Postsecondary Text Demand Study

Final Report

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Table of Contents

I. Introduction 1

II. Methodology 2

III. Gap Analysis 5

IV. Implications of the Analyses 15

V. References 17

Appendices

Appendix A: Quantitative Score Interpretations 18

Appendix B: Quantitative Data of Secondary and Postsecondary Instructional Materials by Textbook and Excerpt

- ELA/Reading 21
- Mathematics 23
- Social Studies 25
- Science 27

Appendix C: Qualitative Analysis Rubrics

- ELA/Reading 29
- Mathematics 44
- Social Studies 62
- Science 70

Postsecondary Text Demand Study

I. Introduction

The Florida Department of Education (FLDOE) contracted WestEd to conduct a qualitative and quantitative analysis of the degree of correspondence between the text demands in Florida's secondary instructional materials in the core content areas of English language arts (ELA), mathematics, social studies, and science and the text demands in instructional materials being used in typical entry-level courses in Florida's postsecondary institutions. More specifically, this study addressed the following key question:

> To what extent do Florida's secondary instructional materials in English language arts, mathematics, social studies, and science correspond with typical instructional materials in Florida's postsecondary institutions?

High school students need to have successful academic experiences with an appropriate range of texts of relevant quality and rigor in order to be prepared for the reading that will be required of them so that they can appropriately engage with and learn the range of content they will encounter in postsecondary and career environments. The outcomes of this project have implications for the selection of textbooks and instructional materials provided to high school students and are intended to ultimately assist the FLDOE in ensuring that all students graduating high school in Florida are college and career ready.

This report provides an overview of the methodology and results of the study, as well as implications and recommendations. The appendices include charts showing the raw quantitative data and qualitative analysis rubrics and notes for each selection of instructional materials at each level.

II. Methodology

WestEd analyzed materials for paired courses in each content area in order to compare texts based on equivalent content across secondary and postsecondary institutions. That is, in each content area, analysts examined materials from one high school course and a corresponding course in the first year of state college. Based on the instructional materials list the FLDOE provided, the following materials for each content area are from the following paired courses.

Materials List

The FLDOE provided WestEd copies of all secondary texts listed in this section. For postsecondary material, WestEd obtained complimentary examination copies directly from publishers and in one case purchased a used copy of a text.

- **ELA/Reading:** High School English IV and State College ENCX101 Freshman Composition Skills 1
  - Secondary

    Irvin, J. L., Odell, L., Vacca, R., Hobbs, R., & Warriner, J. E. (2010). *Elements of language, Florida edition*. Austin: Holt, Rinehart, and Winston.

    O'Neil, L. (2009). *Glencoe writer's choice: Grammar and composition*. Columbus: Glencoe/McGraw-Hill.
  - Postsecondary

    Glenn, C., & Gray, L. (2013). *The Hodges Harbrace handbook* (18 ed.). Boston: Wadsworth, Cengage Learning.

    Peterson, L., Brereton, J., Bizup, J., Fernald, A., & Goldthwaite, M. (2012). *The Norton reader* (13 ed.). New York: W. W. Norton & Company.

    Stanford, J. A. (1997). *Connections: A multicultural reader for writers (*2 ed.). Mountain View: Mayfield Publishing Company.

- **Mathematics:** High School Algebra 2 and State College MACX105 College Algebra
  - Secondary

    Carter, J. A., Cuevas, G. J., Day, R., & Malloy, C. (2011). *Glencoe McGraw-Hill algebra 2, Florida edition.* Columbus: Glencoe/McGraw-Hill.

    Charles, R. I., Hall, B., Kennedy, D., Bellman, A. E., Bragg, S. C., Handlin, W. G., Haenish, S., Murphy, S., & Wiggins, G. (2011). *Prentice Hall algebra 2*, *Florida edition* (teacher's edition, vol. 1). Boston: Pearson Prentice Hall.

    Larson, R., Boswell, L., Kanold, T., & Stiff, L. (2011). *Holt McDougal Larson algebra 2, Florida edition*. Austin: Houghton Mifflin Harcourt Publishing Company.
  - Postsecondary

    Lial, M. L., Hornsby, J., & Schneider, D. I. (2007). *College algebra* (10 ed.). Boston: Pearson Addison-Wesley.

Obringer, L. A. (n.d.). How credit scores work. Retrieved from http://money.howstuffworks.com/personal-finance/debt-management/credit-score.htm.
Sullivan, M. (2012). *Algebra & trigonometry (*9 ed.). Boston: Pearson Prentice Hall.

- **Social Studies:** High School American History and State College POSX041 American Government
  - Secondary

    Appleby, J., Brinkley, A., Broussard, A. S., McPherson, J. M., & Ritchie, D. A. (2005). *The American vision, Florida edition*. Columbus: Glencoe/McGraw-Hill.
    Danzer, G. A., Klor de Alva, J. J., Krieger, L. S., Wilson, L. E., & Woloch, N. (2005). *The Americans, Florida edition*. Orlando: McDougal Littell/Houghton Mifflin.
  - Postsecondary

    Greenberg, E. S., & Page, B. I. (2011). *America's democratic republic* (4 ed.). Boston: Pearson Longman.

- **Science:** High School Biology and State College BSCX010 General Biology.
  - Secondary

    Braaton, B. (2011). *Glencoe biology, Florida edition*. Columbus: Glencoe/McGraw-Hill.
    Miller, K., & Levine, J. (2012). *Biology, Florida edition*. Boston: Pearson Prentice Hall.
    Nowicki, S. (2012). *Biology, Florida edition*. Austin: Houghton Mifflin Harcourt Publishing Company.
  - Postsecondary

    Campbell, N. A., Urry, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P. V., Jackson, R. B., & Reece, J. B. (2011). *Campbell biology* (9 ed.). San Francisco: Pearson Benjamin Cummings.

The WestEd project director worked with two lead content analysts who have in-depth knowledge of the Common Core State Standards (CCSS) and are experienced in high school and postsecondary teaching, evaluation of instructional materials, standards alignment, and assessment development. The project director trained the content analysts on the rating protocol to ensure accurate and consistent understanding and application of the protocol and calibration of the analysts. After completion of the training, the content analysts rated the materials independently. The project director conducted a “read-behind,” reviewing all ratings and providing ongoing feedback to the content analysts, with consensus discussions taking place as needed. The outcome is a final set of ratings, prepared by the lead content analysts and fully vetted and approved by the project director.

To evaluate the instructional materials for range, quality, and complexity, WestEd based its rating system on the quantitative and qualitative analysis criteria described in the CCSS for ELA Appendix A, informed by WestEd's expertise and experience in evaluating texts, and on existing text complexity rubrics currently used by the FLDOE. The measures for each type of analysis follow.

Qualitative Analyses. The outcome of these analyses contributed to addressing the question: What is the complexity and quality of the text as measured by the qualitative dimensions?

The project director prepared a rubric for the qualitative analyses, based on the FLDOE's current Qualitative Dimensions of Text Complexity Chart and on the qualitative dimensions of text complexity described in the CCSS for ELA Appendix A (pp. 5–6). This rubric was reviewed and approved by the FLDOE before analysis began.

Quantitative Analyses. The outcome of these analyses contributed to addressing the question: What is the complexity of the text as measured by readability and textual cohesion formulas?

WestEd applied two quantitative measures of text complexity: (1) Lexile Framework, and (2) Coh-Metrix. Lexile scores were used to determine the range of text complexity within each of the textbooks for each course, in order to select a representative excerpt for analyses from both the lower and higher ends of the complexity range for the course. Then, versions of the selected excerpts were prepared to run a final Lexile score for each one, as well as a full set of Coh-Metrix scores. For the purposes of this study, the WestEd project director selected a subset of Coh-Metrix indices for the quantitative analysis summaries. The selected indices are those that are most relevant and interpretable for determining comparative complexity of the instructional materials evaluated in this study. Charts providing information on interpreting the scores for the purposes of this study (e.g., grade-level or reading difficulty range or tendency) can be found in Appendix A.

Once all of the qualitative and quantitative ratings were completed, the WestEd project director and content leads conducted a gap analysis to: (1) compare the results from each paired secondary and postsecondary course to identify areas where the quantitative, qualitative, and range ratings do not match; and (2) determine if the gaps are reasonable ones to bridge from high school to college, or if they are large enough to potentially affect students' readiness for college-level reading demands. The results of the gap analysis are presented in a crosswalk chart of ratings for each set of paired secondary and postsecondary course materials, with notes on the nature of any gaps and on their implications (e.g., areas where high school textbooks might need to be supplemented with more complex reading materials).

III. Gap Analysis

Gap Analysis of Secondary and Postsecondary Instructional Materials for ELA/Reading

High School Course: High School English IV **College Course:** State College ENCX101 Freshman Composition Skills 1

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Range of Text Types	Autobiographical narrative; persuasive essay; short story (fiction); explanatory text (how to write a persuasive essay). In one of the textbooks, comprehension questions are embedded in sidebars throughout the short story; in the other, a brief introduction to the autobiographical narrative gives students advice on what to pay attention to as they read. The explanatory texts on persuasive writing include bulleted or numbered points, charts, frequent (and colorful) headings, and sidebars with "tips."	Autobiographical narrative; persuasive essay; short story (fiction); explanatory text (how to write a persuasive essay). The reading selections are typically followed by study questions for students. The explanatory texts include numbered main points or guidelines.	Both sets of materials include a similar range of text types: autobiography, persuasive essay, fiction, and informational text. However, the high school materials have a greater range of text types and features within the explanatory texts, including more graphic elements. The persuasive essay in the college materials includes substantial elements of exposition and analysis as well as persuasion. Neither set of materials includes any literary genres aside from fiction (no poetry or drama). This may reflect the particular curriculum focus of the courses selected.	The two sets of materials have many common features, including similar text types. Some of the reading selections in both sets, notably the autobiographical narratives, are also similar in overall complexity (moderate), and in both sets of materials, the explanatory texts (how to write persuasive essays) were notably less complex and more straightforward in both style and structure than the reading selections. Two of the selections, a Margaret Atwood short story with multiple viewpoints and shifting time frames in *Connections* and a highly philosophical and academic essay by Steven Pinker in *The Norton Reader*, are both much longer and significantly more complex than any comparable selections in the high school materials.
Qualitative Rating	Low—High Moderate	Low—High Moderate		

Gap Analysis of Secondary and Postsecondary Instructional Materials for ELA/Reading (Continued)

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Lexile Score	760L—1340L	980L—1380L	The high school materials generally provide a greater degree of support (e.g., guiding questions, glossed words) for comprehension than do the college materials, for both the literary and the informational selections. While the ranges of ratings for the combined sets of materials overlap, with the college materials showing lower results in some cases, a more accurate comparison can be made by comparing across genres (see the chart of quantitative data by excerpt in Appendix B). Fiction (short story): the readability ratings for the two fiction pieces are deceivingly low, at 5th-6th grade level in both the high school and college selections; the challenge of these stories is at the semantic rather than syntactic level. The Coh-Metrix indices are generally similar for both stories, suggesting, there is little gap in the text complexity of fiction for these two courses.	The difference in the overall ratings for the two sets of materials is largely due to the complexity of these two passages. The gap does not appear too large for students to bridge, but the high school materials may not fully prepare students to independently tackle the demand of the more abstract and lengthy passages at the college level, which require making high-level inferences about connections to concepts within the text and to other sources cited in the text. The literary pieces, the short story and autobiographical narrative, show the least gap in terms of quantitatively measured complexity, while the persuasive essays show a gap in some areas, and the expository pieces-explaining how to write a persuasive essay or argument-show the largest gap.
Coh-Metrix Scores				
Flesch-Kincaid:	5.3—12	8.2—12		
Flesch Reading Ease:	47.6—81.6	42.7—82.1		
Number of words:	Average of 1297 per excerpt	Average of 3226 per excerpt		
Number of sentences:	Average of 75 per excerpt	Average of 198 per excerpt		
Number of paragraphs:	Average of 23 per excerpt	Average of 48 per excerpt		
Syllables per word:	1.3—1.6	1.4—1.6		
Words per sentence:	13.7—23.2	9.9—25.8		
Sentences per paragraph:	1.7—5.2	2.8—14.1		
Concreteness content words:	369.4—404.1	337—408		
Modifiers per NP:	0.7—0.9	0.6—0.9		
Higher level constituents:	0.7—0.8	0.7—0.8		
Words before main verb:	2.4—6.3	2—6.9		
Negations:	5.9—15.1	2.5—17		
All connectives:	61.5—88.3	62—99.1		
Logic operators:	33.8—52.9	39.1—60		
Adjacent anaphor reference:	0.3—0.6	0.4—0.8		
Anaphor reference:	0.1—0.3	0.2—0.5		

			Persuasive essay: both the high school and college essays have readability ratings in the grade 12 range; the Coh-Metrix indices show that the college essay has more negations, connectives, and logical operators, suggesting it may be more syntactically complex. Autobiographical narrative: both the high school and college pieces have readability in the 7th—8th grade range, though as with the fiction pieces, these scores may be deceiving in not reflecting semantic complexity. The high school piece is more complex in some ways (e.g., having more logical operators) while the college piece has more sentences per paragraph and more abstract words. Expository: here a gap is more evident than in the other text types. While the high school passages have readability at the 9th grade level, the college passage is at the 11th grade level, and has more words per sentence, more words before the main verb, and more connectives.	These results suggest that to ensure high school students are prepared for college-level reading in ELA, they be provided opportunities to read more complex persuasive/ argumentative texts and expository texts.

