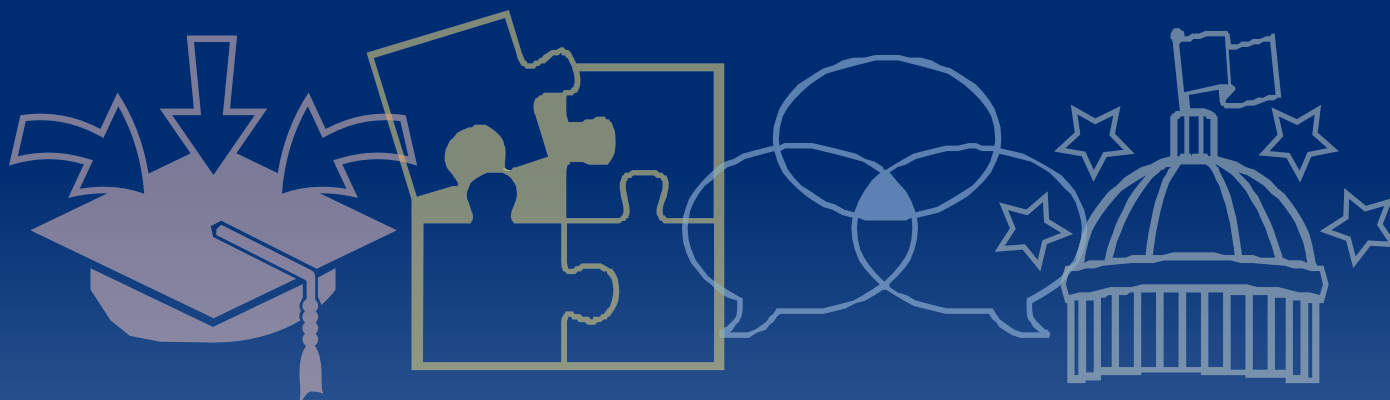JOHNS HOPKINS
SCHOOL *of* EDUCATION

Institute for Education Policy

ELA Knowledge Map™

FL Education

A unique analytic resource enabling policymakers, school leaders, and parents to better understand the strengths and weaknesses of EL Education's Grades K-5 English language arts curriculum.

Winter 2022

The achievement gap is, in large part, a knowledge gap. Compelling research strongly affirms that students' reading levels – particularly from fifth grade onwards – relate deeply to their level of background content knowledge.[i] Students in more affluent systems demonstrate more success in skill-based English language arts (ELA) assessments not only because they are better at "recognizing main ideas," but also because they are far more likely to know more about the subject matter discussed in any given text. Research from around the world shows the same: Most democracies around the world require all schools to teach a standard body of knowledge; and a comprehensive, content-rich curriculum is a signature feature of high-performing education systems. Despite the research record, a large number of the United States' ELA curricula treat texts not as a source of building knowledge, but merely as a site for attempting to hone abstract reading skills.

Determining whether a particular ELA curriculum is "standards aligned" is a helpful step, but it does not tell us about the knowledge-building capacity of that curriculum.[ii] For example: Instructional materials may use publisher-written texts that satisfy the standards-based requirement for "textual complexity," but if the materials fail to offer students a sequenced, knowledge-rich learning experience they miss a critical opportunity to build reading fluency. Merely drilling students on "finding the main idea" will never help them become better readers. Instead, they need to understand what the text is really about - something that can only be achieved by acquiring the background knowledge.

The Johns Hopkins Institute for Education Policy (Institute) has developed the ELA Knowledge Map™, a tool with which to evaluate an ELA curriculum in terms of the knowledge it offers students, both about the world (mainly through nonfiction texts) and about psychology and the human condition (through both nonfiction and fiction texts). The Institute conducts this analysis by "mapping" the knowledge domains implicit in the selection of the documents to be read, while also evaluating each text's quality and the coherence of the unit in which is taught. To measure coherence, we assess the degree to

which supporting materials in a unit amplify and deepen the specific knowledge offered in the anchor text.

Each review generates two visual reports: *Knowledge Heat Maps* and *Unit Coherency Maps*.[1] The maps depict the fields of knowledge opened and those missed, in each grade and cumulatively, and with what quality of texts.

The Knowledge Map™ is a one-of-a-kind analytic resource that enables policymakers, school leaders, and parents to better understand the overall strengths and weaknesses of a given curriculum; instructional leaders to "fill in gaps" that might exist; and publishers to continuously improve the materials they offer the public.

For the following report, the Institute evaluated the EL Education curriculum for Grades K-5. This analysis covers a representative sample based on materials provided by the system and does not account for more specific variety in the selected texts.

METHODOLOGY

- The Institute maps all items in the evaluated grades on three initial dimensions and at different grain sizes of coverage. For example, a letter by abolitionist Thomas Garrett about Harriet Tubman would be categorized like so:
  - **Domain:** U.S. History to 1865
  - **Topic:** Slavery/Abolition
  - **Subtopics:** Harriet Tubman; Underground Railroad
- The Institute evaluates the quality of every student-facing resource both individually and in the broader context of the unit.
- The Institute constructs a vertical mapping of the knowledge domains at each level, first by grade and then across multiple grades.
- The Institute creates a coverage report that visually illustrates the depth of emphasis a given domain receives across the grades.

HIGH-LEVEL FINDINGS

EL Education offers a comprehensive language arts curriculum. In grades K – 2, the curriculum contains two main blocks: Content-Based Literacy and Reading Foundations. The Reading Foundations is phonics-based instruction and is not included in this evaluation. The Content-Based Literacy includes module lessons and labs. The labs are designed to strengthen students' knowledge of the content through hands-on activities and independent reading; the latter is based on a student's reading ability and interest. Due to the variation of materials in the labs, the Institute's evaluation focuses on the module lessons that support reading comprehension.

In grades 3 – 5, EL Education offers the Content-Based Literacy and Life Science programs. The Life Science modules are not included in the Institute's evaluation, as they are noted as optional. The Content-Based Literacy includes the module lessons and the additional language and literacy (the "ALL") block. The ALL block provides students with instruction in grammar, vocabulary, and writing.

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[1] Unit coherency maps will only be generated if the curriculum materials enable that form of analysis.

The program also provides an opportunity for students to reread material from the module lessons and complete leveled, independent readings of their choice. Because of the variation in material for the independent reading in the ALL block, the Institute for Educational Policy's evaluation uses only the materials from the module lessons.

The Social-Emotional domain scores very strongly in all topics across all grade levels. The Science domain, while containing moderate coverage overall, presents strong topical coverage across grade levels in the topics of Animals, Life & Living Things, Geology & Earth Science, Plants, and Taking Care of the Earth. These strengths reflect the core principles and history of the EL Education curriculum.

The curriculum also achieves moderate coverage in several domains, such as Communities, Regional Literature and World Geography. Coverage patterns in these domains reveal that students using these materials build and reinforce concepts about both local and global issues and themes.

However, several additional domains achieved minimal scores for topical reinforcement, including American History; Economics; Government, Civics, & Citizenship; World History; and Visual Arts. Several of these domains do contain topics with stronger knowledge builds or grade bands with stronger coverage; the Visual Arts domain presents moderate coverage in the Art Forms & Genres topic, while grade 5 achieves solid coverage in the Government, Civics, & Citizenship domain.

A particular strength of the curriculum appears in the general quality of the materials. All grade levels score at or above the Institute's acceptable quality rating, and grades 2 and 3 score above 80% for overall quality, well within the Institute's high-quality range. These findings reveal that resources available in this curriculum are consistently strong when measured against the Institute's quality rubrics.

Unit coherence varies throughout the curriculum, with particular inconsistencies in grades 2 and 5. A wide range of coherence scores demonstrates a lower level of topical alignment between a unit's anchor text and its supporting materials, which reveals an opportunity for further knowledge reinforcement within units.

INSTITUTE RECOMMENDATIONS

EL Education offers a high-quality curriculum with opportunities for students to deepen their knowledge of the material covered through labs and independent reading. The EL modules present materials in diverse media formats to help reinforce key concepts with students. The Knowledge Map™ analysis highlights the crucial areas of knowledge building and assesses associated strengths and weaknesses as well as text quality. As a result of this analysis, the Institute recommends that the curriculum designers:

- Consider where there may be room in the elementary curriculum to introduce concepts and content that will be revisited in more depth in the secondary years, such as the American History, World History, and Government, Civics, & Citizenship domains.

