides differentiated instructional support and guidance for teachers, beginning with an understanding of what skills students may have at each level:
The lessons contain leveled discussion questions, to use with students who are approaching level (AL), beyond level (BL) or are on level (OL). The lessons also provide resources to support any ELLs the teachers may have, as outlined in this example from the Algebra 2, Teacher Edition, page 511a:

2) The differentiation of language proficiency is developmentally and linguistically appropriate for the secondary school target age of the materials. On page ix of the LDH
for each grade level, there is a page that outlines strategies for classroom discussion. This is a helpful resource for guiding teachers’ work with students of varying linguistic abilities. The section “Asking about Meaning” provides sentence frames to use at each of the three proficiency levels in order to encourage all students to participate in classroom discussions, thus building oral competency and confidence in all students:

3) Language differentiation occurs systematically throughout the materials. In the LDH, each lesson contains a section called “English Language Development Activities.” An example of this chart, seen below, contains specific activities to support the lesson, divided up by proficiency level:
The 9-12 Reveal Math Program Overview also explains the tools and resources they provide for differentiated instruction, both digitally and in the LDH, Student, and Teacher Editions:
B. Representation of Language Domains
WIDA defines language through expressive (speaking and writing) and receptive (reading and listening) domains situated in various sociocultural contexts.

1) Are the language domains (listening, speaking, reading, and writing) targeted in the materials? **Yes**  **No**

2) Are the targeted language domains presented within the context of language proficiency levels? **Yes**  **No**

3) Are the targeted language domains systematically integrated throughout the materials? **Yes**  **No**

**Justification:** Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) All four language domains are targeted in the materials and provide opportunities for students to listen, speak, read, and write in each lesson. There is a “Launch the Module” and “Launch the Lesson” feature where the teacher will play a video or introduces the topic for the students to listen to and discuss. As would be expected, the Student Books are filled with problems for the students to solve in writing, as well as fill in the blank-style items. See examples of each domain represented in one lesson (4-2) from Algebra 2:

   **Listening:**

   **Reading and Writing:**

   **Speaking:**

2) On page vii of each Language Development Handbook (for all three Courses), there is a chart entitled “Proficiency Level Descriptors” which outlines the three targeted
proficiency levels of ELLs and then descriptors at each level, broken down by language domain. This chart, seen below, will guide the teacher as s/he works through the lessons and all four language domains:

Additionally, the lessons in the LDH contain English Language Development Leveled Activities, to allow students at the three levels to engage appropriately with the content. In the example below, students at the Entering/Emerging level will be Listening, Reading and Speaking. The Developing/Expanding level students will be doing the same but at a higher level (using sentence frames and the conditional sentence structure) and the students at the Bridging level will be writing in addition to engaging in the other three
3) The targeted language domains are systematically integrated throughout the materials. The lessons are all detailed and interactive, with opportunities to engage in all four domains every time. During the “Launch the Lesson” section, students will typically be listening and possibly speaking. The students also have an opportunity to fill out a “What Will You Learn?” chart, seen below, so they can identify, by content topic, what they know already, what they have heard of, or what they don’t know:
Opportunities for speaking are also present throughout the materials. Several times during the lessons, there is a “Talk About It” feature where the students have a chance to process the information they are learning:

![Talk About It!](image)

Do you think that the order of the given statements is important when applying the Law of Syllogism? Justify your argument.
4. The Strands of Model Performance Indicators and the Standards Matrices

The Strands of Model Performance Indicators (MPIs) provide sample representations of how language is processed or produced within particular disciplines and learning contexts. WIDA has five language development standards representing language in the following areas: Social and Instructional Language, The Language of Language Arts, The Language of Mathematics, The Language of Science, The Language of Social Studies as well as complementary strands including The Language of Music and Performing Arts, The Language of Humanities, The Language of Visual Arts.

The Standards Matrices are organized by standard, grade level, and domain (Listening, Speaking, Reading, and Writing). The standards matrices make an explicit connection to state academic content standards and include an example for language use. Each MPI includes a uniform cognitive function (adopted from Bloom’s taxonomy) which represents how educators can maintain the cognitive demand of an activity while differentiating for language. Each MPI provides examples of what students can reasonably be expected to do with language using various supports.