Gap Analysis of Secondary and Postsecondary Instructional Materials for Mathematics

High School Course: High School Algebra 2 **College Course:** State College MACX105 College Algebra

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Range of Text Types	The high school materials provide explanation of mathematical concepts mostly through limited written language, with instructional or informational text typically involving two to four sentences. Much of the content is presented by examples showing the steps of what to do and how to do it, with justifications provided by phrases or with mathematical terminology. Key concepts are labeled and presented in charts or tables; headings identify the purpose of exercises and the content covered in the section.	The college materials provide explanation and instructions, mostly through short paragraphs of three to five concise sentences. Key concepts or topics of a lesson are listed or labeled and serve as major headings. Headings also identify objectives, subsections, and examples. Longer paragraphs provide context or related information: a real-world connection with the math content; a description of the life and work of a mathematician; or a description of the history of a mathematical activity. One text also has an extended real-world application project, with explanatory text in multiple paragraphs and a link to an online article.	The college texts have a higher reading demand since they include some longer paragraphs and some extended reading passages related to real-world contexts, including applications of mathematical concepts, and information on the history of mathematics and mathematicians. In the high school materials, there is very little extended written language, with most of the reading load being in short explanations and word problems. In the college materials, the instructional text is moderately demanding, with paragraphs containing multiple but concise sentences. One of the texts also provides an extended opportunity for students to apply their knowledge to a real-world situation, with	High school students who are not exposed to extended description and explanation of mathematical concepts and related information presented in paragraph or multiple-paragraph form may not be prepared for college-level reading in mathematics. To help prepare high school students for college-level reading in mathematics, one strategy could be to supplement textbooks with informational texts, including biographies of mathematicians and articles or functional documents on real-world applications of the mathematical concepts.
Qualitative Rating	Low—Low Moderate	Low Moderate—High Moderate		

Gap Analysis of Secondary and Postsecondary Instructional Materials for Mathematics (Continued)

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Lexile Score	N/A	1210L—1370L	informational paragraphs that provide several scenarios requiring both academic content and real-world knowledge. Because quantitative measures are not accurate when run on very short texts (less than 100 words), the high school materials were not rated for Lexile or Coh-Metrix. The paragraphs and longer texts in the college materials show a range of readability from high school to college level, with the longer project and online article being slightly less complex and easier to read than the short introductory and historical information paragraphs.	[same as for Range of Text Types and Qualitative Rating above]
Coh-Metrix Scores				
Flesch-Kincaid:	N/A	8.4—12		
Flesch Reading Ease:	N/A	44.3—65.5		
Number of words:	N/A	Average of 335 per excerpt		
Number of sentences:	N/A	Average of 78 per excerpt		
Number of paragraphs:	N/A	Average of 11 per excerpt		
Syllables per word:	N/A	1.4—1.7		
Words per sentence:	N/A	16.9—20.2		
Sentences per paragraph:	N/A	1.9—3.2		
Concreteness content words:	N/A	349.7—392.5		
Modifiers per NP:	N/A	0.8—1.3		
Higher level constituents:	N/A	0.6—0.7		
Words before main verb:	N/A	2.3—5.9		
Negations:	N/A	1.8—7.6		
All connectives:	N/A	46.1—77.3		
Logic operators:	N/A	25.8—39.8		
Adjacent anaphor reference:	N/A	0.08—0.4		
Anaphor reference:	N/A	0.04—0.2		

Gap Analysis of Secondary and Postsecondary Instructional Materials for Social Studies

High School Course: High School American History **College Course:** State College POSX041 American Government

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Range of Text Types	**Chapter text:** narration of historical events and explanation/analysis of historical issues, supported by timelines, maps, charts, illustrations, sidebars, quotations, research links (online), quizzes, cartoons, and glossaries. **Historical documents:** The high school materials include excerpts of some historical documents (e.g., *The Federalist Papers* 10, 51, and 59) and the full text of others (e.g., the Declaration of Independence, the Constitution), with annotations and a glossary or pictures and graphics.	**Chapter text:** narration and explanation/analysis, supported by timelines, charts, tables, and quotations from historical figures. **Historical documents:** The college materials include historical documents, such as the Declaration of Independence, the Constitution, and *The Federalist Papers* 10, 51, and 78, in a separate appendix. These are complete texts, not excerpts, and they are presented without scaffolding or added illustrations, glossaries, etc. References to these materials appear frequently within the chapter text, and it is clear students are expected to be familiar with these materials.	The high school materials have a greater range of text types than do the college materials, including many more graphic elements, such as illustrations, maps, and period cartoons. The college materials rely much more on narrative and explanatory text and also include the full text of historical documents, such as complete essays from *The Federalist Papers*, the Constitution, etc., without accompanying annotation or graphics. The high school materials are far more colorful than the college materials, with color illustrations or maps on nearly every page. The college materials include some pages of text alone, and the charts, tables, and timelines are printed in black and white.	Overall, the high school materials embed significantly more graphic features and sidebar elements (narratives/quotes/study questions) in the chapter text. Blocks of text are interspersed on every page, with colorful illustrations, cartoons, and maps. The college materials present the student with longer blocks of continuous text, with fewer graphic elements and less overall scaffolding. The high school materials were rated qualitatively as on the low end of moderate complexity, while the college materials were rated on the high end of moderate complexity. Although this gap does not appear too large for students to bridge, the high school materials may not fully prepare students for
Qualitative Rating	Low Moderate—High Moderate	High Moderate		

Gap Analysis of Secondary and Postsecondary Instructional Materials for Social Studies (Continued)

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Lexile Score	1100L—1140L	1440L—1460L	The high school materials provide more support for comprehension, including more frequent reviews of key points, quizzes, and study questions. However, both sets of materials provide summaries of the main ideas to be covered in each chapter, headings for main topics throughout the chapter, and lists of key terms for each chapter. Based on the quantitative measures, the high school materials fall within a grade 9—12 readability range, while the college materials are at grade 12 and college level. The Coh-Metrix indices show that the high school and college materials are comparable in terms of length of words (by syllable). Most of the measures overlap, with the range of scores for high school materials starting at lower complexity levels, and the range of college materials reaching higher complexity levels. Elements of complexity that increase in the college materials include number of words before the main verb and number of connectives,	independently reading college materials composed of full pages of text, including long sentences and paragraphs unbroken by headings, graphics, or added notes. High school students reading primarily textbooks that are designed to make complex historical content more comprehensible, including excerpts or annotated versions of historical documents, may not be skilled in independently reading the denser text they will encounter in college reading materials. To help prepare high school students for college-level reading in history, one strategy could be to focus on close reading of the full text of historical documents, with students annotating the documents themselves.
Coh-Metrix Scores				
Flesch-Kincaid:	8.8—12	12		
Flesch Reading Ease:	37.5—58.5	30—38.9		
Number of words:	Average of 7571 per excerpt	Average of 7164 per excerpt		
Number of sentences:	Average of 365 per excerpt	Average of 296 per excerpt		
Number of paragraphs:	Average of 158 per excerpt	Average of 130 per excerpt		
Syllables per word:	1.6—1.8	1.7—1.8		
Words per sentence:	14.7—19.8	20.1—27.6		
Sentences per paragraph:	1.9—3.7	2.1—4.2		
Concreteness content words:	371—416	365—382		
Modifiers per NP:	0.9—1.1	1.0—1.2		
Higher level constituents:	0.7	0.7		
Words before main verb:	2.4—6.1	4—7.4		
Negations:	3.4—11.9	4.9—11.5		
All connectives:	56—77.2	69.1—94.3		
Logic operators:	26.8—45.6	38.7—63.3		
Adjacent anaphor reference:	0.07—0.3	0.1—0.3		
Anaphor reference:	0.03—0.09	0.03—0.1		

			indicating longer and more complex sentences; indeed, the measure showing the clearest gap is words per sentence, with the high school materials having averages of less than 20 words and the college materials having more than 20. In addition, the number of abstract* words is higher in the college materials. Of the historical documents rated, the Constitution is the most complex, though all are at college level. *Although the Coh-Metrix results do not provide a list of which specific words from a selection were rated as high or low on the concreteness measure, examples of abstract words in the college materials that are not found in the high school materials include "fomenting," "imposition," "prerogatives," and "speculatively."	

Gap Analysis of Secondary and Postsecondary Instructional Materials for Science

High School Course: High School Biology **College Course:** State College BSCX010 General Biology

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Range of Text Types	**Chapter text:** description and explanation supported by sidebars, tables, charts, graphics, glossaries, and links to other resources or information. **"Chapter Mystery":** narrative introduction of topic with real-world connection. **"Careers in Biology", "In the Field":** questions and descriptions of careers in science and of a scientist and her work.	**Chapter text:** description and explanation supported by sidebars, tables, charts, graphics, and a glossary. **Interview:** narrative question-and-answer format interview with a scientist.	The high school materials have a greater range of text types than do the college materials, including descriptions in more informal language describing careers in the field or making real-world connections to the content. The college materials rely on textbook chapter text and interviews with scientists, with real-world connections embedded in these formats. The high school materials tend to provide more supports for comprehension of the complex science content and terminology than do the college materials, though both sets are designed as introductory.	While the high school materials provide more explicit descriptions of real-world contexts for scientific topics than do the college materials, this background may help prepare students to access the college materials. With the exception of the Glencoe textbook, which was found to be confusing (due to unclear explanations or insufficient elaboration of technical topics), the high school materials were rated qualitatively as on the low end of moderate complexity, while the college materials were rated on the high end of moderate complexity; this gap does not appear excessive for students to bridge.
Qualitative Rating	Low Moderate–High Moderate	High Moderate		

Gap Analysis of Secondary and Postsecondary Instructional Materials for Science (Continued)

	High School Materials	College Materials	Gap Analysis Notes	Implications of Gap Analysis
Lexile Score	760L—1180L	1170L—1270L	In many of the quantitative measures, the high school and college materials have an overlap in range of readability and complexity; the high school materials tend to plateau around the 10th grade level, while the college materials start there and reach through 12th grade. The Coh-Metrix complexity indices show that the high school and college materials are comparable at the word level, in terms of number of syllables and concreteness, likely due to addressing similar content. However, the college materials are more complex at the sentence and paragraph level, having more words per sentence, more sentences per paragraph, and more words before the main verb, all of which make the text more "dense", that is, including more linguistic elements and concepts in a stretch of text. On the other hand, the college materials also have more connectives, which may help to make the denser text easier to follow.	High school students reading primarily textbooks that are designed to make technical content more comprehensible may not be exposed to the denser text they will encounter in college reading materials. To help prepare high school students for college-level reading, one strategy could be to supplement textbooks with authentic science articles, so that students start learning how to unpack dense sentences and long paragraphs, and understand the use of connectives in technical texts.
Coh-Metrix Scores				
Flesch-Kincaid:	5.2—12	10.4—12		
Flesch Reading Ease:	30.5—77.6	39.8—55.3		
Number of words:	Average of 2220 per excerpt	Average of 3880 per excerpt		
Number of sentences:	Average of 115 per excerpt	Average of 191 per excerpt		
Number of paragraphs:	Average of 55 per excerpt	Average of 57 per excerpt		
Syllables per word:	1.6—1.9	1.6—1.7		
Words per sentence:	11.8—17.4	19.4—24		
Sentences per paragraph:	1.9—2.9 [5.3 is an outlier]	3—3.6		
Concreteness content words:	377.9—423.8	349.6—403.8		
Modifiers per NP:	0.9—1.2	0.8—1.2		
Higher level constituents:	0.7	0.7—0.8		
Words before main verb:	2.8—4.9	3.2—6.5		
Negations:	0—10.8	2—10		
All connectives:	54.1—73	64.2—80.5		
Logic operators:	26.1—48.3	26.7—39.3		
Adjacent anaphor reference:	0.03—0.3	0.08—0.36		
Anaphor reference:	0.02—0.1	0.03—0.23		

IV. Implications of the Analyses

Overall, for all content areas except mathematics, the qualitative and quantitative analyses show that, while there is a gap in text complexity between the secondary and postsecondary materials reviewed for this study, the gap is representative of appropriate reading levels for high school and college, and therefore should not be too difficult for students to bridge in general, especially when they have been introduced to the content at the high school level and are revisiting it in a first-year college course. For mathematics, extended reading texts were not provided in the high school materials reviewed, though they were provided in the college materials, suggesting that if the high school materials are not supplemented, students might not be prepared for college reading demands in mathematics. At a finer-grained level, on the other hand, the nature of the gap for all content areas reveals differences in the density of text and amount of scaffolding provided, which suggests high school materials may not expose students to the full range and complexity of texts that they will encounter in college unless the high school materials are supplemented with additional reading selections.