- Increase the reinforcement of knowledge building within and between grade levels. For example, fourth-grade students explore life in the American colonies during module 3. To build a stronger knowledge-base, students could study explorers and colonization in Grade 3.

- Examine the supplemental materials to ensure they support the anchor text(s). For example, in Grade 3's fourth unit, the supplemental source *Population Growth* does not address any of the topics in the anchor text *One Well: The Story of Water on Earth*. In addition, the anchor covers four topics (Animals, Life & Living Things, Plants, and Aquatic Science) which are not addressed in any of the supplemental materials. Replacing less topically relevant sources with high-quality materials that explore similar topics would strengthen the coherency and knowledge build of the unit.

The report will now elaborate on the specific findings of the Knowledge Map™ exercises.

EL EDUCATION KNOWLEDGE/HEAT MAPS: GRADES K-5

One of the Institute's critical gateway questions addresses the level of exposure children receive to each important domain of knowledge and to the topics within those domains. Each heat map expresses the findings visually using a color-coding scheme, as shown in Figure 1 below. Lighter blue squares represent fewer knowledge-building texts, such as one or no text, while darker blue squares represent more knowledge-building texts, such as eight or more. The results for each of the topical domains in Grades K-5 appear in the figures below. Additionally, texts that do not provide robust exposure to any topic are marked with the 'No Meaningful Knowledge' tag; results of that tagging system can also be found below.

A mere mention of a topic does not necessarily indicate exposure to that topic. The Institute tags a topic only when the text's presentation of it is robust enough for a student to convey specific facts about it. This metric considers the context of age and grade level.

No Text	1 Text	2-4 Texts	5-7 Texts	8+ Texts

Figure 1. Heat map color-coded rating scheme of knowledge building, where lighter blue indicates fewer texts and darker blue indicates a larger number of texts.

Strong Knowledge-Building Domains

Strong knowledge-building domains appear in the Heat Maps as dark blue, indicating that many texts address the topic (for instance, the heat map categories of 8+ Texts or 5-7 Texts).

One domain scores strongly for overall knowledge building – the Social-Emotional domain (Figure 2). As the heat map below demonstrates visually, topics within this domain are meaningfully covered at all grade levels, revealing that students accessing this curriculum have the domain's main themes reinforced throughout their elementary education.

Additional patterns of strength emerge in specific topics across grade bands. One pattern appears as many texts on a particular topic across all grades. For instance, the subject of Animals in the Science domain (Figure 6) contains two or more texts for each grade level. A second pattern presents as many texts across domain topics within an individual grade band. For instance, Grade 5 in the Social-Emotional domain (Figure 2) is particularly strong with all topics addressed, three of those topics with eight or more texts.
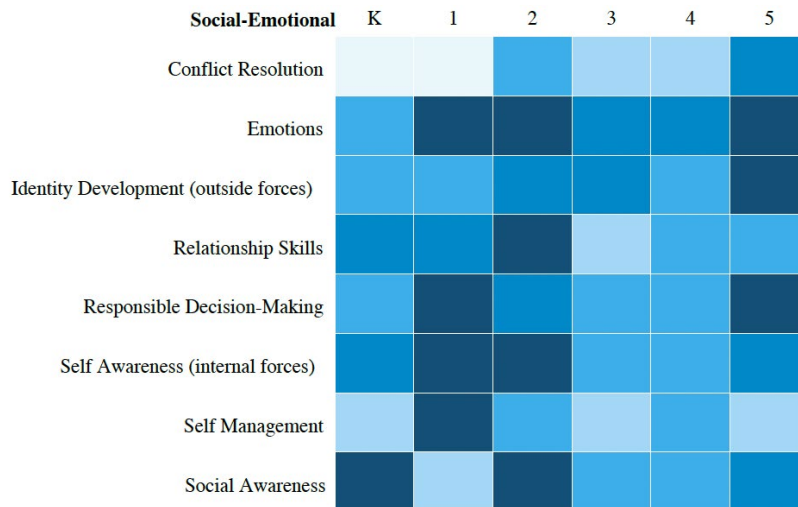
Figure 2. Heat map analysis of the Social-Emotional knowledge domain in Grades K-5.

Moderate Knowledge-Building Domains

The curriculum presents several moderate knowledge-building domains and topics. Moderate knowledge-building domains appear in the Heat Maps as mixed blue, indicating that few or some texts address the topics within them (for instance, the heat map category of 2-4 Texts).

The domains of Communities (Figure 3), Concepts & Language (Figure 4), Regional Literature (Figure 5), Science (Figure 6), and World Geography (Figure 7) rate moderately because, while many topics are addressed, there are gaps in coverage across several topics or grade levels. Notably, the Science domain scored on the cusp of moderate and strong, and is the most covered of these domains. As a reminder, phonics is covered in EL's Reading Foundations block, which is not part of the Institute's analysis for this report.

Other patterns emerge of moderate knowledge building in strong and minimal domains. One pattern appears as moderate coverage in topics across grade levels. For instance, in World Geography (Figure 7), the topic of Place & Region has more moderate coverage. A second pattern demonstrates moderate numbers of texts across a domain's topics at individual grade levels. For example, in the weaker domain Government, Civics, and Citizenship (Figure 10), Grade 5 has moderate coverage.
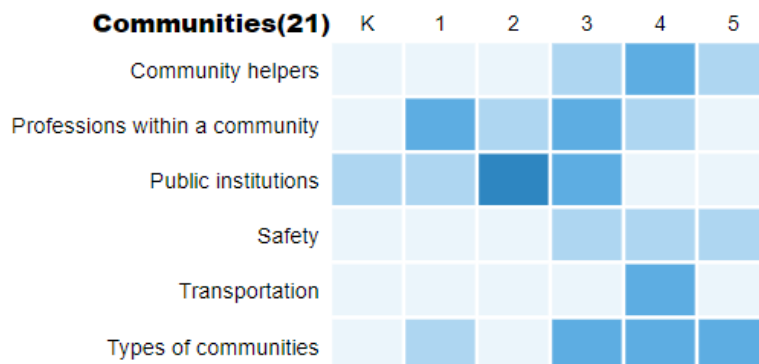

Figure 3. Heat map analysis of the Communities knowledge domain in Grades K-5.
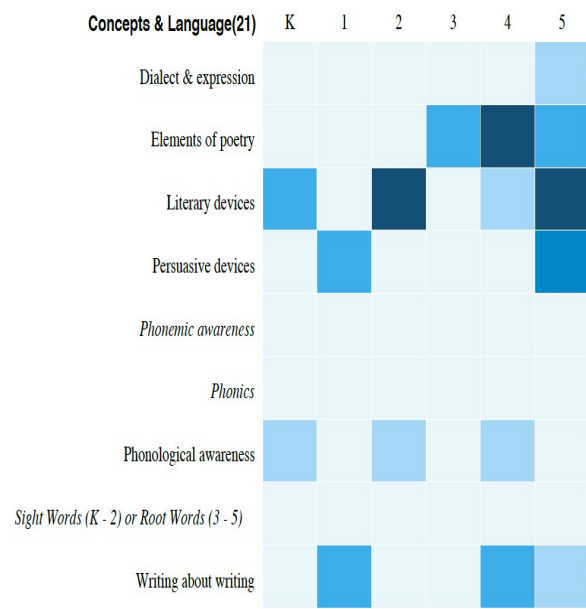
Figure 4. Heat map analysis of the Concepts & Language knowledge domain in Grades K-5.
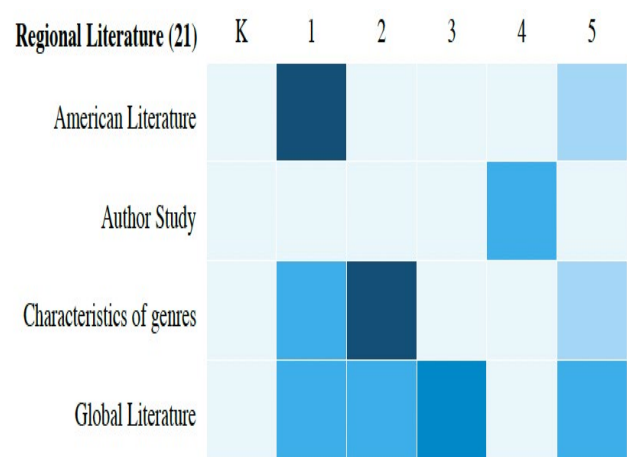