A. Connection to State Content Standards and WIDA Language Development Standards

1) Do the materials connect the language development standards to the state academic content standards? **Yes**  **No**

2) Are the academic content standards systematically represented throughout the materials? **Yes**  **No**

3) Are social and instructional language and one or more of the remaining WIDA Standards present in the materials? **Yes**  **No**

*Justification: Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.*

1) The materials connect the language development standards to the state academic content standards. The Language Development Handbook (LDH) for each Course (Grade Level) states on page v “McGraw-Hill Education is committed to providing English Learners appropriate support as they simultaneously learn content and language.” Each Lesson in the LDH
connects the Language of Mathematics to the content topic of the lesson. An example is seen here, taken from Algebra 2, Module 1, page 5. The example uses a word bank and concept web to support understanding of the lesson on graphing linear functions and inequalities:

2) The academic content standards are systematically represented throughout the materials. Each level of the program’s front matter contains a table which shows the alignment of the program with the Standards for Mathematical Content, from the Common Core State Standards for Mathematics. See an example here from Geometry:
In the Teacher Editions, at the beginning of each Module, the teacher is given an overview of the Standards that are being addressed through the “Focus” section. See an example below from Algebra 2, Module 10, page 509a:
Furthermore, the teachers have a Suggested Pacing guide and a “Coherence” section which shows a vertical alignment with what Standard(s) the students studied previously, what they are going to study now and what comes next. Examples of these are seen here, from Algebra 2, Module 10, page 509a:

**Suggested Pacing**

<table>
<thead>
<tr>
<th>Lessons</th>
<th>Standards</th>
<th>45-min classes</th>
<th>90-min classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Pretest and Launch the Module Video</td>
<td></td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>10-1 Random Sampling</td>
<td>S.IC.1, S.IC.3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10-2 Using Statistical Experiments</td>
<td>S.IC.2, S.IC.5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10-3 Analyzing Population Data</td>
<td>S.IC.4</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>10-4 Normal Distributions</td>
<td>S.ID.4, S.IC.6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10-5 Estimating Population Parameters</td>
<td>S.IC.4, S.IC.6</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Module Review</td>
<td></td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Module Assessment</td>
<td></td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total Days</strong></td>
<td></td>
<td><strong>11</strong></td>
<td><strong>5.5</strong></td>
</tr>
</tbody>
</table>

**Coherence**

*Vertical Alignment*

**Previous**
Students represented data using numerical statistics and graphical methods, analyzed the shapes of distributions, and interpreted categorical data. S.ID.1, S.ID.2, S.ID.3

**Now**
Students determine populations and samples and run simulations to determine the probabilities of outcomes. Students analyze the distributions of data sets. S.IC.1, S.IC.6, S.ID.4

**Next**
Students will evaluate and graph trigonometric functions. F.IF.7e, F.TF.5
3) Although not explicitly identified as the WIDA Social and Instructional Language Standard and the Language of Mathematics Standard, both of these language standards are represented in the materials. Oftentimes, the math problems are integrated with the social and instructional language of everyday activities, as seen in the examples below from Geometry, Lesson 3-1, page 155:

**Example 4 Make Conjectures from Data**

**GAS PRICES** The table shows the average price of gasoline in the United States for the years 2010 through 2018. Make a conjecture about the price of gas in 2019. Explain how this conjecture is supported by the data given.

<table>
<thead>
<tr>
<th>Year</th>
<th>Price (dollars per gallon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2.84</td>
</tr>
<tr>
<td>2011</td>
<td>3.58</td>
</tr>
<tr>
<td>2012</td>
<td>3.68</td>
</tr>
<tr>
<td>2013</td>
<td>3.58</td>
</tr>
<tr>
<td>2014</td>
<td>3.44</td>
</tr>
<tr>
<td>2015</td>
<td>2.43</td>
</tr>
<tr>
<td>2016</td>
<td>2.34</td>
</tr>
<tr>
<td>2017</td>
<td>2.42</td>
</tr>
<tr>
<td>2018</td>
<td>2.84</td>
</tr>
</tbody>
</table>

Look for patterns in the data.