In ELA/reading, the literary selections—fiction (short story) and autobiography (personal narrative)—were the most comparable across the high school and college course materials, while the expository pieces—persuasive essay and instructional text—showed the largest gap, with the college selections being more syntactically complex, as well as requiring readers to make more inferences to fully understand nuances of the authors' ideas. A notable difference between the high school and college materials was in the length of the passages, with the college materials providing much longer selections. This result may be an artifact of the paired courses for which materials were reviewed—English composition—and high school students are likely required to read longer texts in other classes; however, it is worth noting that in college, longer readings are required for a writing course. These results suggest that high school students may need to read and analyze more syntactically and conceptually complex expository texts in order to be prepared for college-level reading.

For mathematics, represented by algebra courses, most of the information in both high school and college materials is presented with limited written text, in the form of short explanations or instructions and word problems, and use of headings to indicate content and concepts being addressed. However, the college materials also include some longer explanatory or descriptive paragraphs on real-world or historical topics related to the math concepts, as well as extended reading on real-world applications. High school students might benefit from reading informational texts on topics related to the lives and history of mathematicians, as well as mathematical concepts and applications. These types of discipline-related texts are included in the existing high school biology materials, which could provide indications of the balance, type, and length of similar materials that might be appropriate for mathematics courses.

The results for the social studies texts, on the subject of U.S. history, highlighted the extent to which the most complex texts, historical documents such as the Declaration of Independence and the Constitution, are extensively scaffolded for high school students (e.g., with annotations and glossaries) and may be excerpted, whereas the same documents are presented in full with no scaffolding in the college materials, suggesting that students are expected to read and

understand them independently. These results suggest that high school students may benefit from reading and analyzing the full text of authentic historical documents and other primary sources in order to be prepared for college-level reading in social studies.

The science materials, on the topic of genetics, with a range of text types, including interviews or career information, showed the largest gap in number of words per sentence, with the range for the college selections starting above the highest end of the range for the high school selections. By having longer sentences, the college materials can pack much more information into a single sentence, though the difficulty of reading these long, complex sentences may be offset by the use of connectives for cohesion of ideas. Both sets of materials provide a great deal of information in the form of extensive graphics, which in many cases supported or exemplified the written content. These results suggest that high school students may not be exposed to the full complexity of a range of science texts. To be prepared for college-level reading in science, high school students may benefit from engaging with supplemental science texts that have higher sentence-level complexity.

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Appendix A: Quantitative Score Interpretations

Text Measurement Tool: Lexile

Text Complexity Grade Band for CCSS	Lexile Ranges Aligned to CCSS Expectations
K—1	N/A
2—3	450—790
4—5	770—980
6—8	955—1155
9—10	1080—1305
11—CCR	1215—1355

Source: *Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects*, Appendix A, Figure 3, p. 8.

Text Measurement Tool: Flesch Reading Ease

Style	Flesch Reading Ease Score	Average Sentence Length in Words	Average Syllables per 100 Words	Estimated School Grade Completed	Estimated Percent of U.S. Adults
Very Easy	90—100	8 or fewer	123 or fewer	4th grade	93
Easy	80—90	11	131	5th grade	91
Fairly Easy	70—80	14	139	6th grade	88
Standard	60—70	17	147	7th or 8th grade	83
Fairly Difficult	50—60	21	155	some high school	54
Difficult	30—50	25	167	high school or some college	33
Very Difficult	0—30	29 or more	192 or more	college	4.5

Source: Adapted from *The Art of Readable Writing*, by R. Flesch, 1949, New York: Harper, p. 149.

Text Measurement Tool: Coh-Metrix

Indices	Interpretation of Scores (see *Coh-Metrix version 2.0 indices* for full explanations)	Sample Words or Sentences	Campbell Biology
Flesch-Kincaid	Grade level ranging from 0–12	N/A	
Flesh Reading Ease	See Chart for Flesch Reading Ease (lower numbers indicate more difficult text)	N/A	
Number of words	Number of words in entire text	N/A	
Number of sentences	Number of sentences in entire text	N/A	
Number of paragraphs	Number of paragraphs in entire text	N/A	
Syllables per word	Mean number of syllables per content word	N/A	
Words per sentence	Mean number of words per sentence	N/A	
Sentences per paragraph	Mean number of sentences per paragraph	N/A	
Concreteness content words	Mean concreteness value of all content words in a text; high numbers lean towards concrete and low numbers to abstract	Concrete: garden, hair, purple, walking Abstract: theory, principles, significance, deduce	pp. 262—263
Modifiers per noun-phrase	Mean number of modifiers per noun phrase; more modifiers indicate more complex sentences	Main noun **cross** has 3 modifiers; main noun **crosses** has 4 modifiers: Thus, [a dihybrid or other multicharacter **cross**] is equivalent to [two or more independent monohybrid **crosses** occurring simultaneously].	p. 270
Higher level constituents	Mean number of higher level syntactic constituents (noun phrase or verb phrase) per 1,000 words; more constituents per word indicate more complex text	Sentence with 5 NPs: We cannot predict with **certainty** [the exact **numbers** of [**progeny** of [different **genotypes**]] resulting from [a genetic **cross**]]. Sentence with 5 VPs: It [**is** important [to **understand** that an allele [**is called** *dominant*]] because it [**is seen** in the phenotype], not because it [somehow **subdues** a recessive allele].	p. 270 p. 272
Words before main verb	Mean number of words before the main verb of the main clause in sentences.	Sentence with 14 words before the main verb: But for many characters, such as human skin color and height, an either-or classification **is** impossible because the characters vary in	p. 274

Indices	Interpretation of Scores (see *Coh-Metrix version 2.0 indices* for full explanations)	Sample Words or Sentences	Campbell Biology
Words before main verb (continued)	More words before the main verb are taxing on working memory	the population in gradations along a continuum. Sentence with 9 words before the main verb: Environmental factors, such as exposure to the sun, also **affect** the skin-color phenotype.	p. 274
Negations	Incidence of negation expressions; negations can make text more difficult to read	Sentence with 2 types of negation: **Unlike** homozygotes, heterozygotes produce gametes with different alleles, so they are **not** true-breeding.	p. 266
All connectives	Incidence of all connectives; more connectives indicate more cohesive text, which may be easier to read	Sentence with 2 connectives: The DNA at that locus, **however**, can vary slightly in its nucleotide sequence and **hence** in its information content. Sentence with 2 connectives, one of which is a negation: The term *phenotype* can refer **not only** to specific characters, such as flower color and blood group, **but also** to an organism in its entirety.	p. 265 p.275
Logic operators	Incidence of logical operators (e.g., *and, or, not, if, then*); texts with high density of these logical operators are more difficult to read	Long compound sentence with logical operator: [The paternally inherited chromosome (blue), which was present in the sperm within a pollen grain, has an allele for purple flowers,] **and** [the maternally inherited chromosome (red), which was present in an egg with a carpel, has an allele for white flowers].	p. 265
Adjacent anaphor reference	Proportion of anaphor references between adjacent sentences; more anaphoric references may make text more difficult to read, depending on the ambiguity of the reference	Anaphoric reference in an adjacent sentence: Unable to manipulate the mating patterns of people, **geneticists** must analyze the results of matings that have already occurred. **They** do so by collecting information about a family's history	p. 275
Anaphor reference	Proportion of anaphor references that refer back to a constituent up to 5 sentences earlier; more anaphoric references across more sentences may make text more difficult to read, depending on the ambiguity of the reference	Anaphoric reference to a constituent 2 sentences away: So I first approached **a cell biologist** . . . . He conceded that his lab might be suitable . . . . I barely made it out of **his** office before bursting into tears.	p. 246

Appendix B: Quantitative Data of Secondary and Postsecondary Instructional Materials by Textbook and Excerpt

Subject: ELA/Reading (Textbook)

Title	Elements of Language (High School)	Writers Choice (High School)	Connections: A Multicultural Reader (College)	The Norton Reader (College)	The Hodges Harbrace Handbook (College)
Qualitative Rating	Low—High Moderate	Low Moderate	High Moderate	High Moderate	Low
Lexile Score	830L—1340L	1040L—1160L	760L—1190L	980L—1380L	1360L
Coh-Metrix Scores					
Flesch-Kincaid:	5.3—12	7.3—8.6	4.3—11.3	8.2—12	10.6
Flesch Reading Ease:	47.6—81.6	61.7—76.1	52.2—82.1	42.7—71.2	52.5
Number of words:	Average of 1293 per excerpt	Average of 1300 per excerpt	Average of 3792 per excerpt	Average of 4710 per excerpt	1177
Number of sentences:	Average of 79 per excerpt	Average of 72 per excerpt	Average of 326 per excerpt	Average of 207 per excerpt	62
Number of paragraphs:	Average of 20 per excerpt	Average of 25 per excerpt	Average of 83 per excerpt	Average of 40 per excerpt	22
Syllables per word:	1.3—1.6	1.3—1.5	1.4—1.6	1.4—1.6	1.6
Words per sentence:	13.7—23.2	16.1—18.6	9.9—21.3	19.4—25.8	19
Sentences per paragraph:	2.4—5.2	1.7—3.7	3.2—4.5	2.9—14.1	2.8
Concreteness content words:	369.4—404.1	371—388.6	366.9—408	337—381	360
Modifiers per NP:	0.7—0.9	0.7—0.9	0.6—0.8	0.6—0.9	0.8
Higher level constituents:	0.7—0.8	0.7—0.8	0.7—0.8	0.7—0.8	0.8
Words before main verb:	2.4—6.3	2.9—4.1	2—6.9	3.7—6.6	5.1
Negations:	5.9—8.8	6.2—15.1	10—17	9.3—15.6	2.5
All connectives:	61.5—70.3	84.9—88.3	62—99.1	66.1—82.9	89.2
Logic operators:	33.8—51.8	47.6—52.9	39.1—60	41—58.4	51.8
Adjacent anaphor reference:	0.3—0.5	0.3—0.6	0.4	0.4—0.8	0.7
Anaphor reference:	0.2—0.3	0.1—0.3	0.2—0.3	0.2—0.5	0.2

Subject: ELA/Reading (Excerpt)