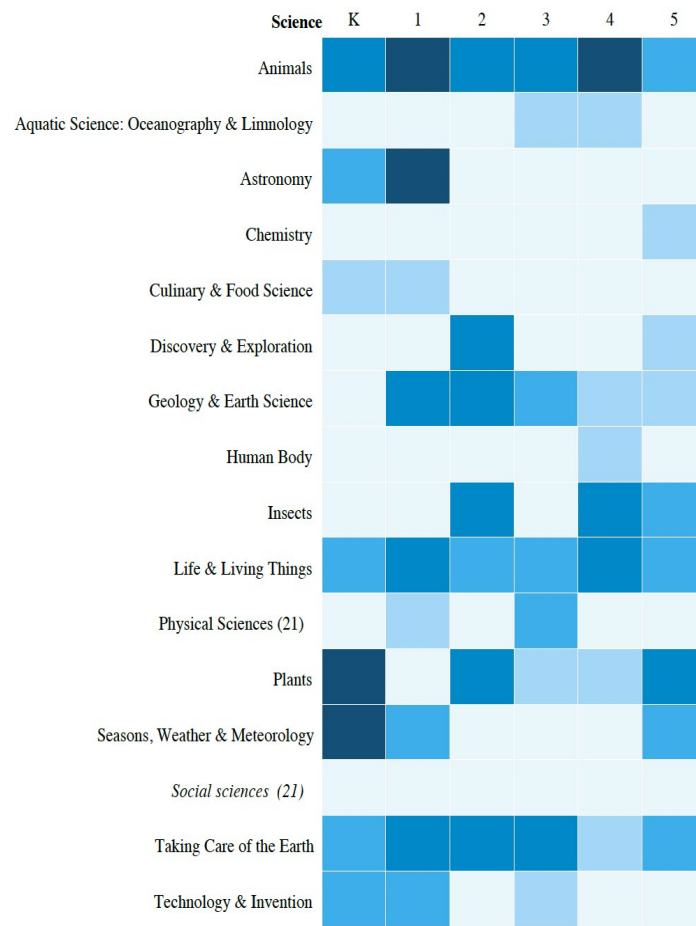Figure 5. Heat map analysis of the Regional Literature knowledge domain in Grades K-5.

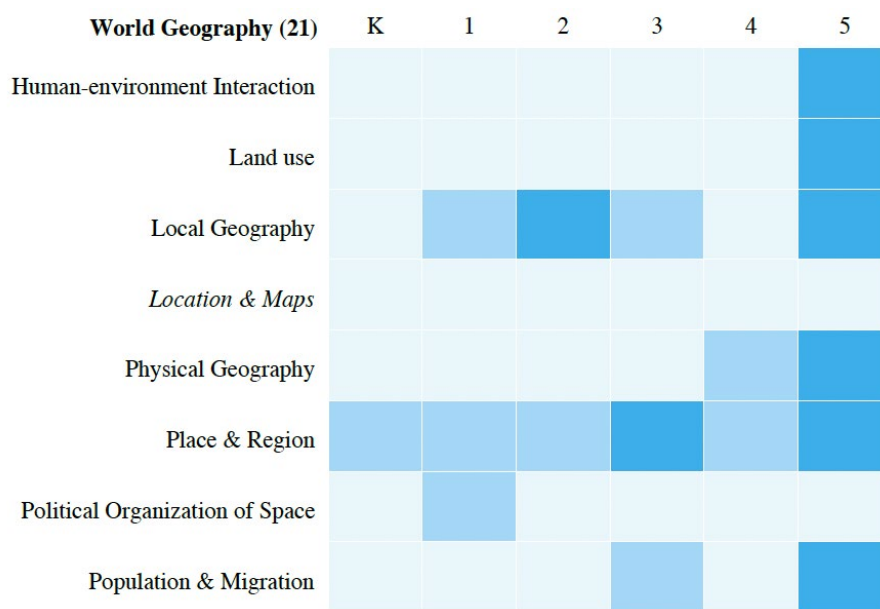Figure 6. Heat map analysis of the Science knowledge domain in Grades K-5.

Figure 7. Heat map analysis of the World Geography knowledge domain in Grades K-5.

Minimal Knowledge-Building Domains

The curriculum presents minimal knowledge building in several knowledge domains and topics. Minimal knowledge-building domains appear in heat maps as primarily light blue or gray, indicating that one or no texts address the topic. It is important to note that absences at certain levels may reflect curricular progression decisions and other factors, and that the heat maps should be considered in the context of the evaluated system. However, significant gaps may be worth examining in order to further develop knowledge reinforcement within the curriculum.

Several domains present minimal knowledge building, including American History (Figure 8), Economics (Figure 9), Government, Civics, & Citizenship (Figure 10), Mathematics (Figure 1), Music & Performing Arts (Figure 12), Religion & Philosophy (Figure 13), Visual Arts (Figure 14), and World History (Figure 15). These domains address few or no topics across multiple grade levels.

Besides these generally sparse domains, other knowledge domains present specific weaknesses. One pattern appears as an absence of texts regarding particular topics across grade levels. For instance, in the moderate knowledge-building domain of World Geography (Figure 7), the topic of Location & Maps lacks any coverage.

A different pattern of weakness presents itself as a lack of domain coverage within a grade band. Visually, this appears in the Knowledge Map™ as empty columns beneath individual grade levels. For instance, in the moderate knowledge-building domain of Regional Literature (Figure 5), Grade K is empty, and Grade 4 contains between two and four texts.
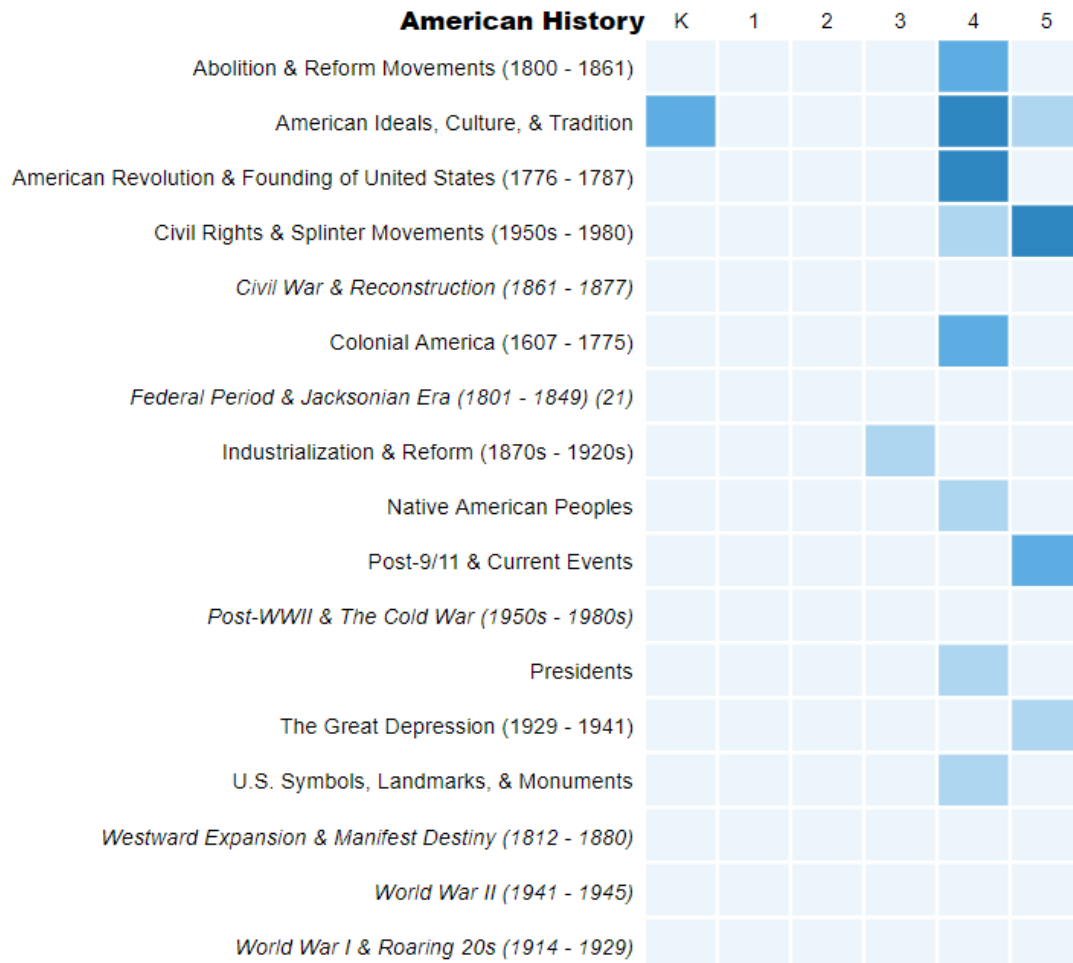
American History	K	1	2	3	4	5
Abolition & Reform Movements (1800 - 1861)						
American Ideals, Culture, & Tradition						
American Revolution & Founding of United States (1776 - 1787)						
Civil Rights & Splinter Movements (1950s - 1980)						
Civil War & Reconstruction (1861 - 1877)						
Colonial America (1607 - 1775)						
Federal Period & Jacksonian Era (1801 - 1849) (21)						
Industrialization & Reform (1870s - 1920s)						
Native American Peoples						
Post-9/11 & Current Events						
Post-WWII & The Cold War (1950s - 1980s)						
Presidents						
The Great Depression (1929 - 1941)						
U.S. Symbols, Landmarks, & Monuments						
Westward Expansion & Manifest Destiny (1812 - 1880)						
World War II (1941 - 1945)						
World War I & Roaring 20s (1914 - 1929)						

