Beyond Comprehension

We Have Yet to Adopt a Common Core Curriculum That Builds Knowledge Grade by Grade—But We Need To



By E. D. HIRSCH, JR.

he prevailing view of the American educational community is that no specific background knowledge is needed for reading. Any general background knowledge will do. This innocent-sounding idea, so liberating to the teacher and the student, frees schools from any requirement to teach a specific body of knowledge. This purported liberation from "mere" information and rote learning is one of the most precious principles of American educational thought, and lies at its very core. Its proponents disparage those who favor a definite, cumulative course of study for children as "traditional," "hidebound," and "reactionary," to mention only the more polite terms.

Yet the supposedly liberating and humane idea that any general background knowledge will serve to educate children and make them proficient readers is not only incorrect, it is also very old and tired; it has had its day for at least half a century, during which time American reading proficiency and verbal SAT scores have declined drastically.¹ (For a detailed explanation of the drop in SAT scores, see Marilyn Jager Adams's article on page 3.) Scapegoats for the decline, such as television and social forces, have been invoked to explain it, but they cannot fully explain why other nations, equally addicted to television but not to American educational theories that disparage "mere" information, have not suffered a similarly drastic decline in reading proficiency.²

It is true that given a good start in decoding, a child will develop fluency and accuracy in decoding with practice. And it is also true that decoding is a skill that can be transferred from

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one text to another. But the progress of a child's reading comprehension is different. That progress does not follow a reliable course of development. Because comprehension is knowledge dependent, someone who reads well about the Civil War may not necessarily read well about molecular interactions.

One particularly elegant experiment was conducted to find out how important domain-specific knowledge is in actual reading tasks.³ In two of the groups of students studied, one had good decoding skills but little knowledge of the subject, baseball, while another had poor decoding skills but knew a lot about baseball. As predicted, *the reading comprehension of the lowskills, baseball-knowing group proved superior to the reading comprehension of the high-skills, baseball-ignorant group*. These results have been replicated in other situations and knowledge domains; they show the powerful effect of prior knowledge on actual reading ability.⁴

Faulty Ideas

Most current reading programs talk about "activating" the reader's background knowledge so she can comprehend a text. But in practice, they are only paying lip service to the finding that background knowledge is essential to reading comprehension. Little attempt is made to *enlarge* children's background knowledge— and, as a direct result, little is accomplished in terms of expanding children's ability to comprehend more complex and varied texts. The disjointed topics and stories that one finds in current reading programs, such as "Going to School" and "Jenny at the Supermarket," seem designed mainly to appeal to the knowledge that young readers probably already have.

For decades, most professional educators have believed that reading is an all-purpose skill that, once learned, can be applied to all subjects and problems. A specific, fact-filled, knowledgebuilding curriculum, they hold, is not needed for gaining allpurpose cognitive skills and strategies. Instead of burdening our minds with a lot of supposedly dead facts, they call for us to become expert in solving problems, in thinking critically—in reading fluently—and then we will be able to learn anything we need.

This idea sounds plausible. (If it did not, it could not have so thoroughly captured the American mind.) Its surface plausibility derives from the fact that a good education can indeed create very able readers and critical thinkers. The mistake is to think that these achievements are the result of acquiring all-purpose skills rather than broad factual knowledge. As the study of students' abilities to comprehend a text about baseball demonstrated, reading and critical thinking are always based on concrete, relevant knowledge and cannot be exercised apart from what psychologists call "domain-specific" knowledge.⁵

The idea that reading with comprehension is largely a set of general-purpose skills and strategies that can be applied to any and all texts is one of the main barriers to our students' achievement in reading. It leads to activities (like endless drilling in finding the main idea) that are deadening for agile and eager minds, and it carries big opportunity costs. These activities actually slow down the acquisition of true reading ability: they take up time that could be devoted to gaining general knowledge, which is the central requisite for high reading ability.

Most current reading programs do not prepare students for high school, higher education, the workplace, or citizenship because they do not make a systematic effort to convey coherently, grade by grade, the knowledge that books (including high school textbooks), newspapers, magazines, and serious radio and TV programs *assume* American readers and listeners possess. (Every newspaper, book, and magazine editor, and every producer for radio and TV is conscious of the need to distinguish what can be taken for granted from what must be explained. The general reader or listener that every journalist or TV newscaster must imagine is somebody whose relevant knowledge is assumed to lie between the total ignorance of a complete novice and the detailed knowledge of an expert.)