Title	Elements of Language (High School)			Writers Choice (High School)		Connections: A Multicultural Reader (College)		The Norton Reader (College)		The Hodges Harbrace Handbook (College)
Page Numbers	633—636	865—867	875—877	196—203	274—275	63—65	549—567	191—195	321—337	394—398
Lexile Score	830L	1340L	1150L	1040L	1160L	1190L	760L	980L	1380L	1360L
Coh-Metrix Scores										
Flesch-Kincaid:	5.3	12	9.4	7.3	8.6	11.3	4.3—5.6	8.2	11.5—12	10.6
Flesch Reading Ease:	81.6	47.6	58.5	76.1	61.7	52.2	78.3—82.1	71.2	42.7—51.5	52.5
Number of words:	1837	1019	1024	2118	483	767	6816	2467	6953	1177
Number of sentences:	134	44	59	114	30	36	616	127	287	62
Number of paragraphs:	26	9	25	31	18	8	157	9	71	22
Syllables per word:	1.3	1.6	1.5	1.3	1.5	1.6	1.4	1.4	1.6	1.6
Words per sentence:	13.7	23.2	17.4	18.6	16.1	21.3	9.9—13	19.4	22—25.8	19
Sentences per paragraph:	5.2	4.9	2.4	3.7	1.7	4.5	3.2—4.5	14.1	2.9—4.8	2.8
Concreteness content words:	404.1	383.3	369.4	388.6	371	366.9	389—408	361.1	337—381	360
Modifiers per NP:	0.7	0.9	0.8	0.7	0.9	0.8	0.6—0.7	0.6	0.8—0.9	0.8
Higher level constituents:	0.8	0.7	0.7	0.8	0.7	0.8	0.7—0.8	0.8	0.7	0.8
Words before main verb:	2.4	6.3	4.8	2.9	4.1	6.9	2—2.4	3.7	4.5—6.6	5.1
Negations:	7.6	5.9	8.8	15.1	6.2	13	10—17	9.3	9.9—15.6	2.5
All connectives:	61.5	62.8	70.3	88.3	84.9	99.1	62—70.1	82.3	66.1—82.9	89.2
Logic operators:	33.8	37.3	51.8	52.9	47.6	60	39.1—43.7	41	45.3—58.4	51.8
Adjacent anaphor reference:	0.5	0.3	0.4	0.6	0.3	0.4	0.4	0.8	0.4	0.7
Anaphor reference:	0.3	0.2	0.3	0.3	0.1	0.3	0.2	0.5	0.2	0.2

Subject: Mathematics (Textbook)

Title	Glencoe McGraw-Hill Algebra 2 (High School)	Larson Algebra 2 (High School)	Prentice Hall Algebra 2 (High School)	Sullivan Algebra & Trigonometry (College)	College Algebra (College)
Qualitative Rating	Low	Low Moderate	Low	High Moderate	Low Moderate
Lexile Score	N/A	N/A	N/A	1210L—1370L	1220L
Coh-Metrix Scores					
Flesch-Kincaid:	N/A	N/A	N/A	8.4—12	11.6
Flesch Reading Ease:	N/A	N/A	N/A	44.3—65.5	47
Number of words:	N/A	N/A	N/A	Average of 435 per excerpt	235
Number of sentences:	N/A	N/A	N/A	Average of 143 per excerpt	12
Number of paragraphs:	N/A	N/A	N/A	Average of 16 per excerpt	5
Syllables per word:	N/A	N/A	N/A	1.4—1.7	1.7
Words per sentence:	N/A	N/A	N/A	16.9—20.2	19.6
Sentences per paragraph:	N/A	N/A	N/A	1.9—3.2	2.4
Concreteness content words:	N/A	N/A	N/A	349.7—373.1	392.5
Modifiers per NP:	N/A	N/A	N/A	0.8—1.3	1
Higher level constituents:	N/A	N/A	N/A	0.6—0.7	0.7
Words before main verb:	N/A	N/A	N/A	2.3—5.9	5
Negations:	N/A	N/A	N/A	1.8—7.6	4.3
All connectives:	N/A	N/A	N/A	46.1—77.3	55.3
Logic operators:	N/A	N/A	N/A	25.8—39.8	34
Adjacent anaphor reference:	N/A	N/A	N/A	0.08—0.4	0.3
Anaphor reference:	N/A	N/A	N/A	0.04—0.2	0.2

Subject: Mathematics (Excerpt)

Title	Glencoe McGraw-Hill Algebra 2 (High School)	Larson Algebra 2 (High School)	Prentice Hall Algebra 2 (High School)	Sullivan Algebra & Trigonometry (College)			College Algebra (College)
Page Numbers	18—46	19—58	26—57	89	148	Credit Website	83 & 96
Lexile Score	N/A	N/A	N/A	1370L	1220L	1210L	1220L
Coh-Metrix Scores							
Flesch-Kincaid:	N/A	N/A	N/A	12	8.4	8.7	11.6
Flesch Reading Ease:	N/A	N/A	N/A	44.3	64.4	65.5	47
Number of words:	N/A	N/A	N/A	262	542	1810	235
Number of sentences:	N/A	N/A	N/A	13	32	98	12
Number of paragraphs:	N/A	N/A	N/A	7	11	31	5
Syllables per word:	N/A	N/A	N/A	1.7	1.5	1.4	1.7
Words per sentence:	N/A	N/A	N/A	20.2	16.9	18.4	19.6
Sentences per paragraph:	N/A	N/A	N/A	1.9	2.9	3.2	2.4
Concreteness content words:	N/A	N/A	N/A	368.3	373.1	349.7	392.5
Modifiers per NP:	N/A	N/A	N/A	0.8	1.3	1	1
Higher level constituents:	N/A	N/A	N/A	0.7	0.6	0.7	0.7
Words before main verb:	N/A	N/A	N/A	5.1	2.3	5.9	5
Negations:	N/A	N/A	N/A	7.6	1.8	6.1	4.3
All connectives:	N/A	N/A	N/A	76.3	46.1	77.3	55.3
Logic operators:	N/A	N/A	N/A	34.4	25.8	39.8	34
Adjacent anaphor reference:	N/A	N/A	N/A	0.08	0.1	0.4	0.3
Anaphor reference:	N/A	N/A	N/A	0.04	0.08	0.2	0.2

Subject: Social Studies (Textbook)

Title	The American Vision (High School)	The Americans (High School)	Americas Democratic Republic (College)	Historical Documents
Qualitative Rating	Low Moderate	Low Moderate	High Moderate	High Moderate
Lexile Score	1100L	1130L—1140L	1440L—1460L	1370L—1600L
Coh-Metrix Scores				
Flesch-Kincaid:	8.8—11.2	10.2—12	12	12
Flesch Reading Ease:	44.2—58.5	37.5—51.5	30—38.9	28.5—40.9
Number of words:	Average of 7258 per excerpt	Average of 7884 per excerpt	Average of 7164 per excerpt	Average of 4130 per excerpt
Number of sentences:	Average of 296 per excerpt	Average of 433 per excerpt	Average of 296 per excerpt	Average of 122 per excerpt
Number of paragraphs:	Average of 154 per excerpt	Average of 161 per excerpt	Average of 130 per excerpt	Average of 67 per excerpt
Syllables per word:	1.6—1.7	1.6—1.8	1.7—1.8	1.6—1.7
Words per sentence:	14.7—18.5	16.6—19.8	20.1—27.6	29.7—39.9
Sentences per paragraph:	2.5—3.7	1.9—3.1	2.1—4.2	1.1—5.6
Concreteness content words:	371—416	376—414	365—382	339—407
Modifiers per NP:	0.9—1.0	0.9—1.1	1.0—1.2	0.8—1.1
Higher level constituents:	0.7	0.7	0.7	0.7—0.8
Words before main verb:	2.4—5.2	4.2—6.1	4—7.4	4.7—12.1
Negations:	3.7—11.9	3.4—6.9	4.9—11.5	1.5—17
All connectives:	56—71	62.2—77.2	69.1—94.3	59.3—108
Logic operators:	29.1—41.5	26.8—45.6	38.7—63.3	37.6—77.5
Adjacent anaphor reference:	0.07—0.3	0.1—0.3	0.1—0.3	0.1—0.8
Anaphor reference:	0.03—0.1	0.03—0.09	0.03—0.1	0.03—0.5

Subject: Social Studies (Excerpt)

Title	**The American Vision (High School)**		**The Americans (High School)**		**Americas Democratic Republic (College)**		**Historical Documents**		
Page Numbers	156—177	208—235	130—151	180—209	21—43	44—71	A1—A4 Declaration of Independence	A4—A23 Constitution	A23—A35 Federalist Papers
Lexile Score	1100L	1100L	1140L	1130L	1440L	1460L	1470L	1600L	1370L
Coh-Metrix Scores									
Flesch-Kincaid:	10.6—11.2	8.8—10.8	10.2—11.8	10.8—12	12	12	12	12	12
Flesch Reading Ease:	44.2—50.9	45.7—58.5	44.5—51.5	37.5—49.8	31—38.9	30—36.3	36.9	28.5—40.9	31.7—36.2
Number of words:	6537	7980	7340	8428	6151	8177	1321	6487	4582
Number of sentences:	381	506	407	459	269	322	44	179	142
Number of paragraphs:	118	189	163	159	103	104	31	135	34
Syllables per word:	1.6—1.7	1.6—1.7	1.6—1.7	1.6—1.8	1.7—1.8	1.7—1.8	1.6	1.6	1.6—1.7
Words per sentence:	16.6—18.5	14.7—16.8	16.6—19.2	16.9—19.8	20.1—26.7	24.3—27.6	30	33.8—39.9	29.7—33.7
Sentences per paragraph:	2.8—3.7	2.5—3.1	1.9—3.0	2.6—3.1	2.1—3.2	2.4—4.2	1.4	1.1—1.7	3.1—5.6
Concreteness content words:	371—392	382—416	376—386	377—414	365—374	366—382	382	394—407	339—347
Modifiers per NP:	0.9—1.0	0.9—1.0	0.9—1.1	0.9—1.1	1.0	1.0—1.2	0.8	1.0—1.1	1.0—1.1
Higher level constituents:	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7
Words before main verb:	4.4—5.2	2.4—4.8	4.2—5.2	4.3—6.1	4—7.4	4.4—7.4	4.7	5.2—12.1	6.6—7.4
Negations:	3.7—11.9	4.0—10.2	5.0—6.9	3.4—4.2	4.9—11.5	5.8—8.1	1.5	13.8—17	9.7—17
All connectives:	56—68	58.7—71	62.4—76.4	62.2—77.2	69.1—92.9	75.6—94.3	89.3	106—108	59.3—97
Logic operators:	29.1—41.5	29.3—40.7	29.7—45.6	26.8—41.3	38.7—47.3	43.7—63.3	45.4	69.7—77.5	37.6—64.1
Adjacent anaphor reference:	0.1—0.3	0.07—0.2	0.2	0.1—0.3	0.2—0.3	0.1—0.2	0.8	0.1—0.2	0.4—0.6
Anaphor reference:	0.06—0.1	0.03—0.1	0.04—0.09	0.03—0.08	0.06—0.1	0.03—0.1	0.5	0.03—0.07	0.1—0.2

Subject: Science (Textbook)

Title	Miller & Levine Biology (High School)	Nowicki Biology (High School)	Florida Glencoe Biology (High School)	Campbell Biology (College)
Qualitative Rating	Low Moderate	Low Moderate	High Moderate	High Moderate
Lexile Score	760L—1180L	1030L—1090L	1060L—1170L	1170L—1270L
Coh-Metrix Scores				
Flesch-Kincaid:	5.2—11.9	8.9—9.8	10.5—12	10.4—12
Flesch Reading Ease:	36.4—77.6	52.6—57.3	30.5—50.7	39.8—55.3
Number of words:	Average of 1930 per excerpt	Average of 2937 per excerpt	Average of 2036 per excerpt	Average of 3879 per excerpt
Number of sentences:	Average of 134 per excerpt	Average of 198 per excerpt	Average of 122 per excerpt	Average of 191 per excerpt
Number of paragraphs:	Average of 48 per excerpt	Average of 75 per excerpt	Average of 50 per excerpt	Average of 57 per excerpt
Syllables per word:	1.4—1.8	1.6	1.6—1.9	1.6—1.7
Words per sentence:	11.8—15	13.8—15.6	16—17.4	19.4—24
Sentences per paragraph:	2.7—5.3	2.5—2.8	1.9—2.9	3—3.6
Concreteness content words:	377.9—399.4	392—410.5	394.7—423.8	349.6—403.8
Modifiers per NP:	0.9—1.1	0.9—1.1	1.0—1.2	0.8—1.2
Higher level constituents:	0.7	0.7	0.7	0.7—0.8
Words before main verb:	2.8—4.9	4.3—4.8	3.0—4.9	3.2—6.5
Negations:	0—10.8	2.9—9.7	0—5.2	2—10
All connectives:	54.1—71.7	54.9—73	57.3—72.4	64.2—80.5
Logic operators:	26.1—33.3	27.2—42.2	34.6—48.3	26.7—39.3
Adjacent anaphor reference:	0.03—0.3	0.1—0.14	0.06—0.3	0.01—0.36
Anaphor reference:	0.02—0.1	0.05—0.06	0.02—0.06	0.03—0.23