Figure 8. Heat map analysis of the American History knowledge domain in Grades K-5.

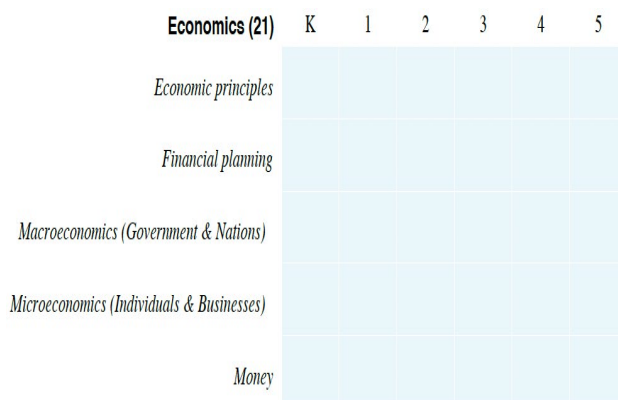| Economics (21)	K	1	2	3	4	5
Economic principles						
Financial planning						
Macroeconomics (Government & Nations)						
Microeconomics (Individuals & Businesses)						
Money						

Figure 9. Heat map analysis of the Economics knowledge domain in Grades K-5.

Government, Civics, and Citizenship(21)	K	1	2	3	4	5
American Government						
Citizenship & responsibilities						
Governments Around the World						
International relationships						
Rights						
Rules and laws						

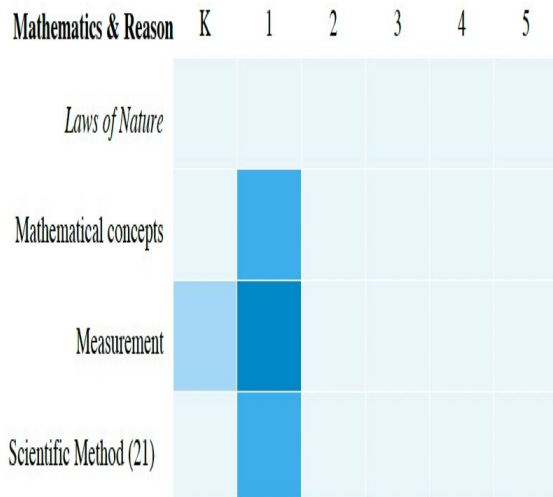Figure 10. Heat map analysis of the Government, Civics, and Citizenship knowledge domain in Grades K-5.

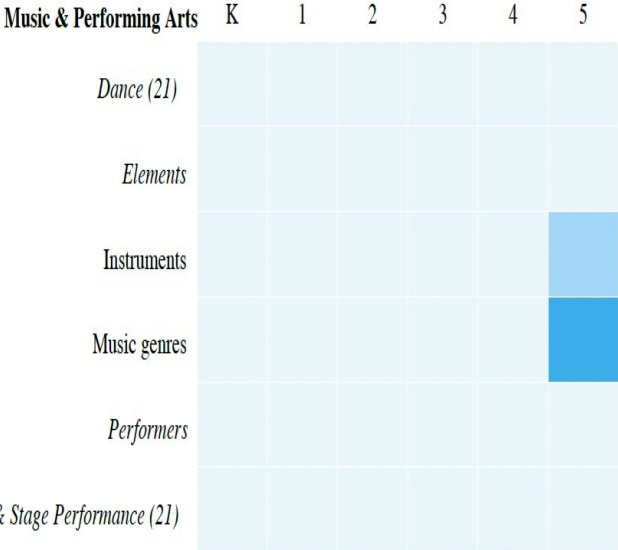Figure 11. Heat map analysis of the Mathematics knowledge domain in Grades K-5.

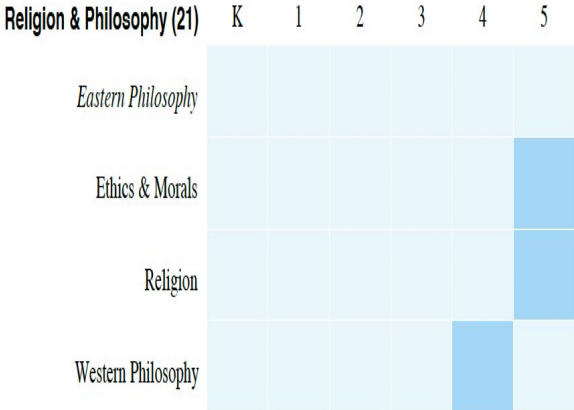Figure 12. Heat map analysis of the Music & Performing Arts knowledge domain in Grades K-5.

Figure 13. Heat map analysis of the Religion & Philosophy knowledge domain in Grades K-5.
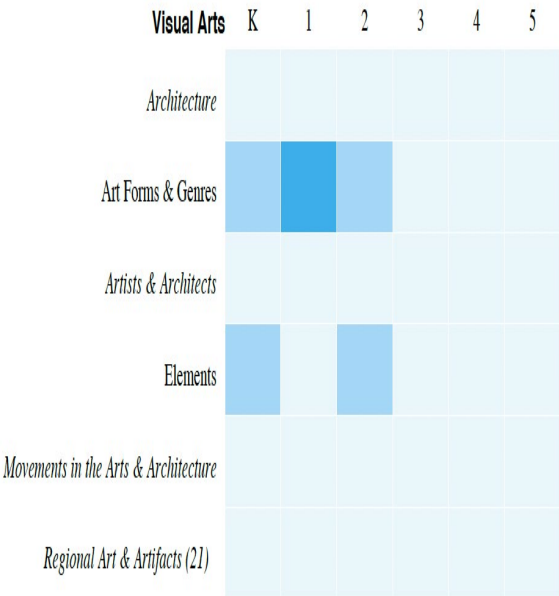