How Much Knowledge Do We Need?

Here is the first paragraph of an article by Janet Maslin, taken at random from the books section of the *New York Times* on February 6, 2003. It is an example of writing addressed to a general

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reader that a literate American high school graduate would be expected to understand.

When Luca Turin was a boy growing up in Paris, according to Chandler Burr's ebullient new book about him, "he was famous for boring everyone to death with useless, disconnected facts, like the distance between the earth and the moon in Egyptian cubits." Mr. Burr sets out to explain how such obsessive curiosity turned Mr. Turin into a pioneering scientist who, in the author's estimation, deserves a Nobel Prize.

This example shows that the background knowledge required to understand the general sections of the *New York Times*, such as the book review section, is not deep. It is not that of an expert of course not, for we cannot all be experts on the diverse subjects that are treated by books. If authors want their books to be sold and read, they must not assume that their readers are experts. They may take for granted only the relevant background knowledge that a literate audience can be expected to possess.

What *do* readers need to know in order to comprehend this passage? We need to know first that this is a book review, which aims to tell us what the book is about and whether it is worth reading. We need to understand that the reviewer is favorably disposed to the book, calling it "ebullient," and that it is a nonfiction work about a scientist named Luca Turin. We need to have at least a vague semantic grasp of key words like ebullient, boring, obsessive, pioneering, estimation. We need to know some of the things mentioned with exactness, but not others. It's not necessary to know how long a cubit is. Indeed, the text implies that this is an odd bit of information, and we can infer that it is some form of measurement. We need to know in general what Paris is, what the moon is and that it circles the earth, that it is not too far away in celestial terms, and we need to have some idea what a Nobel Prize is and that it is very prestigious. Consider the knowledge domains included in this list. Paris belongs to history and geography; so does Egypt. The moon belongs to astronomy and natural history. The Nobel Prize belongs to general history and science.

We may infer from this example that only a person with broad knowledge is capable of reading with understanding the *New York Times* and other newspapers. This fact has momentous

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implications for education, and for democracy as well. A universal ability of citizens to read newspapers or their equivalent with understanding is the essence of democracy. Thomas Jefferson put the issue unforgettably: "The basis of our government being the opinion of the people, the very first object should be to keep that right; and were it left to me to decide whether we should have a government without newspapers or newspapers without a government, I should not hesitate a moment to prefer the latter. But I should mean that every man should receive those papers and be capable of reading them."6 The last phrase, "be capable of reading them," is often omitted from the quotation, but it is the crucial one. Reading achievement will not advance significantly until schools recognize and act on the fact that it depends on the possession of a broad but definable range of diverse knowledge. Effectively teaching reading requires schools to systematically teach the diverse, enabling knowledge that reading with comprehension requires.

What Knowledge Do We Need?

But what exactly does that enabling knowledge comprise? That is the nuts-and-bolts question. The practical problem of helping all students achieve adequate reading comprehension depends on our schools being able to narrow down what seems at first glance to be vast amounts of heterogeneous information into a teachable repertory that will enable students to understand the diverse texts addressed to the average citizen. Our sketch of the background knowledge needed to understand Maslin's short passage offers clues to the kind of instruction needed to advance general reading comprehension ability. It will be broad instruction in the worlds of nature and culture as a necessary platform for gaining deeper knowledge through listening and reading. But what, exactly, should that broad general knowledge be?

My colleagues Joseph Kett and James Trefil and I set out to answer that question back in the 1980s. We asked ourselves, "In the American context, what knowledge is taken for granted in the classroom, in public orations, in serious radio and TV, in books and magazines and newspapers addressed to a general audience?" We considered various scholarly approaches to this problem. One was to look at word frequencies. If a word appeared in print quite often, then its meaning was probably not going to be explained by the writer. We looked at a frequency analysis of the Brown Corpus, a collection of passages from very diverse kinds of publications that was lodged at Brown University, but we found that this purely mechanical approach, while partially valid, did not yield altogether accurate or intelligent results. For example, because the Brown Corpus was compiled in the 1950s, "Nikita Khrushchev" was a more frequent vocabulary item than "George Washington."7

A much better way of finding out what knowledge speakers and writers take for granted is to ask them whether they assume specific items of knowledge in what they read and write. This direct approach proved to be a sounder way of determining the tacit knowledge, because what we must teach students is the knowledge that proficient readers and writers actually use. From people in every region of the country we found a reassuring amount of agreement on the substance of this taken-forgranted knowledge.