Subject: Science (Excerpt)

Title	Miller & Levine Biology (High School)			Nowicki Biology (High School)		Florida Glencoe Biology (High School)			Campbell Biology (College)	
Page Numbers	307	308—321	322"	177—187	204—207	277—285	302—309	316	246—247	262—275
Lexile Score	760L	1040L	1180L	1030L	1090L	1170L	1160L	1060L	1170L	1270L
Coh-Metrix Scores										
Flesch-Kincaid:	5.2	8.9—9.2	11.9	8.9—9.8	9.1	10.5—11	10.5	12	10.4	12
Flesch Reading Ease:	77.6	52.9—58	36.4	52.6—56	57.3	45.3—51	49.3	30.5	55.3	39.8—44
Number of words:	189	5210	388	4332	1541	3433	2301	373	2107	5651
Number of sentences:	16	361	26	296	100	203	139	23	108	274
Number of paragraphs:	3	131	9	111	39	92	48	10	30	84
Syllables per word:	1.4	1.6—1.7	1.8	1.6	1.6	1.6—1.7	1.7	1.9	1.6	1.7
Words per sentence:	11.8	13.2—15	14.9	14—16	15.4	16—17.4	16.6	16.2	20	19.4—24
Sentences per paragraph:	5.3	2.7—2.8	2.9	2.5—2.8	2.6	1.9—2.4	2.9	2.3	3.6	3—3.6
Concreteness content words:	392	382—399	378	392—398	411	398—424	409	395	350	387—404
Modifiers per NP:	1.0	0.9—1.0	1.1	0.9—1.1	0.9	1.0—1.2	1.2	1.0	0.8	1—1.2
Higher level constituents:	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7
Words before main verb:	2.8	4.1—4.9	2.8	4.3—4.4	4.8	3.5—4.7	4.9	3.0	3.2	5.8—6.5
Negations:	10.6	1.6—10.8	0	2.9—8.5	9.7	1.8—5.2	4.3	0	6.1	2—10
All connectives:	58.2	55—71.7	54.1	54.9—73	68.1	57.3—61	67.8	72.4	77.8	64.2—81
Logic operators:	26.5	26—33.3	30.9	27.2—40	42.2	34.6—42	35.6	48.3	34.6	26.7—40
Adjacent anaphor reference:	0.2	0.03—0.1	0.3	0.1	0.1	0.06—0.1	0.07	0.3	0.36	0.1
Anaphor reference:	0.11	0.02—0.1	0.07	0.05	0.05	0.02	0.02	0.06	0.23	0.03—0.1

Appendix C: Qualitative Analysis Rubrics

Subject: ELA/Reading

Course: High School English IV

Instructional Materials: Elements of Language: pp. 633—636, 865—867, and 875—877

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☒ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text includes a story by James Joyce, primarily a character study, full of subtle imagery and metaphorical language that requires inference to interpret ("All the seas of the world tumbled about her heart"). The theme is implicit, not easy to infer, and the story invites multiple interpretations, particularly of the main character. The text also includes an informative article on persuasive writing, in which the purpose is explicitly stated.

Course: High School English IV

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☒ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☒ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	There is some chronological order to the story but it follows the "stream of consciousness" of the main character and includes flashbacks to earlier events in her life. Transitions between events and settings are abrupt at times, as when the character is seated in her room at home one moment and standing at the station in the next. The text is organized by key topics, identified by headings. There is a bulleted list of guiding questions and "tips" set off in the margins. No real graphics.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☐ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly-marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☒ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The language of the literary passage is mostly familiar and clear with some general academic vocabulary (e.g., *illumined, fervent, elated*). Figurative language and imagery require inferencing to be interpreted. The language of the informational excerpt is clear and unambiguous. Some figurative language is used in the form of familiar aphorisms ("Don't preach to the choir"). There is some general academic vocabulary that is not difficult to interpret (e.g., *animate, hazardous, ageism, repertoire, adaptive*).

Course: High School English IV

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CULTURAL/LITERARY KNOWLEDGE (chiefly literary texts)				
☒ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references/allusions to other texts)	☐ Some cultural and literary knowledge useful to understand text ☐ Moderate intertextuality (some references/allusions to other texts)	☐ Extensive or specific cultural and literary knowledge needed to understand text ☐ High intertextuality (many references/allusions to other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	No discipline-specific content knowledge is needed to understand the text (either passage).
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☒ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☐ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	No discipline-specific content knowledge is needed to understand the text (either passage).

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	Overall, the text is on the high end of the spectrum for moderate complexity (high moderate), primarily due to the complexity of the literary excerpt. The language of the story is mostly familiar, but the structure is complex, and there are multiple levels of meaning. The story has much subtle imagery and metaphorical language an implicit theme that is not easy to infer, and the story invites multiple interpretations, particularly of the main character. The informational passage is straightforward, clear, and accessible, with mostly familiar language and some general academic vocabulary, putting it by itself at the low moderate level.

Course: High School English IV **Instructional Materials:** Glencoe Writer's Choice: pp. 196—203 and 274—275

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☒ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text includes both literary nonfiction (autobiography) and informational text (how to write an argument). The autobiographical passage includes imagery and metaphor that requires inference to interpret but most of the narrative can be understood on a literal level. The informative passage has an explicitly stated purpose and is very straightforward.

Course: High School English IV

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☐ Simple, well-marked and conventional structures ☒ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text structures are generally conventional and well marked. The autobiographical text is narrated in chronological order, with clear temporal markers. The informational text is organized by three topics identified in headings. It includes a bulleted list of guiding questions and a moderately complex graphic to illustrate the interaction of key elements.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☐ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☒ Some common or familiar figurative language or clearly-marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The autobiographical passage employs some fairly conventional metaphorical language (the “glass wall” or “prison” of the author’s condition) but it is mostly straightforward. Some vocabulary may be unfamiliar (British English). The informative text uses mostly familiar, even conversational language, with minimal academic terms (pre-writing).

Course: High School English IV

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CULTURAL/LITERARY KNOWLEDGE (chiefly literary texts)				
☒ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references/allusions to other texts)	☐ Some cultural and literary knowledge useful to understand text ☐ Moderate intertextuality (some references/allusions to other texts)	☐ Extensive or specific cultural and literary knowledge needed to understand text ☐ High intertextuality (many references/allusions to other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The excerpt from *My Left Foot* is autobiographical but literary in style (identified as "Literature" in the textbook). However, no specific cultural or literary knowledge is required to understand the text.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	This text is very accessible and requires very little specific content knowledge. The informational passage assumes students' knowledge of certain elements of writing, such as pre-writing, brainstorming, or diagramming.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The excerpts from this text are highly accessible, with conventional structures and mostly familiar language. The moderate rating reflects the more literary language and style of the autobiographical passage as well as the moderate complexity of the graphic in the informative text. The autobiographical passage includes imagery and metaphor that requires inference to interpret, though most of the narrative can be understood on a literal level. The chart in the informative passage does not just show "pros and cons" but illustrates how the identity of a writer's audience impacts a writer's choices—there is some interpretation required to understand the chart in context.

Course: State College ENCX101 Freshman Composition Skills 1 **Instructional Materials:** The Hodges Harbrace Handbook: pp. 394—398

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The purposes are explicitly stated at the beginning of the chapter, with a list of topics to be covered.

Course: State College ENCX101 Freshman Composition Skills 1

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The text is organized by key topics, indicated by headings. There are also some bulleted lists (key questions or tips), very clearly marked. No graphics.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☒ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly-marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The text employs a fair amount of general academic vocabulary—words like *criterion, rhetorical, expertise*—and a few domain-specific terms—*thesis, argumentation, fallacies.* The language is otherwise contemporary, straightforward, and clear.

Course: State College ENCX101 Freshman Composition Skills 1

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☒ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☐ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The text does not require any discipline-specific content knowledge. The meaning of key concepts is defined or illustrated with examples within the text (for example*, persuasion* and *argument* are defined on p.34).

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The text is straightforward, uses mostly familiar vocabulary, and defines key terms in context. Although the conceptual content itself is not simple, the use of examples and the bulleted tips make the material very accessible.

Course: State College ENCX101 Freshman Composition Skills 1 **Instructional Materials:** The Norton Reader: pp. 191—195 and 321—337

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☐ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☒ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The excerpt from Frederick Douglass is an autobiographical narrative (literary nonfiction); the title (*Learning to Read*) indicates the general topic but not the central purpose or perspective, which, while not directly stated, is fairly easy to infer. The text clearly and repeatedly links literacy with self-awareness and the longing for freedom. In the persuasive passage by Steven Pinker, the purpose is implicit, and although not hidden, it requires considerable inference to determine.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The autobiographical narrative follows a clear chronological order, with temporal markers ("I was now about twelve . . . "). The persuasive passage is considerably more complex in structure, including comparison-contrast, argument through examples, cause-effect, and question-answer.

Course: State College ENCX101 Freshman Composition Skills 1

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LANGUAGE CONVENTIONALITY AND CLARITY				
☐ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☒ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☒ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The Douglass text employs some figurative language, the meaning of which is fairly clear from context. ("It opened my eyes to the horrible pit, but to no ladder upon which to get out".) The language, if not quite archaic, is dated with elevated diction and a formal style ("As I read and contemplated the subject, behold! that very discontentment which Master Hugh had predicted would follow my learning to read had already come, to torment and sting my soul to unutterable anguish."). The vocabulary includes some historical terms (*abolitionist*, *emancipation*) and general academic language. The language of the Pinker passage is highly academic, with some content-specific vocabulary (*medial*, *cerebral*, *frontal lobes*).
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☒ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	For the Douglass passage, general knowledge of the history of slavery in the U.S. would be important. There are some references to other texts but their significance in context is made clear. The Pinker passage includes numerous references to other texts, both philosophical and scientific. Some familiarity with key philosophical concepts—utilitarianism, realism, Darwinian 'survival of the fittest'—would be very helpful.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The Douglass excerpt is moderately complex, primarily due to the vocabulary and style, which is not common in contemporary writing (e.g., "torment and sting my soul to unutterable anguish"). The Pinker passage, however, is highly complex—the vocabulary is very academic and content-specific; the content is abstract and philosophical, and there are numerous references to other texts. Pinker's use of specific examples helps illustrate the philosophical issues he explores but this is a very challenging piece.

Course: State College ENCX101 Freshman Composition Skills 1 **Instructional Materials:** Connections: pp. 63—65 and 549—567

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☒ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text includes both literature and informational text. The literary text, a short story by Margaret Atwood, is full of imagery and metaphor, and has multiple levels of meaning (including themes related to sexual exploitation of women and the role of popular culture in determining women's self-image) that must be inferred. The informational text is relatively straightforward; key points are explicitly stated.

Course: State College ENCX101 Freshman Composition Skills 1

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☒ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The informational text includes a numbered list of guiding ideas and a description of one student's writing process. The structure is clear, although students do have to refer back to the assignment the student is responding to. The literary passage is highly complex in structure, requiring very careful attention, as events occur out of chronological order, and the narrative shifts from one perspective to another. On its own, the literary excerpt would be "high" complexity.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☐ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☒ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The language of the informational text is mostly familiar, somewhat academic, but without significant domain-specific vocabulary. The language of the literary selection is also mostly familiar and "everyday." What makes it complex are the layers of metaphorical/symbolic meaning conveyed by the "everyday" language of the text.