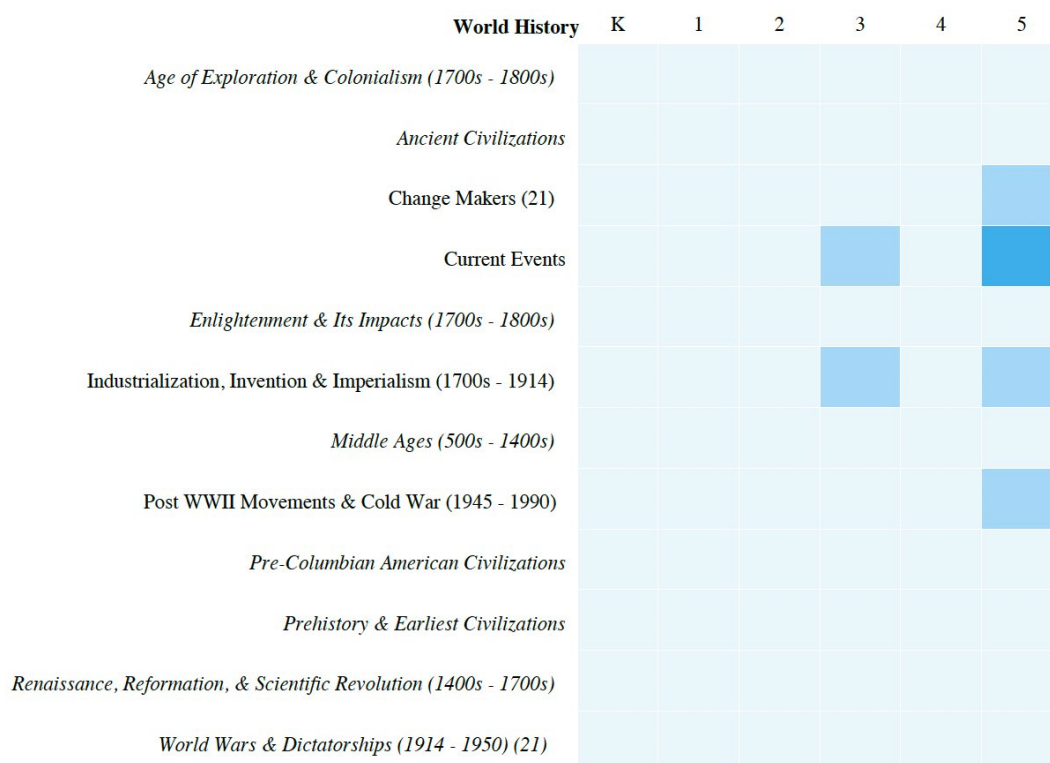Figure 14. Heat map analysis of the Visual Arts knowledge domain in Grades K-5.

World History	K	1	2	3	4	5
Age of Exploration & Colonialism (1700s - 1800s)						
Ancient Civilizations						
Change Makers (21)						
Current Events						
Enlightenment & Its Impacts (1700s - 1800s)						
Industrialization, Invention & Imperialism (1700s - 1914)						
Middle Ages (500s - 1400s)						
Post WWII Movements & Cold War (1945 - 1990)						
Pre-Columbian American Civilizations						
Prehistory & Earliest Civilizations						
Renaissance, Reformation, & Scientific Revolution (1400s - 1700s)						
World Wars & Dictatorships (1914 - 1950) (21)						

Figure 15. Heat map analysis of the World History knowledge domain in Grades K-5.

Diversity, Equity, & Inclusion Domains

Among the domains evaluated as part of the heat map exercise is the Diversity, Equity, & Inclusion domain, which measures the presence of texts addressing the experiences of specific cultural groups. Ideally, culturally responsive texts should represent a spectrum of positive, neutral, and negative aspects of a group's experience in the United States. Heat Maps with strong results for the Diversity, Equity, & Inclusion domain indicate that students receive meaningful instruction related to these experiences. Many academic materials can be rated for cultural responsiveness, including everything from picture books to documentary films. The Institute reviewed the EL Education curriculum for cultural responsiveness across the evaluated grade levels.

Overall, the Diversity, Equity & Inclusion domain is a moderate knowledge-building domain with some strengths and weaknesses. Grades 4 and 5 perform the highest, addressing many topics with a few texts. Grades K, 1, and 2 are the lowest-performing, addressing only two topics, each with 2-4 texts. The strongest topics covered in nearly all grade levels are the African-American Experience and World Cultures & Tradition. By comparison, five topics are empty – Asian-American Experience, Generational Differences & Ageism, Holidays, LGBTQIA+ Experience, and Religious Persecution & Tolerance.

Diversity, Equity, & Inclusion (D.E.I.)	K	1	2	3	4	5
African American Experience						
Asian American Experience						
Bias & Implicit Bias						
Different Types of Families						
Generational Differences & Ageism						
Holidays						
Human Rights						
Immigrant Experience						
Individuals Experiencing Homelessness						
Individuals with Disabilities						
Latinx & Hispanic Experience						
LGBTQIA+ Experience						
Native American Experience						
Racism						
Religious Persecution & Tolerance						
Structural Inequalities						
Voting Rights						
Women's Experience						
World Cultures & Traditions						

Figure 16. Heat map analysis of the Diversity, Equity, & Inclusion knowledge domain in Grades K-5.

EL EDUCATION QUALITY AND COHERENCE

As mentioned previously, the Institute's analysis includes tagging each text for the knowledge domains, topics, and subtopics that it reinforces. The evaluation also rates each individual text for quality according to the rubrics below.

Rubrics for Quality

The Institute applies three rubrics for text quality analysis – a fiction rubric, nonfiction rubric, and literary nonfiction rubric. All rubrics consider content knowledge and language. Rubrics for fiction and literary nonfiction (nonfiction material presented in a narrative format) include additional factors relevant to the genres, such as emotion and prominence. The nonfiction rubric omits these factors in favor of focusing on the source's accuracy and quality.

Fiction and Literary Nonfiction (Total of 15 possible Points)

Evocation of Emotion: The degree to which the text is memorable due to its impact upon the reader's affect. Works that may achieve high emotion scores include Shakespeare's *Romeo & Juliet* and Morrison's *The Bluest Eye*.

Language: The degree to which the text contains outstanding language and derives effect from several factors, including:

- Clarity (Hemingway's *Old Man & The Sea,* Austen's *Emma*)
- Appeal to the imagination (Tolkien's *Lord of the Rings*)
- Sophisticated capacity at multiple levels, including cultural, social, metaphorical, and/or theological (Kafka's *The Trial,* Dante's *Divine Comedy*, de Cervantes' *Don Quixote).*

Timeless and Profound Questions: The degree to which a text addresses perpetual issues of the human condition, such as private or public ethics, obedience to the state, family allegiance, meaning, and purpose. Works that may achieve high scores on this metric include Sophocles' *Antigone* and Camus's *The Stranger*.

Content Knowledge: The degree to which text builds students' background knowledge about the world. Strong examples on this metric include Erdrich's *Birchbark House* for elementary students or Austen's *Pride & Prejudice* for secondary students.

Prominence: The degree to which a text is widely known. Several factors determine a text's prominence, including:

- Longevity: The degree to which the text has entered the American literary canon, meaning that the text remains widely read for at least fifty years since its publication (Steinbeck's *The Grapes of Wrath*, Thoreau's *Walden*).
- Current prominence: The degree to which the text is a contemporary classic, meaning that it appears widely in American schools in recent years (Cisneros's *Last House on Mango Street*, Satrapi's *Persepolis*).
- Awards: The degree to which the text has been recognized as outstanding by critics or through awards. Notable literary awards include the Nobel Prize in Literature, Booker Prize, John Newberry, Man Booker Award, PEN/Faulkner Award for Fiction, Pulitzer Prize, the Coretta Scott King Awards, or Pura Belpre Awards. More examples of critical literary acclaim appear here.
- Accuracy & Source (literary nonfiction only): The verifiable factual basis for the information and the bias profile of the source.

Nonfiction (Total of 12 Possible Points)

Accuracy: The degree to which the text is empirically accurate.

Source Quality: The degree to which the text comes from a high-caliber source. The Institute assigned an initial numerical value to news sources and added quality scores upon encountering new sources. Relevant links can be found [here](#).

Language: The degree to which the text is well written and presents its subject matter effectively.

Content Knowledge: The degree to which the text effectively builds background knowledge of the topic or subtopic at hand.

Unit Quality & Coherence Analysis

The Institute generates *Unit Coherence Maps* that illustrate the extent to which the supplemental materials reinforce the knowledge built by the anchor text (as measured through assigned topic tags).

The *Unit Coherence Map* utilizes a ball-and-spoke visual, where the central ball represents the anchor, and the surrounding balls represent the supporting materials. The numbers shown on each ball represent the number of topics in each supplemental material that correlate to the topics assigned to the anchor. The anchor always reinforces itself entirely; as such, the number on the central ball always equates to the total number of tags. The proximity of each spoke to the central ball visually conveys this relationship. When a unit contains multiple anchor texts, the Institute selects the anchor with the highest number of tags.

The quality and coherence findings for each grade level follow in the sections below. This report highlights the highest- and lowest-quality units for each grade and provides a discussion of knowledge reinforcement within those units. The caption below each graph provides an average quality score for all texts within that unit. The Institute considers a unit or text high quality if it scores 70% or above. A unit or text is acceptable as low as 60%. Any lower score indicates that a unit or text scored poorly overall.

Quality and coherence findings vary and are not linked to each other. For example, a unit may score highly for overall quality but lack in coherency in terms of how well the texts reinforce the knowledge builds. The converse is also possible, where a unit scoring low in overall quality may have moderate or strong reinforcement of a unit topic.