We had predicted this agreement. The very nature of communicative competence, a skill that successful teachers, reporters, doctors, lawyers, book club members, and writers have already shown themselves to have, requires that it be widely shared within the speech community. Shared, taken-for-granted background knowledge is what makes successful communication possible. Several years after our compilation of such knowledge was published, independent researchers investigated whether reading comprehension ability did in fact depend on knowledge of the topics we had set forth. The studies showed an unambiguous correlation between knowledge of these topics and reading comprehension scores, school grades, and other measures of reading ability. One researcher investigated whether the topics we set forth as taken-for-granted knowledge are in fact taken for granted in newspaper texts addressed to a general reader. He examined the New York Times by computer over a period of 101 months and found that "any given day's issue of the Times contained approximately 2,700 occurrences" of these unexplained terms, which "play a part in the daily commerce of the published language."8

An inventory of the tacit knowledge shared by good readers and writers cannot, of course, be fixed at a single point in time. The knowledge that writers and radio and TV personalities take for granted is constantly changing at the edges, especially on issues of the moment. But inside the edges, at the core, the body of assumed knowledge in American public discourse has remained stable for many decades.⁹ This core of knowledge changes very slowly, as sociolinguists have pointed out. If we want to bring all students to reading proficiency, this stable core is the enabling knowledge that we must teach.

That's more easily said than done. One essential, preliminary question that we faced was this: how can this necessary knowledge be sequenced in a practical way for use in schools? We asked teachers how to present these topics grade by grade and created working groups of experienced teachers in every region of the country to produce a sequence independently of the others. There proved to be less agreement on how to present the material grade by grade than there had been in identifying what the critical topics are. That difficulty too was predicted, since the sequencing of many topics is inherently arbitrary. While it's plausible that in math, addition needs to come before multiplication, and that in history, Greece probably ought to come and writers, there is no avoiding the responsibility of imparting the specific knowledge they will need to understand newspapers, magazines, and serious books. There is no successful shortcut to teaching and learning this specific knowledge—and there is nothing more interesting than acquiring broad knowledge of the world. The happy consequence is a reading program that is much more absorbing, enjoyable, and interesting than the disjointed, pedestrian programs offered to students today.

Most current programs assume that language arts is predominantly about "literature," which is conceived as poems and fictional stories, often trivial ones meant to be inoffensive vehicles for teaching reading skills. Stories are indeed the best vehicles for teaching young children—an idea that was ancient when Plato reasserted it in *The Republic*. But stories are not necessarily



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We collected the accumulated wisdom of these independent groups of teachers, made a provisional draft sequence, and in 1990 held a conference where 145 people from every region, scholarly discipline, and racial and ethnic group got together to work extremely hard for two and a half days to agree on an intelligent way to teach this knowledge sequentially. Over time, this Core Knowledge Sequence has been refined and adjusted, based on actual classroom experience. It is now used in several hundred schools (with positive effects on reading scores), and it is distinguished among content standards not only for its interest, richness, and specificity, but also because of the carefully thought-out scientific foundations that underlie the selection of topics. (The Core Knowledge Sequence is available online at **www.coreknowledge.org**.)

Today, in response to requests from educators, the Core Knowledge Foundation offers a range of instructional supports, including detailed teacher guides, a day-by-day planner, and an anthology of African American literature, music, and art. And, as shown over pages 37 to 43, we are now offering a complete language arts program for kindergarten through second grade. This program, which was pilot tested in 17 urban, suburban, and rural schools, addresses both the skills and the knowledge that young children need to become strong readers and writers. This new program is our attempt to reconceive language arts as a school subject. In trying to make all students proficient readers the same things as ephemeral fictions. Many an excellent story is told about real people and events, and even stories that are fictional take much of their worth from the nonfictional truths about the world that they convey.

The new Core Knowledge language arts program contains not only fiction and poetry, but also narratives about the real worlds of nature and history. Since word learning occurs much faster in a familiar context, the program stays on each selected subjectmatter domain long enough to make it familiar. Such integration of subject-matter content in reading classes enriches background knowledge and enlarges vocabulary in an optimal way.

Constantly Changing Schools—A Critical Issue

Thus far, I've mostly been explaining the need for a fact-filled, knowledge-building curriculum. But the critical issue of student mobility demands more than just each school adopting or adapting such a curriculum. If we are really to serve all of our children to the best of our ability, then nothing short of a common curriculum—one shared by all schools—will do.