Course: State College ENCX101 Freshman Composition Skills 1

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CULTURAL/LITERARY KNOWLEDGE (chiefly literary texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references/allusions to other texts)	☒ Some cultural and literary knowledge useful to understand text ☒ Moderate intertextuality (some references/allusions to other texts)	☐ Extensive or specific cultural and literary knowledge needed to understand text ☐ High intertextuality (many references/allusions to other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The literary text includes quite a few allusions to other texts, including to poetry (Yeats) and popular songs of the period. Some knowledge of the cultures of the 1950s and '60s would be helpful.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☒ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☐ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	No discipline-specific content knowledge is needed to understand the informational text. However, the text does refer readers to three other passages as background, and the content of those is fairly abstract and philosophical/political.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The intricate structure and symbolism of the Atwood text put it on the high end of the complexity range. The informational text is much more straightforward in structure, but the content is relatively abstract, and full comprehension would probably entail at least a quick review of the other texts referred to as context.

Subject: Mathematics

Course: High School Algebra 2 **Instructional Materials:** Glencoe McGraw Hill Algebra 2: pp. 18—46

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The four lessons that are excerpted for this review require minimal reading. The text provides multiple examples and step-by-step directions telling what to do and showing how to do it, with little lead-in explanation. Headings also identify the purpose of exercises as well as key concepts. There are numerous sidebar links that are labeled as to their purpose.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☒ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	This 29-page excerpt includes the third through sixth lessons of the Algebra 2 first chapter on Equations and Inequalities. A great amount of information is provided in table format. Colorful sidebars include such information as “Then” and “Now” to remind students what they have learned connecting with key concepts of this lesson and New Vocabulary. Graphics are straightforward with diagrams and charts sometimes including information necessary or helpful for solving a problem or working an exercise. There are also a few photos and illustrations that are not so necessary.

Course: High School Algebra 2

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☒ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The language of the excerpted lessons is clear and easy to interpret. Vocabulary should primarily be familiar, as students likely have successfully completed Algebra 1 material. Although concepts become increasingly complex, the mathematical terms are provided as needed, so students should understand and use them correctly.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Much of the mathematical content presented in this excerpt should be quite familiar to students, as this is the first chapter of the book and appears to go through examples with minimal direct instruction, and includes numerous exercises. As concepts become more complex, there is some demand on discipline-specific knowledge. Intertextuality is generally Low, although there are numerous links students may pursue for working with their Personal Tutor online, etc., and all links are via glencoe.com. There are also references to step-by-step solutions and additional practice exercises, for students needing even more guidance beyond the Guided Practice provided with each example.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	This 29-page excerpt includes four lessons of the first chapter of an Algebra 2 text. Students likely are familiar with Algebra 1, as well as having had previous experiences with Algebra through the grades. Even new concepts should be somewhat familiar, as the text is structured to build rather directly from one concept to the next. The text provides several opportunities for students to access an online Personal Tutor, see step-by-step problem solutions, and have even more practice. The text seems to "tell and show" with little opportunity for discovery and exploration on the student's part, although some connections to real-world situations and other math content areas are provided. The amount of text in sentences is minimal, with much of the content presented by examples showing the steps of what to do and how to do it, with justifications provided by phrases or with mathematical terminology. There seem to be more sentences in a single word problem than in an explanatory paragraph. Some symbols and notation (e.g., intersection, union, infinity) may be unfamiliar to students. Every lesson is quite similar, with numerous Tips for study and test-taking, as well as other sidebar side trips. Colorful headings highlight almost every special feature possible and type of problem, almost to the point of distraction. Graphics include a variety of charts, diagrams, and illustrations that are important for content understanding, although several are more supplementary than necessary for understanding. The text provides numerous online activities, but does not direct the reader to other types of external resources.

Course: High School Algebra 2 **Instructional Materials:** Prentice Hall Algebra 2: pp. 26—57

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The three lessons (five sections) excerpted for this review require a limited amount of reading. A lesson consists of five or six example Problems, each with a heading describing the math content it addresses and step-by-step directions telling what to do and showing how to do it, with some lead-in explanation. Lessons begin by stating the objective(s) and the related Sunshine State Standard(s). An opening "Solve it!" "Getting Ready" word problem is followed by text linking the Solve It! to the purpose(s) of the lesson. Headings also identify the purposes of exercise sets, including Lesson Check, Practice and Problem-Solving Exercises, Sunshine State Standards Practice, Mixed Review, and Chapter Test.

Course: High School Algebra 2

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☒ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	This 32-page excerpt includes the fourth through sixth lessons of the Algebra 2 first chapter on Expressions, Equations and Inequalities. A Focus Question relates to the lesson's five or six example Problems. Each example Problem ends with a brief Got It? section of one or two exercises related to the Problem. After the series of example Problems, the Focus Question is restated and answered, and is followed by a Lesson Check. Other than the Plan and Think boxes accompanying an example Problem, or a Hint accompanying the Got It?, there is little clutter or additional use made of the sidebar space, although illustrations, diagrams, and graphics may spread into sidebar areas. Graphics are straightforward and include information necessary or helpful for solving a problem or working an exercise. The excerpt contains only a few photos, related to the examples or exercises, and limited extraneous illustrations that may break up the page but do add interest.

Course: High School Algebra 2

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☒ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The excerpted lessons seem to have minimal language demands. Vocabulary should primarily be familiar, as students likely have successfully completed Algebra 1 material. Although concepts become increasingly complex, the mathematical terms are provided as needed, so students should understand and use them correctly.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	Much of the mathematical content presented in this excerpt should be quite familiar to students, as this is the first chapter of the book and appears to go through examples with little direct instruction, and includes a fair number of exercises. As concepts become more complex, there is some demand on discipline-specific knowledge. Intertextuality is rated as Low, as there is basically one link to additional online problems related to each example Problem, and the same link is in lesson footers.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	This 32-page excerpt includes the fourth through sixth lessons of the Algebra 2 first chapter on Expressions, Equations and Inequalities. Students likely are familiar with Algebra 1, as well as having had previous experiences with Algebra through the grades. The three lessons require a limited amount of reading. Overall the pages are uncluttered, with limited diversions other than Think and Plan boxed sidebar features. Graphics include a variety of charts, diagrams, and illustrations that are important for content understanding as well as for providing information to solve problems or work exercises. Lessons follow a similar structure that is direct and seems easy to follow. There is limited language demand with instructional or informational text typically involving two to four sentences.

Course: High School Algebra 2 **Instructional Materials:** Holt McDougal Larson Algebra 2: pp. 19—58

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The five lessons that are excerpted for this review require minimal reading. Each lesson begins with "Before" –a short statement of earlier content covered; "Now" –a reference to a sunshine state standard (either review from Algebra 1, or an Algebra 2 standard; and "Why?" –a phrase which may or may not answer if there is a reason to learn this). Key concepts are labeled and presented in charts or tables, and headings identify the purpose of exercises.

Course: High School Algebra 2

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☒ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☒ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	This 40-page excerpt includes the third through seventh lessons of the Algebra 2 first chapter on Equations and Inequalities. Pages are relatively uncluttered, with sidebars used for listing Key Vocabulary, and providing helpful tips. Several exercises involve word problems, and there are often illustrations, diagrams, or charts accompanying the problems. These graphics contain information that is not in the text of the problem but is essential to its solution. Typically, photos are interesting and well-related to a problem, even if they are not essential to its solution.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The excerpted lessons seem to have relatively low language demands, as there is not much instructional text. Vocabulary should be fairly familiar, as students likely have successfully completed Algebra 1 material. Although concepts become increasingly complex, the mathematical terms are provided as needed, so students should understand and use them correctly. Word problems may be more demanding and complex, with essential information provided in graphics, and may include content that should be review but of higher complexity, such as per cents, or some problems seem more sophisticated, for example, by using less familiar formulas or types of numbers.

Course: High School Algebra 2

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Much of the mathematical content presented in this excerpt should be familiar to students, as this is the first chapter of the book and appears to go through examples with minimal direct instruction, and includes numerous exercises. As concepts become increasingly complex, there is more demand on discipline-specific knowledge. Intertextuality is generally Low, although there are links students may pursue for working with animated algebra or problem solving help, etc., and all links seem to be via thinkcentral.com.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	This 40-page excerpt includes five lessons of the first chapter of an Algebra 2 text. Students likely are familiar with Algebra 1, as well as having previous experiences with Algebra through the grades. The amount of text in sentences is minimal, with much of the content presented by examples showing the steps of what to do and how to do it, and with justifications provided by phrases or with mathematical terminology. There seem to be more sentences in a single word problem than in an explanatory paragraph. Some language or notation may be unfamiliar to students, but is addressed in sidebars or special sections. Layout of pages seems clean, not too busy, and headings highlight special features and types of problems. Graphics include a variety of charts, diagrams, and illustrations that are important for content understanding and those provided with exercises contain information essential to solving the problem.

Course: State College MACX105 College Algebra **Instructional Materials:** College Algebra: pp. 83—103

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The four or five key concepts for each lesson are listed following the lesson title, which provides the overarching purpose of the material. The key concepts serve as the major headings within the lesson. Much of the instructional text is highlighted by being boxed with a heading indicating the key material addressed. Examples for key concepts and topics also have headings. And throughout the examples, balloon-type call outs are provided to further indicate purpose, such as justification of a step in a solution.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☒ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	The mathematics content is presented in a very straightforward and consistent manner. Pages are uncluttered, with sidebars typically used for occasional graphics or call outs. Key concepts or topics of a lesson are listed with the lesson title and then used as titles to separate the text. Within a key concept section, there is relatively brief introductory text and there may be additional boxed information labeled to highlight certain content. Both excerpted lessons end with several exercises that refer to the related Example(s) either with headings or in the instructions preceding the exercises. Many of the problems are straightforward exercises, and several are word problems, some of which are lengthy.

Course: State College MACX105 College Algebra

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
				There is limited use of graphics. Tables are used in the examples as well as with some of the word problems. There are a few photos that add interest, but are not necessary for solving the problem or understanding the content. Simple tables accompany some of the early word problems in a set, showing how information in the problem may be organized to help with solving or understanding a problem.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The two excerpted lessons have relatively moderate language demands, within the instructional text as well as in several of the word problems. Vocabulary appears boldfaced in the text, with explanations or definitions. Most terminology should be familiar, as students likely have successfully completed Algebra 2 material. Symbolic notation is also dealt with as it is introduced. Explanations and instructional text typically have three to five concise sentences in a paragraph, but also involve a number of concepts, which may be review but also may increase complexity.

Course: State College MACX105 College Algebra

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Much of the mathematical content presented in this excerpt should be familiar to students, as this is the first chapter of the book. For students needing a refresher or not having had Algebra 2, the material seems to be well explained, but without elaboration. Also, the first 80 pages of the text apparently are devoted to Review of Basic Concepts, and are referenced in the excerpt. Because the basic algebra content in this excerpt is solving linear equations in one variable, there is not too much demand on discipline-specific knowledge except as the word problems increase in complexity. Intertextuality is rated as Low. Although many word problems involve real-world data and cite references, these are not references a student would pursue in order to understand the mathematics.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	This 20-page excerpt includes the first two lessons of the first chapter of an introductory College Algebra text. Students likely have encountered the basic content in this excerpt, solving linear equations in one variable. For students needing a refresher, there is an initial 80+-page section entitled Review of Basic Concepts. Each lesson consists of some pages for instruction followed by several exercises. Based on the key topics included in the lessons, the amount of new algebra content is minimal and the pace is moderate. However, the focus on using the algebra in applied problem solving provides more in-depth experiences and reason for learning the content. The page layout is uncluttered, with little extraneous information or graphics. Headings, call-outs, and highlighted text provide consistent structure and direction for the reader. Graphics include simple tables, diagrams, and illustrations that are useful for understanding content or organizing information, but are not essential for solving the problem. Photos are also supplementary, but add some interest. In the excerpt reviewed, there are no references or links to additional resources or for accessing assistance in understanding the content. The instructional text is moderately demanding, with paragraphs containing multiple but concise sentences. The text of word problems may be somewhat demanding, but more due to the math content than language complexity. Based on the excerpt reviewed, the text seems to "tell and show" using Examples that provide the steps of what to do and how to do it, with informal justifications and minimal math terminology. There is little or no opportunity for discovery or exploration. However, multiple connections to real-world situations and other math content areas are utilized, and may be interesting or motivate students to learn more or to better understand the material and why it is important.