EL EDUCATION QUALITY & COHERENCE FINDINGS: GRADES K-5

The quality and coherence findings for each grade level follow in the sections below. This report highlights the highest- and lowest-quality units for each grade and provides a discussion of knowledge reinforcement within those units.

Kindergarten

Kindergarten receives an overall quality score of 70.69%, placing it in the high-quality range.

Highest-Quality Unit

Unit 3 is the highest-quality unit at this grade level, with an average text quality score of 74.51%. The Institute's analysis for coherence indicates moderate knowledge reinforcement, as seen in Figure 17 below. All supporting materials share the Animals or Plants topics of the Science domain in this unit. However, three anchor tags (Life & Living Things, Technology & Invention, and Culinary & Food Science) all in the Science domain have no matches in supplementary texts, presenting a gap in these areas.
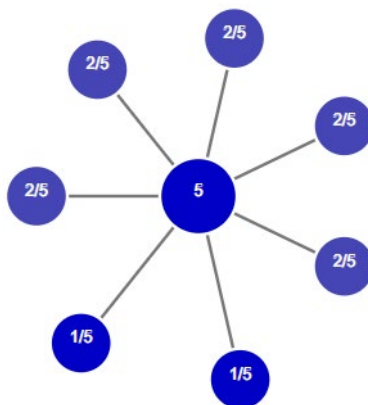
Figure 17. Coherence map of Grade K, Unit 3, Be a Friend to Trees and related texts. Supporting materials moderately reinforce the anchor.

Lowest-Quality Unit

The lowest-quality unit at this grade level, Unit 2, still falls in the Institute's acceptable range for quality, with an average text quality score of 68.52%. The Institute's analysis for coherence indicates moderate-to-strong knowledge reinforcement. All anchor tags have matches across the supplementary texts, revealing topical reinforcement across the unit. The strongest topic is Seasons, Weather, & Meteorology, tagged in all the unit's materials.
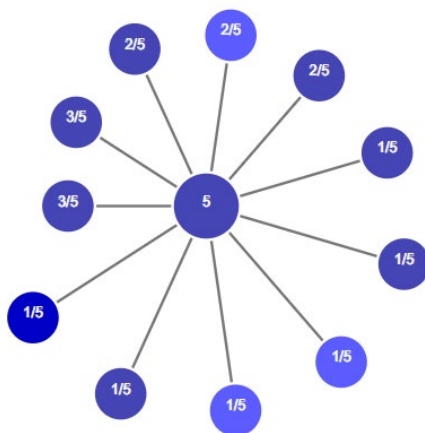
Figure 18. Coherence map of Grade K, Unit 2, The Snowy Day and related texts. Supporting texts moderately-to-strongly reinforce the anchor.

Grade 1

Grade 1 receives an overall quality score of 79.30%, placing it in the high-quality band.

Highest-Quality Unit

Unit 2 is the highest-quality unit at this grade level, with an average text quality score of 84.13%. The Institute's analysis for coherence indicates moderate knowledge reinforcement. Six of the eight supplemental materials support the topic of Astronomy of the Science domain; nonetheless, two anchor tags – African-American Experience and Professions within a Community – contain no matches in supplementary texts.
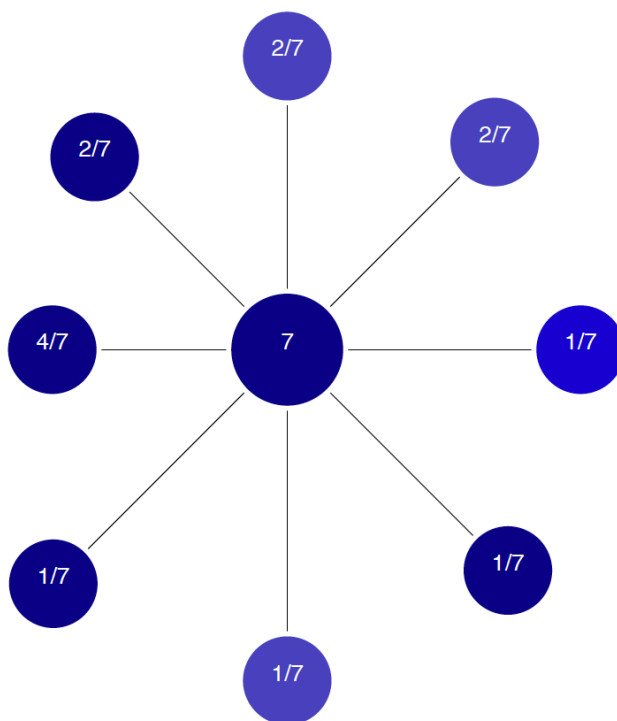
Figure 19. Coherence map of Grade 1, Unit 2, Summer Sun Risin' and related texts. Supporting materials moderately reinforce the anchor.

Lowest-Quality Unit

Unit 4 is the lowest-quality unit at this grade level, with an average text quality score of 75.76%. This score falls within the Institute's high-quality range, demonstrating the strength of the texts in this grade. The Institute's analysis for coherence indicates moderate knowledge reinforcement. All texts reinforce the topic of Animals in the Science domain. Two anchor tags, Types of Communities and Local geography, have no matches across the supporting materials. Additionally, individual texts vary in their quality, as demonstrated by the shades of blue depicted below. Evaluating these anchor tags and lower-quality texts presents an opportunity to ensure an effective unit at this level.
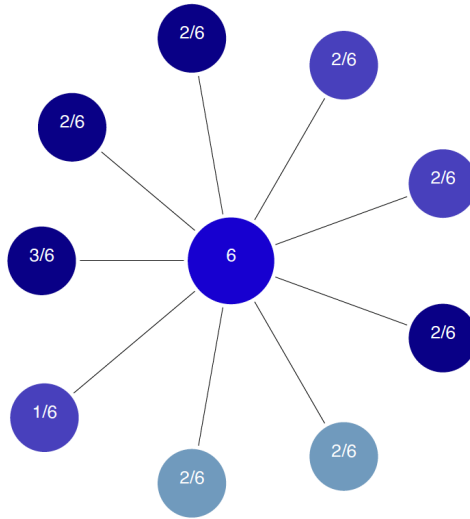
Figure 20. Coherence map of Grade 1, Unit 4, City Hawk: The Story of Pale Male and related texts. Suppprting materials moderately reinforce the anchor.

Grade 2

Grade 2 receives an overall quality score of 82.98%, placing it in the high-quality band.

Highest-Quality Unit

Unit 3 is the highest-quality unit at this grade level, with an average text quality score of 98.33%. This is an extremely high-quality score for a multi-text unit and appears as a result of the strong resources available at this level. The Institute's analysis for coherence indicates moderate knowledge reinforcement. Four of the anchor's seven topic tags have no matches in supplementary text, representing potential gaps in instruction. However, the topics of Plants and Literary Devices are reinforced through the supplemental materials, resulting in a unit with some level of knowledge building.
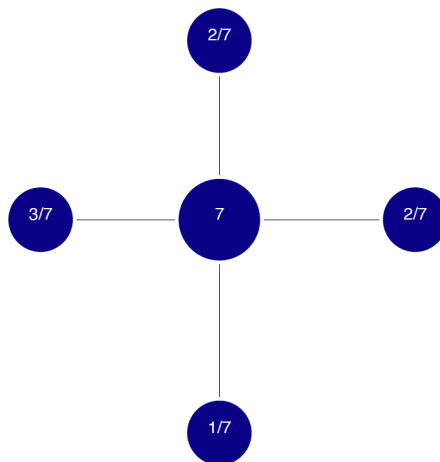
Figure 21. Coherence map of Grade 2, Unit 3, What is Pollination? and related texts. Supporting materials moderately reinforce the anchor text.