Mobility is a term to denote students' moving from one school to another in the middle of the year. The percentage of economically disadvantaged students who migrate during the school year is appallingly high, and the effects are dishearteningly severe. One study has analyzed those effects on 9,915 children. With this large group, the researchers were able to factor out the influences of poverty, race, single-parent status, and lack of parental education in order to isolate just the effects of changing schools.

Mathematical Ability Relies on Knowledge, Too

BY JOHN SWELLER, RICHARD E. CLARK, AND PAUL A. KIRSCHNER

Problem solving is central to mathematics. Yet problem-solving skill is not what it seems. Indeed, the field of problem solving has recently undergone a surge in research interest and insight, but many of the results of this research are both counterintuitive and contrary to many widely held views. For example, many educators assume that general problemsolving strategies are not only learnable and teachable but are a critical adjunct to mathematical knowledge. The bestknown exposition of this view was provided by the mathematician George Pólya.¹ He discussed a range of general problem-solving strategies, such as encouraging mathematics students to think of a related problem and then solve the current problem by analogy, or to think of a simpler problem and then extrapolate to the current problem. The examples Pólya used to demonstrate his problem-solving strategies are fascinating, and his influence probably can be sourced, at least in part, to those examples. Nevertheless, in over a half century, no systematic body of evidence demonstrating the effectiveness of any

general problem-solving strategies has emerged. It is possible to teach learners to use general strategies such as those suggested by Pólya,² but that is insufficient. There is no body of research based on randomized, controlled experiments indicating that such teaching leads to better problem solving.

Recent "reform" curricula both ignore the absence of supporting data and completely misunderstand the role of problem solving in cognition. If, the argument goes, we are not really teaching people mathematics but rather are teaching them some form of general problem solving, then mathematical content can be reduced in importance. According to this argument, we can teach students how to solve problems in general, and that will make them good mathematicians able to discover novel solutions irrespective of the content.

We believe this argument ignores all the empirical evidence about mathematics learning. Although some mathematicians, in the absence of adequate instruction, may have learned to solve mathematics problems by discovering solutions without explicit guidance, this approach has never been the most effective or efficient way to learn mathematics.

The alternative route to acquiring problem-solving skill in mathematics derives from the work of a Dutch psychologist, Adriaan de Groot,³ investigating the source of skill in chess. Researching why chess masters always defeated weekend players, de Groot managed to find only one difference. He showed masters and weekend players a board configuration from a real game, removed it after five seconds, and asked



them to reproduce the board. Masters could do so with an accuracy rate of about 70 percent compared with 30 percent for weekend players. Other researchers replicated these results and additionally demonstrated that when the experiment was repeated with random configurations, rather than real-game configurations, masters and weekend players had equal accuracy (roughly 30 percent).⁴ Masters were superior only for configurations taken from real games.

Chess is a problem-solving game whose rules can be learned in about 30 minutes. Yet it takes at least 10 years to become a chess master. What occurs during this period? When studying previous games, chess masters learn to recognize tens of thousands of board configurations and the best moves associated with each configuration.⁵ The superiority of chess masters comes not from having acquired clever, sophisticated, general problemsolving strategies, but rather from having

Even with other adverse influences factored out, children who changed schools often were much more likely than those who did not to exhibit behavioral problems and to fail a grade.¹⁰ The researchers found that the adverse effects of such social and academic incoherence are greatly intensified when parents have low educational levels and when compensatory education is not available in the home. But this big fact of student mobility is generally ignored in discussions of school reform. It is as if that elephant in the middle of the parlor is less relevant or important than other concerns, such as the supposed dangers of encouraging uniformity or of allowing an "outsider" to decide what subjects are to be taught at which grade level.

In a typical American school district, the average rate at which students transfer in and out of schools during the academic year is about one-third.¹¹ In a typical inner-city school, only about half the students who start in the fall are still there in

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stored innumerable configurations and the best moves associated with each in long-term memory.

De Groot's results have been replicated in a variety of educationally relevant fields, including mathematics.⁶ They tell us that long-term memory, a critical component of human cognitive architecture, is not used to store random, isolated strategy is teachable or learnable because we use it automatically.