Course: State College MACX105 College Algebra **Instructional Materials:** Sullivan Algebra & Trigonometry: pp. 81—92, 148, and How Credit Scores Work website

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☐ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☒ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	There are three types of information excerpted for this review: 1. Traditional textbook instruction: The first excerpt reviewed is the 11½ page lesson, entitled Linear Equations. The opening chapter page includes the chapter title followed by an Outline of the chapter—a listing of the seven lesson titles and three chapter closers (chapter review, test, and project). The lesson itself is purposefully organized. In boxed text, the lesson title indicates content that may need to be reviewed (and pages in the review chapter of the text) and lists the lesson OBJECTIVES. These objectives statements are the section headings within the lesson. Headings also label sub-sections and the Examples. In this excerpt, purpose is explicitly stated. 2. Chapter Project I is a fully-packed, one-page set of seven instructions/problems that address Financing a Purchase, and involve Internet searches. The level of meaning/purpose is somewhat implicit, but easy to identify. 3. The project-related Internet site: this excerpt includes an article, "How Credit Scores Work," linked to via the howstuffworks.com website. The level of meaning/purpose is also implicit, but easy to identify.

Course: State College MACX105 College Algebra

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☒ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☐ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	1. The 11½-page instructional text excerpt includes the first lesson of the Algebra and Trigonometry first chapter on Equations and Inequalities. The chapter opening page lists the lesson titles, titles of special features for assessing understanding, the topic and a paragraph on the real-world connection with the math content, and a short paragraph on what is to come. The lesson objectives are listed with the lesson title and then used as titles to separate sections of the text. The mathematics content is presented in a very straightforward and consistent manner. Pages are uncluttered, with sidebars typically used for review of steps, or highlighting content, such as a warning, note, or definition. Text appears somewhat dense, both with instructions and explanations as well as some word problems. Use of graphics is minimal. Tables are used for information relating to the examples or problems; and arrows, and slanted lines are used to point out steps and cancellation of expressions. The lesson also contains two photos, which may add interest or break up a page, and an illustration, which may or may not be helpful with an exercise. 2. The one-page Chapter Project I is entitled, Financing a Purchase, and is structured using numbered paragraphs presented both in two-columns and in single, wide-column format. The text is dense, with breaks for a photo (smaller version of the chapter opener photo) and relatively simple but essential graphics for a somewhat complicated formula and spreadsheet example.

Course: State College MACX105 College Algebra

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
				3. The website article is structured similar to a hard copy magazine article, but also contains several links to related topics. However, navigation is straightforward. Graphics are interesting, but non-essential.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☐ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☒ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	1. The primary instructional text pages involve mostly familiar language, with academic vocabulary highlighted and defined as it is used in the text. Several of the text examples involve Steps or equations presented in a "show-and-tell" type format, with reasons highlighted in a separate column, using language that is somewhat academic. 2. In the Chapter Project, some vocabulary may be unfamiliar and instructions or directions may involve real-world concepts, which may be unfamiliar to students not knowing terminology for interest or formulas in a spreadsheet. 3. Readers should be familiar with the everyday language used in the Internet-based article. Although some phrases may be new, they are not essential for understanding the content.

Course: State College MACX105 College Algebra

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	1. Much of the mathematical content presented in the text excerpt should be familiar to students, as this is the first chapter of the book. For students needing a refresher or not having had Intermediate Algebra, the material seems well explained, but without much elaboration. Also, the first several pages of the textbook apparently are devoted to Review, and are referenced in the excerpt. Although several pages are used to present relatively few concepts, the Examples and problems require a fair amount of thinking. 2. The Internet-based Chapter Project I does involve some finance-related content knowledge (e.g., principle, down payments, amortization) as well as familiarity with spreadsheets. 3. The website-based article and related links provide several opportunities for students to learn more about the topic and/or better understand concepts if their current knowledge is insufficient and/or the content is unfamiliar.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	1. The primary excerpt reviewed is the first lesson of the first chapter of an Algebra and Trigonometry textbook. The instructional text is moderately demanding, with paragraphs containing multiple and somewhat concise sentences. The text of word problems may be somewhat demanding, but more due to the math content than language complexity. 2. The Chapter Project I provides an extended opportunity for students to apply their knowledge to a real-world situation, important for them as consumers. The informational paragraphs provide several scenarios and require both academic content and real-world knowledge. 3. The online article and website are written in everyday language but do require specific knowledge. As an Internet site, it is fairly easy for the reader to link to additional and/or related information as needed.

Subject: Social Studies

Course: High School American History **Instructional Materials:** The American Vision: pp. 156—177 and 208—235

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text provides "main idea" statements for each section and headings for key topics within the section, as well as a chapter summary, restating key concepts covered, at the end of each chapter.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The main text follows a chronological order but includes discussion/exposition of political ideas. The text is interspersed with graphics, illustrations, quotes from historical figures, and excerpts from historical documents. Students must integrate the various sources of information and make some inferences about how they interrelate.

Course: High School American History

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☒ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☐ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The main text uses contemporary language but includes some quotes from historical figures employing archaic language ("the baneful effects of the spirit of the party"). The text also employs a considerable amount of academic and domain-specific vocabulary.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Some general knowledge of American history before and after the period discussed would be important as context. The text includes quotes from historical sources as well as political cartoons of the period.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text provides many aids to student comprehension, including explicit main idea statements, guiding questions, and end of chapter reviews. But the content covered (political ideas, theories) is complex and often abstract; a fair number of content-specific terms are employed; and some quotes and illustrations from primary sources have to be interpreted and integrated.

Course: High School American History **Instructional Materials:** The Americans: pp. 130—151 and 180—209

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text provides explicit statements about the purpose of each major section with summaries of "main ideas" and of "why it matters." Key topics are also identified by headings. However, the content is complex and often abstract.

Course: High School American History

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The primary structure is well-marked historical narrative (chronological) but with considerable exposition of political concepts and issues. Interspersed quotes, biographies, graphics, timelines, maps, and other matter supplement and clarify information in the text but add some complexity to the structure.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☒ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☐ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The language used is mostly familiar but students will have to infer the meaning of some content-specific terms (or consult reference materials).

Course: High School American History

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	Some knowledge of American history before and after this period would be important for comprehension, as well as some familiarity with documents (the Bill of Rights, the Constitution) referred to in the text. Intertextuality borders on high: The text includes numerous quotes and several short biographies of historical figures, inset boxes recounting related events in modern times, and references to/quotes from a number of historical documents. There are also Internet references for students to research topics beyond the text.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text provides many aids (summaries, headings) to student comprehension, but the issues presented are complex and students will need to make some inferences to interpret all of the content, including the primary source materials (quotes, period cartoons, maps, etc.). There is also quite a bit of academic, content-specific vocabulary.

Course: State College POSX041 American Government **Instructional Materials:** America's Democratic Republic: pp. 21—43, 44—71, and A1—A35

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☐ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☒ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☒ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	On the whole, the purpose(s) of the selections are fairly clear, although not always explicitly stated. The textbook narrative provides some one-sentence summaries of "key points" as well as headings to guide understanding. However, the material covered is dense, complex, and highly conceptual and much of the content would require inference and interpretation. Much of the content in the included primary sources (the entire Constitution, selected essays from The Federalist Papers) also requires active interpretation and inferring of unstated (though not obscure) purposes.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☒ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☐ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Organization is primarily chronological (conventional and well-marked), with headings and (boxed) "key point" statements to guide readers. Graphics illustrating complex ideas (such as "checks and balances") are very useful in supplementing and clarifying information in the text. Quotes, timelines, and period illustrations also supplement the text but integrating and interpreting these different sources of information requires some inference.

Course: State College POSX041 American Government

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LANGUAGE CONVENTIONALITY AND CLARITY				
☐ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☒ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☒ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☒ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text includes historical documents (the Constitution, The Federalist Papers) with unfamiliar (outdated) vocabulary and phrasing, and lengthy, formal, and complex sentences. Aside from these, the language of the textbook employs a general academic vocabulary with some domain-specific terms (*majoritarian*, *plural executive*, *suffrage*, etc.).
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☒ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text includes many quotations from historical figures as well as a number of primary historical documents. The text also draws many parallels between events and issues in the historical period discussed and those in the present (including 9/11, Hurricane Katrina, the 2008 recession, the bank bailouts, healthcare reform, etc.). General knowledge of contemporary political and social issues would be quite important to comprehension.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The language of the historical narrative of the textbook is clear and unambiguous; organization is chronological and conventional. The vocabulary can be described as "general academic." The content is complex (theories of government, structures of government) with some support provided in the form of headings, illustrations, directly stated "main points," etc. (These supports are fewer in number than in the high school texts, however.) On its own, the main text would be rated as "moderate," given its complex content and academic vocabulary. Some of the primary sources, however, particularly the essays from The Federalist Papers by James Madison, are more challenging, especially in the archaic vocabulary and elaborate sentence structure. Overall, this text is "high moderate" in complexity.

Subject: Science

Course: High School Biology **Instructional Materials:** Miller and Levine Biology: pp. 307, 308—321, and 322

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	Although the content (Introduction to Genetics) may be considered complex, each lesson begins with the related Florida state standard(s), and in the sidebar provides two or three key questions, some vocabulary words, and study skills information (e.g., Taking Notes). Lessons begin with a "Think about it" section related to the upcoming content. Main Headings are large, green, and boldface, and are followed by one of the Key Questions.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☒ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	This textbook chapter begins with a Chapter Mystery, and "clues" are provided in sidebars at various places within lessons. The opener also includes the Big Idea, and a related question. The text has a conventional structure for a science textbook. Readers are guided by color-coded boldface headings that match each key question of the lesson, as indicated in lesson openers. There are footers on several pages with information about linking to Biology.com. The footers list related topics on the website, such as Lesson Overview, Lesson Notes, Self Test, Lesson Assessment,

Course: High School Biology

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
				InterActive Art, and Art Review. White space in outer margins is often used for diagrams and other graphics, including charts, illustrations, and photos. Most of these seem necessary for understanding the text, although a few are nonessential. Typically, the graphics are referred to in the text, contain some explanatory text, and are important for illustrating concepts. Graphics are also used in Visual Thinking and Visual Summary. Within the explanatory text, readers may find the answer to a key question in boldface with an icon of a key. Lessons end with an assessment in which the reader may review key concepts and demonstrate their understanding following instructions that begin with a type of higher order thinking skill term highlighted in red bold face (e.g., explain, apply, infer, model, interpret, predict) and include a Practice Problem or Apply the Big Idea. Within lessons there are Quick Labs and other activities, also highlighting higher-order thinking skills. Throughout the excerpts there are instructions for note taking (e.g., making two columns on a sheet of note paper and outlining the chapter using lesson headings) or directions to write In Your Notebook. A separate page in the excerpt, between lessons, highlights a real-world biologist and briefly describes three careers in biology.

Course: High School Biology

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☒ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text is presented in a straightforward manner. Although the language is not archaic, it likely is unfamiliar to the reader due to the number of new terms and concepts the reader encounters. Genetics-specific vocabulary terms are provided at the beginning of each lesson, and then reinforced in yellow-highlighted, boldface font, and defined in the context of the sentence. Additionally, sidebars may show "Build Vocabulary," which provides information about the origin of some terms.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	As an introductory text, most content is explained in detail, and is supported with graphics. There are a variety of links to a textbook website that may provide additional background or reinforce the content. When introducing the math-related aspects of probability, the text introduces basic concepts and applies them to the science content, including some more complex applications, but does not formalize the concepts.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Although the topic of heredity may be complex, this text provides numerous opportunities and supports for readers to learn the science content. The structure of the lessons is consistent and straightforward across lessons. The text provides directions for learning and using study skills. Mystery Clues tie the content back to the chapter opener Mystery. There are several opportunities for review, especially with the online website, as well as further experimenting and activities related to heredity. Graphics include a variety of charts, diagrams, and illustrations that are important for content understanding, with only a very few graphics being more supplementary than necessary for understanding. The text provides an online resource geared directly to the content, but does not direct the reader to other types of external resources.