Lowest-Quality Unit

Unit 4 is the lowest-quality unit at this grade level, with an average text quality score of 78.79%. Despite being the lowest score in the grade, this percentage still falls squarely in the Institute's range for high-quality materials, speaking to the strength of the grade as a whole. Coherence analysis indicates moderate knowledge reinforcement. While all the anchor's eight tags are reinforced through the supplemental materials, the texts *Pollinator Pokey* and *Dangers Bats Face* do not support the anchor at all. In addition, *Pollinator Pokey* rates below the Institute's acceptable quality range. The inclusion of this low-coherence resource should be reevaluated to ensure that it is best utilized in this particular unit.
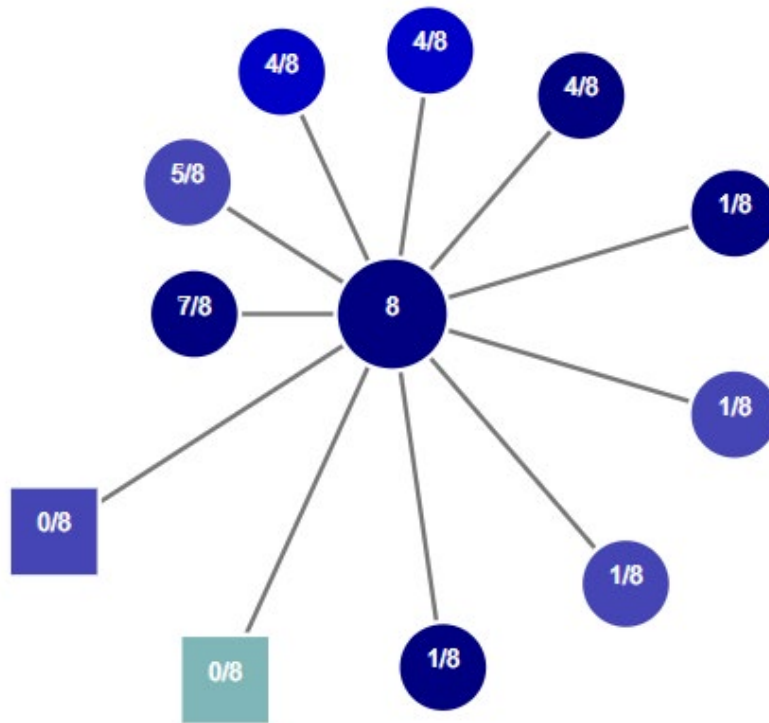
Figure 22. Coherence map of Grade 2, Unit 4. The Little Hummingbird and related texts. Supporting materials moderately reinforce the anchor.

Grade 3

Grade 3 receives an overall quality score of 87.58% placing it firmly in the high-quality band.
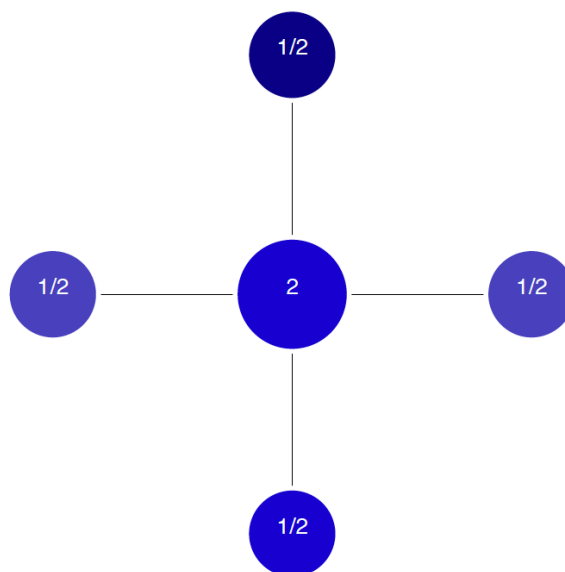
Highest-Quality Unit

Unit 4 is the highest-quality unit at this grade level, with an average text quality score of 90%. The Institute's analysis for coherence indicates weak-to-moderate knowledge reinforcement. Physical Science or Taking Care of the Earth are tagged in all but one of the supplemental resources, suggesting knowledge building on these topics throughout the unit. However, four of the anchor's tags do not appear again in the supplementary materials. This reveals that despite the unit's high quality, further care could be taken to link all of the utilized resources together.
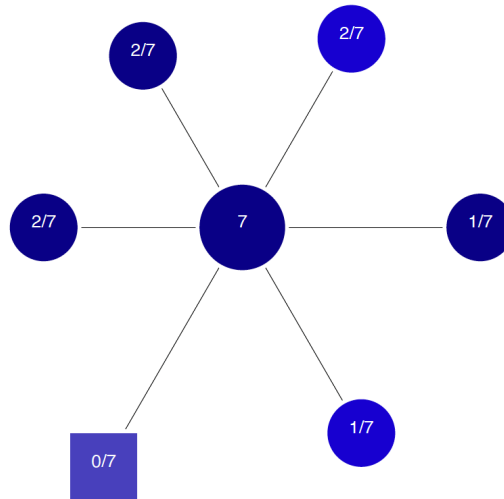
Figure 23. Coherence map of Grade 3, Unit 4, One Well: The Story of Water on Earth and related texts. Supporting materials weakly-to-moderately reinforce the anchor.

Lowest-Quality Unit

Unit 2 is the lowest-quality unit at this grade level, with an average text quality score of 80.56%, still indicating high-quality texts throughout the grade. The Institute's analysis for coherence indicates moderate-to-strong knowledge reinforcement for the Animals topic. The other of the anchor's tags – Elements of Poetry – does not appear again in the remainder of the materials. However, the supplemental resources do support the Life & Living Things topic, which would naturally complement the Animals topic, offering a more robust knowledge build in the scientific field.

Figure 24. Coherence map of Grade 3, Unit 2, Lizards, Frogs, and Polliwogs and related texts. Supporting materials moderately-to-strongly reinforce the anchor.

Grade 4

Grade 4 receives an overall quality score of 63.12%, placing it in the acceptable quality band.

Highest-Quality Unit

Unit 3 is the highest-quality unit at this grade level, with an average text quality score of 70%. The Institute's analysis for coherence indicates weak-to-moderate knowledge reinforcement. Though all supplementary materials reinforce the Animals topic of the Science domain, six of the anchor's eight topic tags are not addressed. Additionally, resources vary considerably in quality, leading to inconsistency on that front as well.
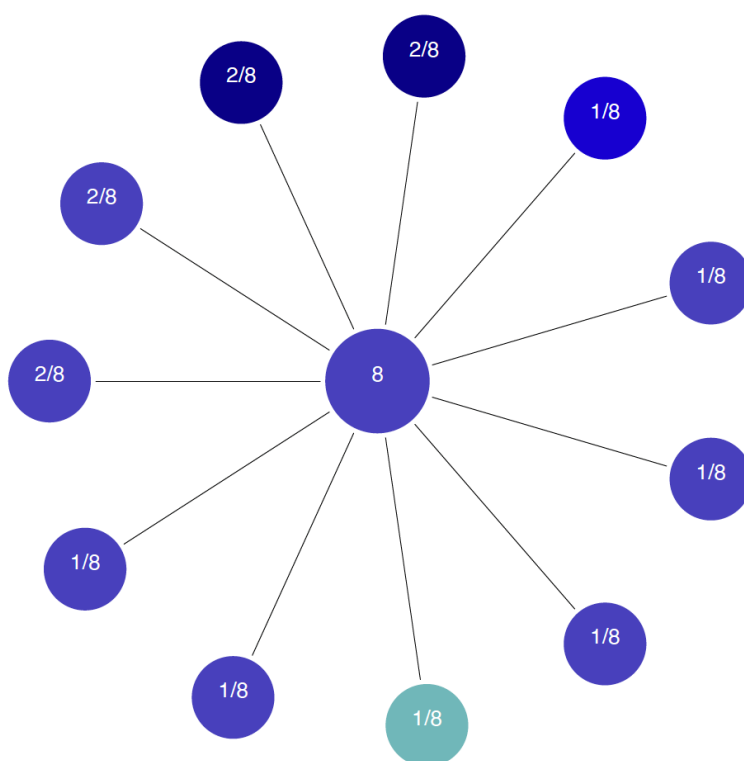
Figure 25. Coherence map of Grade 4, Unit 2, Can You Survive the Wilderness? and related texts. Supporting materials weakly-to-moderately reinforce the anchor.