But domain-specific mathematical problem-solving skills *can* be taught. How? One simple answer is by emphasizing worked examples of problem-solution strategies. A worked example provides problem-solving steps and a solution for students.⁷ There is now a large body of

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facts, but rather to store huge complexes of closely integrated information that results in problem-solving skill. That skill is knowledge domain-specific, not domain-general. An experienced problem solver in any domain has constructed and stored huge numbers of schemas in long-term memory that allow problems in that domain to be categorized according to their solution moves. In short, the research suggests that we can teach aspiring mathematicians to be effective problem solvers only by helping them memorize a large store of domain-specific schemas. Mathematical problem-solving skill is acquired through a large number of specific mathematical problem-solving strategies relevant to particular problems. There are no separate, general problemsolving strategies that can be learned.

How do people solve problems that they have not previously encountered? Most employ a version of means-ends analysis in which differences between a current problem-state and goal-state are identified and problem-solving operators are found to reduce those differences. There is no evidence that this evidence showing that studying worked examples is a more effective and efficient way of learning to solve problems than simply practicing problem solving without reference to worked examples.⁸ Studying worked examples interleaved with practice solving the type of problem described in the example reduces unnecessary working-memory load that prevents the transfer of knowledge to long-term memory. The improvement in subsequent problem-solving performance after studying worked examples rather than solving problems is known as the worked-example effect.⁹

Whereas a lack of empirical evidence supporting the teaching of general problem-solving strategies in mathematics is telling, there is ample empirical evidence of the validity of the workedexample effect. A large number of randomized controlled experiments demonstrate this effect.¹⁰ For novice mathematics learners, the evidence is overwhelming that studying worked examples rather than solving the equivalent problems facilitates learning. Studying worked examples is a form of direct, explicit instruction that is vital in all curriculum areas, especially areas that many students find difficult and that are critical to modern societies. Mathematics is such a discipline. Minimal instructional guidance in mathematics leads to minimal learning.¹¹

Reformers' zeal to improve mathematics teaching and increase students'

> mathematical problem solving is laudatory. But instead of continuing to waste time devising "reform" curricula based on faulty ideas, mathematicians and math educators should work together to develop a sound K–12 curriculum that builds students' mathematical knowledge through carefully selected and sequenced worked examples.

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the spring—a mobility rate of 50 percent.¹² Given the curricular incoherence in a typical American school (in which two fourthgrade classrooms may cover completely different content), the education provided to frequently moving students is tragically fragmented. The high mobility of low-income parents guarantees that disadvantaged children will be most severely affected by the educational handicaps of changing schools, and that they will be the ones who are most adversely affected by lack of commonality across schools.

The finding that our mobile students (who are preponderantly from low-income families) perform worse than stable ones does not mean that their lower performance is a consequence of poverty. That is to commit the fallacy of social determinism. *Where there is greater commonality of the curriculum, the effects of mobility are less severe.* In a summary of research on student mobility, Herbert Walberg states that "common learning goals, curriculum, and assessment within states (or within an entire nation) ... alleviate the grave learning disabilities faced by children, especially poorly achieving children, who move from one district to another with different curricula, assessment, and goals."¹³ The adverse effects of student mobility are much less severe in countries that use a nationwide core curriculum.

hile ignoring important issues like mobility that really do impede learning, some people blame ineffective teachers for students' lackluster performance. But so-called low teacher quality is not an innate characteristic of American teachers; ineffective teaching is the consequence of the ineffective training they have

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received and of the vague, incoherent curricula they are given to teach, both of which result from most education schools' deemphasis on specific, cumulative content. No teacher, however capable, can efficiently cope with the huge differences in academic preparation among the students in a typical American classroom—differences that grow with each successive grade.¹⁴ In other nations, the differences between groups diminish over time, so that they are closer together by grade 7 than they were in grade 4.¹⁵ Even the most brilliant and knowledgeable American teacher faced with huge variations in student preparation cannot achieve as much as an ordinary teacher can within a more coherent curricular system like those found in the nations that outperform us.

The chief cause of our schools' inefficiency is precisely this curricular incoherence.¹⁶ At the beginning of the school year, a teacher cannot be sure what the entering students know about a subject, because they have been taught very different topics in prior grades, depending on the different preferences of their teachers. Typically, therefore, the teacher must spend a great deal of time at the beginning of each year reviewing the preparatory material students need to know in order to learn the next topic—time that would not need to be so extensive (and so very boring to students who already have the knowledge) if the incoming students had all been taught using a common core curriculum and thus had all gained this knowledge already.