The price of gasoline increased from 2010 to 2012. From 2012 to 2016, the price of gas decreased, at first at a steady rate, and then more dramatically. Beginning in 2017, the price of gas began to increase at a steady rate.

The data shows that the price of gas follows an oscillating pattern, increasing in price for several years before decreasing in price for several years.

Conjecture: In 2019, the price of gas will continue to increase.

**Check**

**HEARING LOSS** Almost 50% of young adults between the ages of 12 and 35 years old are exposed to damaging levels of sound from the use of personal electronic devices. The intensity of a sound and the time spent listening to a sound highly affects the amount of damage that can be done to someone’s hearing. The intensity of a sound to the human ear is measured in A-weighted decibels, or dBA. For every 3 decibels over 85 decibels, the exposure time it takes to cause hearing damage is cut in half. How long does it take to cause hearing damage at 106 decibels? Write your answer as a decimal.

<table>
<thead>
<tr>
<th>Decibel Level (dBA)</th>
<th>Exposure Time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>8</td>
</tr>
<tr>
<td>88</td>
<td>4</td>
</tr>
<tr>
<td>91</td>
<td>2</td>
</tr>
<tr>
<td>94</td>
<td>1</td>
</tr>
<tr>
<td>97</td>
<td>1/2</td>
</tr>
<tr>
<td>100</td>
<td>1/4</td>
</tr>
</tbody>
</table>

There is also a strong language focus throughout the materials. This example, from the LDH for Algebra 1, page 12, demonstrates how the materials integrate the language of math and everyday social and instructional language by using a four-square chart to define proportion.
in a variety of ways, including math and everyday use:

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**B. Cognitive Challenge for All Learners at All Levels of Language Proficiency**

1) **Do materials present an opportunity for language learners to engage in various cognitive functions (higher order thinking skills from Bloom’s taxonomy) regardless of their language level?**

   - **Yes**
   - **No**

2) **Are opportunities for engaging in higher order thinking systematically addressed in the materials?**

   - **Yes**
   - **No**
1) The materials present an opportunity for language learners to engage in various cognitive functions and higher order thinking skills. The LDH provides guidance for facilitating classroom discussions and offers multiple strategies for each level of proficiency that is identified. Teachers are given sentence frames to use with students to, among other things, talk about their level of understanding, justify their reasoning, and agree or disagree with some else’s reasoning. Page x of each LDH provides this guidance:
Opportunities for engaging in higher order thinking skills are systematically addressed throughout the materials. In each lesson, there are multiple opportunities for students to engage with the material in different ways. Oftentimes, they will be asked to think further about an answer to apply it in another situation or to also talk about or justify their reasoning. The examples below come from the Algebra 2 Student Edition:
The Practice areas, designed as homework for the students, will contain higher-order thinking problems, as seen here, from Algebra 1, page 34:

**C. Supports for Various Levels of Language Proficiency**

**1) Do the materials provide scaffolding supports for students to advance within a proficiency level?**  
**Yes**  **No**

**2) Do the materials provide scaffolding supports for students to progress from one proficiency level to the next?**  
**Yes**  **No**

**3) Are scaffolding supports presented systematically?**  
**Yes**  **No**
The materials provide scaffolding supports for students to advance within a proficiency level. The LDH is the primary resource for these supports, explaining detailed strategies and activities to use for each lesson and each proficiency level. Oftentimes vocabulary is the focus, as in the example below, where students use the word “cards” to define a vocabulary term in both English and Spanish, then write a sentence using the word. In this example, from the LDH for Algebra 2, page 16, students are exploring vocabulary (and cognates) in a lesson on solving absolute value equations and inequalities by graphing:

![Image of vocabulary cards from LDH](image_url)
2) The materials provide scaffolding supports for students to progress from one proficiency level to the next. Each lesson in the LDH gives teachers a three-column chart which have activities targeted at each of the identified language proficiency levels. When a student is ready to move to the next proficiency level, this chart will provide helpful supports and resources for the teacher to use. See the example of the Algebra 2, Special Functions English Language Development Leveled Activities chart:

![English Language Development Leveled Activities Chart](image)