Lowest-Quality Unit

Unit 3 is the lowest-quality unit at this grade level, with an average text quality score of 59.26%. This score appears as a result of the wide variance in quality scores. The Institute's analysis for coherence indicates moderate knowledge reinforcement. All anchor tags have matches in supplementary texts, though individual texts vary in their coherence. Notably, the two resources with the lowest coherence, *William Barton's Letter* and *Robert Barton's Letter*, are also the lowest in quality. These resources focus on the American Ideals, Culture, & Tradition topic and not the commonly shared topic of Colonial America (1607 – 1775) & American Revolution & Founding of the United States (1776 – 1787). Though these topics could be reasonably connected into a larger theme, the inclusion of these two resources in this unit may be worth reconsidering to ensure they are best utilized.
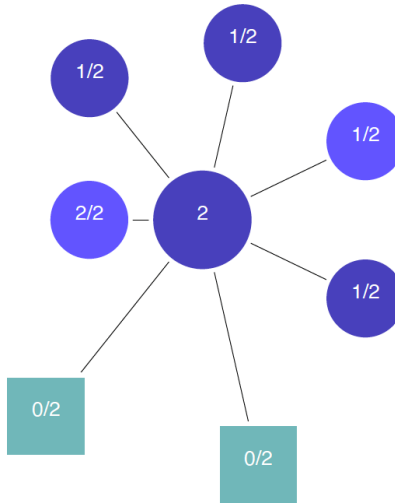
Figure 26. Coherence map of Grade 4, Unit 3, Divided Loyalties: The Barton Family during the American Revolution and related texts. Supporting materials moderately reinforce the anchor.

Grade 5

Grade 5 receives an overall quality score of 72.11%, placing it in the high-quality band.

Highest-Quality Unit

Unit 3 is the highest-quality unit at this grade level, with an average text quality score of 82.67%. The Institute's analysis for coherence indicates strong knowledge reinforcement, as seen in the figure below. The African American Experience and the Civil Rights & Splinter Movements topics appear in the anchor and four of the five supplemental materials. While the text *Jim Abbott* does not support either of these topics, it does support the Identity Development and Self Awareness topics, meaning that all of the anchor's six topic tags are addressed across the unit. This unit is a strong performer on both the quality and coherence metrics, making it a strong example for future development.
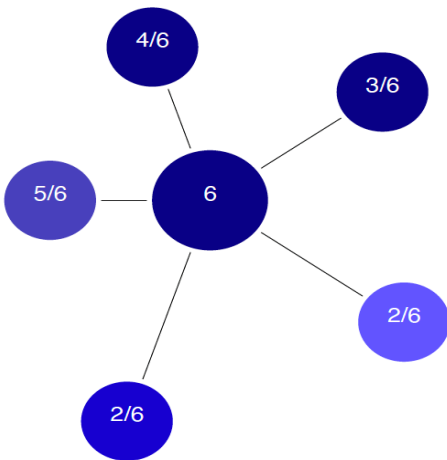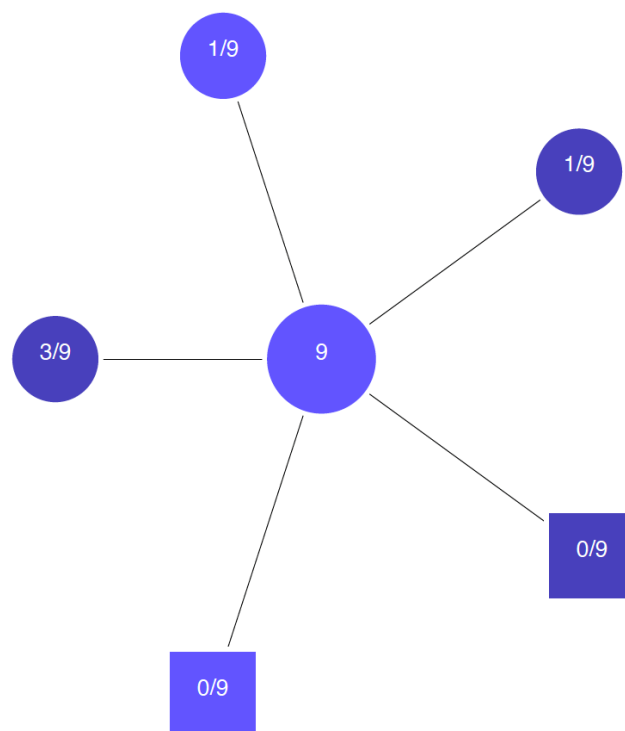

Figure 27. Coherence map of Grade 5, Unit 3, Promises to Keep: How Jackie Robinson Changed America and related texts. Supporting materials strongly reinforce the anchor.

Lowest-Quality Unit

Unit 4 is the lowest-quality unit at this grade level, with an average text quality score of 62.96%. The Institute's analysis for coherence indicates weak knowledge reinforcement. This unit focuses on surviving a natural disaster and is primarily tagged under the Responsible Decision-Making topic in the Social-Emotional domain. However, some of the resources support the impacts of natural disasters, tagged with Weather, Seasons & Meteorology, while others address the topic of 9/11, tagged with Post-9/11 & Current Events. This diverse coverage in topics suggests a weak overall knowledge build. Moreover, nine of the anchor's topic tags have no matches in the supplementary texts; these include Relationship Skills, Responsible Decision-Making, Self-Awareness (internal forces), Self-Management, Current Events, and Place & Region. This lack of coherence and a variance in text quality both contribute to lower scores at this level.

Figure 28. Coherence map of Grade 5, Unit 4, Eight Days: A Story of Haiti and related texts. Supporting materials weakly reinforce the anchor.

EL EDUCATION QUALITY ASSESSMENT

In summary, the EL Education curriculum is generally strong in terms of quality, but large differences in unit quality scores indicate inconsistency in instructional effectiveness. Four of the six evaluated grade levels achieve overall quality scores in the Institute's high-quality range; the remaining two, grades K and 4, still fall within the acceptable quality range. While most units rate as high quality, a finer grain of understanding appears in the differences between unit high and low scores. For instance, Grades 2 and 5 show the largest unit quality differences at 19.5% and 19.7%, respectively. By comparison, grades 1 and 3 show moderate differences in unit quality at 8.37% and 9.44%, respectively. Finally, Grade K shows the least difference in unit quality at 3.28%.

Grade	Overall Quality Score	Unit High Score	Unit Low Score	Difference (High-Low)
K	70.69%	71.79%	68.52%	3.28%
1	79.30%	84.13%	75.76%	8.37%
2	82.98%	98.33%	78.79%	19.5%
3	87.58%	90.00%	80.56%	9.44%
4	63.12%	70.00%	59.26%	10.7%
5	72.11%	82.67%	62.96%	19.7%

Figure 29. Summary of unit quality scores in Grades K-5.

LEARN MORE

This report is one of twelve ELA Knowledge Map™ reports released in Winter 2022 by the Johns Hopkins Institute for Education Policy. The release of these reports was accompanied by a Findings Summary, outlining the overarching themes across all ELA curricula analyzed. View the other ELA Knowledge Map™ reports and learn more about the importance of high-quality curriculum at edpolicy.education.jhu.edu.

About the Institute

The Johns Hopkins University Institute for Education Policy is dedicated to integrating research, policy, and practice to achieve educational excellence for all of America's students. Specifically, we connect research to the policies and practices that will ensure all children have access to intellectually challenging curricula, highly-effective educators, and school models that meet students' diverse needs. By delivering the strongest evidence to the policymakers who set the course and the practitioners who teach and lead, we hope to serve the American children who enter our classrooms every day.

About EL Education

EL Education is a national nonprofit partnering with K-12 educators to transform public schools and districts into hubs of opportunity for all students to achieve excellent equitable outcomes and release their unique genius. EL Education is guided by a vision of education equity and student potential, by a reimagined definition of student achievement, and offers research-proven resources and practices, including:

- The acclaimed EL Education K-8 Language Arts curriculum

- Core Practices driving continuous improvement for equity

- Highly-rated professional learning

- Best-selling educator books, videos, and media.

[i] Reid Smith et al., "The Role of Background Knowledge in Reading Comprehension: A Critical Review," *Reading Psychology* 42, no. 3 (April 3, 2021): 214–40). Sonia Q. Cabell and Hyejin Hwang, "Building Content Knowledge to Boost Comprehension in the Primary Grades," *Reading Research Quarterly* 55, no. S1 (2020): S99–107, https://ila.onlinelibrary.wiley.com/doi/full/10.1002/rrq.338 and also Kathryn S. McCarthy and Danielle S. McNamara, "The Multidimensional Knowledge in Text Comprehension Framework," *Educational Psychologist* 56, no. 3 (July 3, 2021): 196–214, https://doi.org/10.1080/00461520.2021.1872379).

[ii] "Standards aligned" generally refers to the Common Core State Standards.