Course: High School Biology **Instructional Materials:** Nowicki Biology: pp. 177—187 and 204—207

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	Although the content (Heredity) may be considered complex, this textbook begins each chapter lesson with a key concept, two or more main ideas, some vocabulary words, and the related Florida state content standard(s). Headings match and text addresses the main ideas.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☒ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	The text has a conventional structure for a science textbook. Readers are guided by blue, boldface heading statements that match each main idea of the lesson, as indicated by lesson openings listing the key concept, main ideas, vocabulary, etc. Headings within main ideas are black boldface. Although there is a fair amount of white space in outer margins, this is often used for diagrams and also for making connections to other content areas as well as for upcoming science to be addressed. This space is also used for related activities such as links to NSTA SciLinks, “Quick Labs,” “Visual Vocab,” and “Animated Biology.” Graphics include charts, diagrams, as well as photos;

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
				and most seem necessary for understanding the text, although a few are nonessential. Typically, the graphics are referred to in the text, contain some explanatory text, and are important for illustrating concepts. Many may be considered moderately complex, but are more than useful to understanding the text. Sections of lessons often end with a type of review statement or questions for the student or class that begins with a type of higher-order thinking skill term highlighted in red boldface (e.g., explain, compare, contrast, infer, connect, apply, analyze) and reinforces concepts in the section. Each lesson ends with an assessment (which also highlights those HOTS terms), and a link to an online quiz.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☒ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text is presented in a straightforward manner. Although the language is not archaic, it likely is unfamiliar to the reader due to the number of new terms and concepts the reader encounters. Genetics-specific vocabulary terms are provided at the beginning of each lesson, and then reinforced in yellow-highlighted, boldface font, and defined in the context of the sentence. Pronunciation is also indicated. Additionally, sidebars may show “Visual Vocab” as well as Latin origin of some terms.

Course: High School Biology

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	As an introductory text, most content is explained in detail, and is supported with graphics. There are a variety of links to websites that may provide additional background or reinforce the content. When introducing the math-related aspects of probability, the text introduces basic concepts and applies them to the science content, but does not formalize the concepts nor address more complex applications (in the excerpt analyzed).

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Although the topic of heredity may be complex, and the text seems dense with somewhat long paragraphs, this text provides numerous opportunities and supports for readers to learn the science content. The structure of the lessons is consistent and straightforward across lessons. There are several review points, typically at least one with each section of a lesson, and end of lesson assessments, including on-line quizzes. Graphics include a variety of charts, diagrams, illustrations that are important for content understanding, with only a very few graphics being more supplementary than necessary for understanding. The text provides some on-line resource activities, but does not direct the reader to other types of external resources, if needed.

Course: High School Biology **Instructional Materials:** Florida Glencoe Biology: pp. 277—285, 302—309, and 316

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☐ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☒ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☒ Low Moderate Complexity ☐ Low Complexity	Although the content (Mendelian Genetics) may be considered complex, each chapter section of this textbook provides a Reading Preview in the side margin, followed by Essential Questions, Review Vocabulary, and New Vocabulary. Following the title of the section is the Main Idea. Headings within sections guide the reader. However, there are numerous places on a text page where the reader may choose to explore in different directions, and these may have more implicit purpose. Also, correspondence with state standards is indicated along with the actual standards statements, which do not seem student-friendly.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☐ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☒ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☒ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	For the most part, the text has a conventional structure for a science textbook. Readers are guided by large red boldface titles, large blue boldface heading phrases that may or may not address the Essential Questions, and additional smaller red boldface topic headings. Complexity is increased due to the numerous icons in margins and small headings introducing the text that may not be meaningful to the reader or may distract from the text (e.g., what look like webpage buttons or icons for Inquiry—Virtual Lab, and Inquiry—MiniLab; Review—Personal Tutor; Video—Brain Pop; Real-World Reading Link; Connection to History or to Math). Pages are quite

Course: High School Biology

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
				colorful but also appear very busy. Outer margins are often used for diagrams, charts, and other graphics that definitely support the reader in understanding the text, although some are nonessential. They are also used for information that may digress from the concepts being described (e.g., a brief sentence on Careers in Biology). Graphics include some description and are referred to in the text. Often they also include questions or other review statements to check understanding. Following one or a few paragraphs within a section, there often is a type of review statement or question for the student or class that begins with a type of higher-order thinking skill term in boldface (e.g., evaluate, summarize, explain, analyze, draw, construct, consider) and reinforces concepts in the section. Each section ends with a Section Summary and an assessment (which also highlights those HOTS terms). Occasionally included within sections are MiniLabs. At least one of the Connection to Writing seems less than useful, as few biology classes will make time for a debate.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☒ Archaic or otherwise unfamiliar language	☐ High Complexity ☒ High Moderate Complexity	The text is presented in a straightforward manner, typically in shorter paragraphs. However, although the paragraphs may be concise, there may sometimes not be enough explanation. Also, the language is likely unfamiliar to the reader, due to the number of new terms and concepts the reader encounters.

Course: High School Biology

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
☐ Conversational, everyday vocabulary	☐ Some clearly defined general academic and domain-specific vocabulary	☒ General academic and domain-specific vocabulary	☐ Low Moderate Complexity ☐ Low Complexity	At the beginning of each section, in the sidebar is a button-like icon for "Multilingual eGlossary." Genetics-specific vocabulary terms are provided at the beginning of each section, and then reinforced in boldface font, and defined in the context of the sentence. Pronunciation is also indicated. Additionally, sidebars may show Greek origin of some terms. In one instance, it was not clear if a term ("recombinant") was new, as a related phrase ("genetic recombination") was listed as New in the following section.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☐ Low intertextuality (few if any references to/citations of other texts)	☒ Some discipline-specific content knowledge needed to understand text ☒ Moderate intertextuality (some references to/citations of other texts)	☐ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	As an introductory text, most content is explained in detail, and is supported with graphics. There are a variety of links to what is likely a textbook website that may provide additional background or reinforce the content. When introducing the math-related aspects of probability, the text introduces basic concepts and applies them to the science content, but does not formalize the concepts nor address more complex applications (in the excerpt analyzed). However, the explanations may be too concise, and provide insufficient elaboration for readers who are not familiar with the concepts. Also, the explanation of the formula related to genetic recombination on p. 203 is either incorrect or not explained clearly enough for readers to understand the outcome of applying it.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The topic of heredity may be complex to the novice biology student. Although this text often seems concise with relatively short paragraphs and short sentences, and although this text provides graphic supports for readers to learn the science content, it is rated as High Moderate Complexity because there is not enough opportunity within the descriptions to understand all of the material. For this reader, some of the material is confusing, and a teacher is definitely a must for interpreting the content. It may be that some of the numerous button-like icons link and guide the reader to other information about the concepts and clarify the content. The structure of each section is consistent and straightforward, though busy with the many sidebar notes, etc. There are several review points, typically at least one with each section, and end of section assessments. Graphics include a variety of charts, diagrams, and illustrations that are important for content understanding, with only a very few graphics being more supplementary than necessary for understanding. The text provides numerous online activities, but does not direct the reader to other types of external resources. The text initially "looks" uncomplicated, but the material seems unnecessarily confusing, which may be frustrating to the reader, and thus this text is rated at high moderate complexity.

Course: State College BSCX101 General Biology **Instructional Materials:** Campbell Biology: pp. 246—247 and 262—275

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
LEVELS OF MEANING OR PURPOSE				
☐ Single level of meaning (literary texts) ☒ Explicitly stated purpose (informational texts)	☐ Explicitly indicated multiple levels of meaning (literary texts) ☐ Implicit purpose, easy to identify or infer (informational texts)	☐ Multiple levels of meaning, must be inferred (literary texts) ☐ Implicit purpose, may be hidden or obscure (informational texts)	☐ High Complexity ☐ High Moderate Complexity ☐ Low Moderate Complexity ☒ Low Complexity	Although the content (Mendelian Genetics) may be considered complex, this textbook begins the chapter with a list of four key concepts readers will encounter. Headings and lead-in text guide readers and provide more detailed information about what is coming next in the text. Possibly there is some implicit purpose when text reinforces scientific method, hypothesizing, etc. Basically, text is straightforward.
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
STRUCTURE				
☒ Simple, well-marked and conventional structures ☐ Events related in chronological order (chiefly literary texts) ☐ Simple graphics ☐ Graphics unnecessary or merely supplementary to understanding the text	☐ Some complexity, mostly well-marked and conventional structures ☐ Some clearly marked deviations from chronological order (chiefly literary texts) ☒ Moderately complex graphics ☐ Graphics support or provide some information useful to understanding the text	☐ Complex, implicit, and unconventional structures ☐ Events related out of chronological order (chiefly literary texts) ☐ Sophisticated graphics ☒ Graphics essential to understanding the text and may provide information not otherwise conveyed in the text	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text has a conventional structure for a science textbook. The interview with a molecular biologist includes the questions, in larger, blue, bold font (similar to the headings and main idea statements in the chapter text), followed by the scientist's answers. The chapter begins with a list of Key Concepts and an overview. Some information is provided chronologically, based on Mendel's discoveries. Sections end with a Concept Check, where readers are to make connections with other content and may be asked "What if" questions. Graphics are typically diagrams, with a fair amount of explanatory text included, some of which may go

Course: State College BSCX101 General

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
				beyond what is described in the text, and sometimes include questions or areas for further exploration. The graphics support the text and seem relatively sophisticated based on notation as well as content. It is difficult to imagine readers understanding the concepts without the visuals. Some graphics could be considered moderately complex, and the chapter includes only a few simple or unnecessary graphics (e.g., photos of people).
Low Complexity	**Moderate Complexity**	**High Complexity**	**Overall Rating**	**Justification of Rating (Examples/Evidence)**
LANGUAGE CONVENTIONALITY AND CLARITY				
☒ Literal meaning; clear, unambiguous language ☐ Contemporary, familiar language ☐ Conversational, everyday vocabulary	☐ Some common or familiar figurative language or clearly marked ironic meanings; some ambiguous language ☐ Mostly familiar language ☐ Some clearly defined general academic and domain-specific vocabulary	☐ Figurative language or ironic meaning; ambiguous or purposely misleading language ☒ Archaic or otherwise unfamiliar language ☒ General academic and domain-specific vocabulary	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	The text is presented in a straightforward manner. In only one instance was there a chance students might not understand the double meaning of a statement regarding "fertile soil" ("The monastery therefore provided fertile soil in more ways than one for Mendel's scientific endeavors." page 263). Genetics-specific vocabulary terms are provided in boldface font, and are defined in the context of the sentence. The language may be somewhat familiar to readers who have had high school biology, but also likely the domain-specific terms are unfamiliar. Due to the number of new terms and concepts and the similarities of many of the terms, readers may have additional difficulty understanding concepts and relationships (e.g., genotype, phenotype; codominance, incomplete dominance; pleiotropy, epistasis; polydactyly).

Course: State College BSCX101 General Biology

Low Complexity	Moderate Complexity	High Complexity	Overall Rating	Justification of Rating (Examples/Evidence)
KNOWLEDGE DEMANDS: CONTENT DISCIPLINE KNOWLEDGE (chiefly informational texts)				
☐ Everyday knowledge and familiarity with common genre conventions needed to understand text ☒ Low intertextuality (few if any references to/citations of other texts)	☐ Some discipline-specific content knowledge needed to understand text ☐ Moderate intertextuality (some references to/citations of other texts)	☒ Extensive, perhaps specialized, discipline-specific content knowledge needed to understand text ☐ High intertextuality (many references to/citations of other texts)	☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	Although the text excerpt begins the reader's journey into genetics, it also assumes familiarity with previously learned concepts (e.g., meiosis, gametes). When introducing the math-related aspects of probability, the text introduces basic concepts and applies them to the science content, and likely presumes some familiarity with probability concepts. There are references to different parts of the textbook (e.g., reviewing concepts or terms, and providing information on topics coming in subsequent chapters). The text does not provide guidance on how to take notes or otherwise keep concepts and relationships straight. There were no references to other resources, including websites.

Overall Rating of Materials

Rating	Justification—Which aspects of the materials trumped and why?
☐ High Complexity ☒ High Moderate Complexity ☐ Low Moderate Complexity ☐ Low Complexity	Due to the number of new terms and relationships between concepts, this text seems to be relatively complex, but also supports the reader with a variety of diagrams that contain additional examples and explanations. The text is not a series of academic statements and facts. It also engages the reader with information about people who currently work in science, and about historical events. Introducing the chapter, the text describes the widely favored concepts about heredity prior to Mendel's experiments, giving the reader a sense of why Mendel's work was so important in the field. The text acknowledges when some concepts are simplified, and provides real-world context throughout, to further understanding. The text does not provide suggestions for study skills (e.g., note taking) and may not guide the reader to external references where more information can be found.