3) Scaffolding supports are presented systematically throughout the materials. On page xi of the LDH, there is a section called “How to Use the Teacher Edition.” This section explains that “the suggested strategies, activities, and tips provide additional language and concept support to accelerate English learners’ acquisition of academic English.” The categories of support are listed here:
In addition to peer and teacher support, other scaffolding supports include word cards, vocabulary squares, three-column charts, definition maps, concept webs and Cornell notes. An example and description of the last two can be found on page xv of the LDH:
D. Accessibility to Grade Level Content

1) Is linguistically and developmentally appropriate grade-level content present in the materials?  
   - Yes  
   - No

2) Is grade-level content accessible for the targeted levels of language proficiency?  
   - Yes  
   - No

3) Is the grade-level content systematically presented throughout the materials?  
   - Yes  
   - No
1) Linguistically and developmentally appropriate grade-level content is present in the materials. *Reveal Math* is a high school program and the courses (*Reveal Algebra 1*, *Reveal Geometry* and *Reveal Algebra 2*) correspond to high school grade level content. The lessons all identify the grade level appropriate content standards from the Standards for Mathematical Content (Common Core State Standards). There is a nice self-assessment at the beginning of each module that allows the students to see the topics that will be covered and assess whether they know it, have heard of it, or don't know it. See an example here from Algebra 2, Module 4:

![Example Self-Assessment](image)

Linguistically, there are a variety of differentiated/leveled activities provided in the LDH to help students comprehend the language they are using in the lesson. This language is appropriate for the grade level content being taught. Students are also given a list of vocabulary words they will learn in the module and again, asked to identify what they already know. See an example from the same Algebra 2 Model in the example above:
2) Grade level content is accessible for the targeted levels of language proficiency. The LDH provides ways for teachers to help students access the content by using strategies and supports appropriate for their language proficiency level. The main resource is the English Language Development Leveled Activities chart found at the beginning of each Lesson in the LDH, such as this one from Algebra 1, page T22:

Students have multiple opportunities within each lesson to engage with the content in a variety of ways. They can talk about the problems, pause and reflect on their work, think about different ways to solve a problem and go online to find extra examples for further support.
3) Grade level content is systematically presented throughout the materials. The Teacher’s Editions outline the Standards for Mathematical Content that are addressed for each Course (grade level). The Teacher Edition also has a “Focus” section that outlines the Domain (topic), Major Cluster(s), Standards for Mathematical Content, and Standards for Mathematical Practice. An example of this is seen here, from Algebra 2, Lesson 10-2, page 519a:

![Focus](image)

E. Strands of Model Performance Indicators

1) Do materials include a range of language functions? Yes No

2) Are the language functions incorporated into a communicative goal or activity? Yes No

3) Do the language functions support the progression of language development? Yes No

Justification: Provide examples from materials as evidence to support each “yes” response for this section. Provide descriptions, not just page numbers.

1) The materials include a range of language functions within each Lesson. Oftentimes the language functions are embedded into the content area standard(s) being addressed. In the LDH, the English Language Development Leveled Activities table provides teachers
ideas for differentiating instruction that include a range of language functions. In the example below, from the LDH, Algebra 1, page T18, students, depending on their proficiency level, will be defining words, making connections, and interpreting:

<table>
<thead>
<tr>
<th>Beginning Level</th>
<th>Intermediate Level</th>
<th>Advanced Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interacting Via English Language</strong></td>
<td><strong>Exchanging Ideas</strong></td>
<td><strong>Connecting Ideas</strong></td>
</tr>
<tr>
<td>Have students create a three-column anchor chart for</td>
<td>Have students review the words used in the anchor</td>
<td>Have students interpret a graph using the words on</td>
</tr>
<tr>
<td>the classroom using the following words: symmetry,</td>
<td>chart created by the beginning students. Then have</td>
<td>the anchor chart.</td>
</tr>
<tr>
<td>line symmetry, extrema, maximum, minimum, end</td>
<td>students draw a concept web to connect the words that</td>
<td>Have each student attempt to use all of the words</td>
</tr>
<tr>
<td>behavior, positive extremes, negative extremes,</td>
<td>help define the four new vocabulary words, line</td>
<td>on the chart to explain to the others how to</td>
</tr>
<tr>
<td>increasing, and decreasing. Have students define</td>
<td>symmetry, extrema, and behavior, and increasing. Have</td>
<td>interpret the graph. You may also wish to have</td>
</tr>
<tr>
<td>each word on the chart using the student glossary</td>
<td>students add this concept web to the anchor chart.</td>
<td>intermediate students interpret the graph using</td>
</tr>
<tr>
<td>or notes. Beginning students can fill out the first</td>
<td></td>
<td>some of the vocabulary.</td>
</tr>
<tr>
<td>two columns of the chart, the word and the definition.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additionally, there is a Collaborative Conversations chart on page viii of the LDH that provides a framework for students to engage in these conversations during each lesson. The “Core Skills” column are language functions the students can use, along with supporting prompts and response frames:
2) The language functions are incorporated into a communicative goal and/or activity throughout each lesson. As stated above, the students will be engaged in whole-class, small-group, and partner discussions for each lesson. The chart above provides support for all students to participate in these conversations as they are linguistically able. Although this is a math curriculum and many times the students will be writing and solving problems, the materials incorporate communicative activities throughout so students can build their language skills and utilize various language functions. An example
is below, from Algebra 1, Module 2, page 66 where the students must write an equation, then determine if there is only one equation that represents the situation and then justify their argument. In this, they are reinforcing the mathematical concept and building language proficiency at the same time:

3) The language functions support the progression of language development. There is an emphasis not only on math comprehension, but also on language development as it relates to math. In the LDH there are two pages of resources under the heading “Strategies for Classroom Discussion.” These pages provide some overarching language functions (justify, elaborate, ask), along with strategies and leveled sentence frames/prompts for the teacher to use. This framework allows for the progression of language development as the teacher can move from one level to the next seamlessly as s/he recognizes that the students are ready. These two pages, ix and x, are shown below:
**Strategies for Classroom Discussion**

Providing multiple opportunities to speak in the classroom and welcoming all levels of participation will motivate English learners to take part in class discussions and build oral proficiency. These basic teaching strategies will encourage whole class and small group discussions for all language proficiency levels of English learners.

- **Wait time/Different Response**
  - Be sure to give students enough time to answer the question. They may need more time to process their ideas.
  - Let them know that they can respond in different ways depending on their levels of proficiency. Students can:
    - Answer in their native language and then rephrase in English.
    - Ask a more proficient ELL speaker to repeat the answer in English.
    - Answer with nonverbal cues.

- **Elicit**
  - If students give a one-word answer or a nonverbal cue, elicit specific language on the answer to model fluent speaking and grammatical patterns.
  - Provide more examples or repeat the answer using proper academic language.

- **Ask about Meaning**
  - Repeating an answer offers an opportunity to clarify the meaning of a response.
  - Repeating an answer allows you to model the proper form for a response. You can model how to answer in full sentences and use academic language.
  - When you repeat the answer, correct any grammar or pronunciation errors.

  **ENTERING/EMERGING**
  - What is ________?
  - What does ________ mean?
  - ________ is ________.
  - ________ means ________.

  **DEVELOPING/EXPANDING**
  - Could you tell me what ________ means?
  - ________ is similar to ________.
  - ________ is another way of saying ________.

  **BRIDGING**
  - Could you give me a definition of ________?
  - Can you point to the evidence from the text?
  - What is the best answer? Why?

- **Justify Your Reasoning**
  - ENTERING/BEGINNING
  - I think ________ because ________.
  - DEVELOPING/EXPANDING
  - My reasons are ________.
  - BRIDGING/REACHING
  - I think ________ because ________.

- **Agreeing with Someone’s Reasoning**
  - ENTERING/BEGINNING
  - I agree with your reasons or point.
  - DEVELOPING/EXPANDING
  - I agree that ________.
  - BRIDGING/REACHING
  - I have the same reasons as ________, I think that ________.

- **Disagreeing with Someone’s Reasoning**
  - ENTERING/BEGINNING
  - I don’t agree with your reasons.
  - DEVELOPING/EXPANDING
  - I don’t agree that ________.
  - BRIDGING/REACHING
  - I can see your point. However, I think that ________.