If states would adopt a common core curriculum that builds knowledge grade by grade, reading achievement would rise for all groups of children. So would achievement in math, science, and social studies because, as common sense predicts, reading is strongly correlated with the ability to learn in all subjects. Equally important, the achievement gap between social groups would be greatly narrowed and social justice would be served.

Endnotes

 There is a large literature on the decline of verbal SAT scores in the 1960s and 1970s, and on NAEP (National Assessment of Educational Progress) scores when these began to be collected in the 1970s. A summary of these issues with full bibliographical references can be found in E. D. Hirsch, Jr., *Cultural Literacy* (Boston: Houghton Mifflin, 1987), 1–10; and E. D. Hirsch, Jr., *The Schools We Need* (New York: Doubleday, 1996), 39–42, 176–179.
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Envisioning a Common Core Curriculum

Authors throughout this special issue of American Educator advocate for a common core curriculum. But what should such a curriculum look like? How specific should it be, and in what ways should it support teaching? As long as it is truly a core curriculum—leaving about one-third of instructional time free for districts, schools, and teachers to add their own materials and projects-we'll venture to say that it should be detailed and specific, but not scripted. It should offer extensive support

for teaching, such as lesson plans and classroom assessments, but using those supports should not be mandatory. The new Core Knowledge Language Arts Program for kindergarten through second grade seems to fit that description. While the program is new, pilot testing has demonstrated its effectiveness, and refinements based on teacher and researcher feedback are ongoing. In addition, the Core Knowledge Sequence, from which it

is derived, has been used in schools across the country for 20 years. We hope this high-guality example will generate discussions throughout schools and statehouses about how detailed and supportive a common core curriculum for our nation ought to be.

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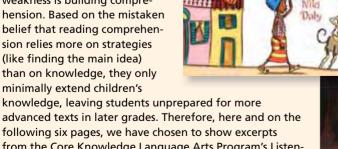
Listening and Learning

How a Carefully Crafted Language Arts Program **Builds Knowledge and Strong Readers**

The Core Knowledge Language Arts Program for kindergarten through second grade consists of two separate strands: (1) Skills and (2) Listening and Learning. The Skills Strand teaches sounds and the letters that represent them, beginning with the simplest sound-letter correspondences, and presenting reading and writing in tandem as

inverse (decoding/encoding) procedures. Automaticity and fluency also are emphasized as students are given fully decodable texts to practice reading aloud independently. The Listening and Learning Strand builds students' listening comprehension—a prerequisite to reading comprehension-by exposing students to complex texts that are read aloud daily, systematically increasing their vocabulary and knowledge. In each grade, 12 subject-matter domains—shown on the next page—are explored through fiction and nonfiction texts.

Although most widely used reading programs could improve their approach to reading skills (such as decoding and fluency), their primary weakness is building comprehension. Based on the mistaken belief that reading comprehension relies more on strategies (like finding the main idea) than on knowledge, they only minimally extend children's



advanced texts in later grades. Therefore, here and on the following six pages, we have chosen to show excerpts from the Core Knowledge Language Arts Program's Listening and Learning Strand. To download the Core Knowledge Sequence and learn more about the new program, see www.coreknowledge.org.



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Comprehension Relies on Knowledge

Building Broad Knowledge: Key Domains Expand Children's View of the World						
Kindergarten:	Grade 1:	Grade 2:*				
1 Nursery Rhymes and Fables	1 Fables and Stories	1 Fairy Tales and Tall Tales				
2 The Five Senses	2 The Human Body	2 Early Asian Civilizations				
3 Stories	3 Different Lands, Similar Stories	3 Cycles in Nature				
4 Plants	4 Early World Civilizations	4 The Ancient Greek Civilization				
5 Farms 🦀	5 Early American Civilizations	5 Greek Myths				
6 Native Americans	6 Mozart and Music	6 Insects				
7 Kings and Queens	7 Astronomy	7 Westward Expansion				
8 Seasons and Weather 🦊 🔪	8 The History of the Earth	8 The U.S. Civil War				
9 Columbus and the Pilgrims	9 Animals and Habitats	9 Charlotte's Web I				
10 Colonial Towns and Townspeople	10 Fairy Tales	10 Charlotte's Web II 🗶				
11 Taking Care of the Earth	11 The Birth of Our Nation	11 Immigration				
12 Presidents and American Symbols	12 Frontier Explorers	12 Fighting for a Cause				

Building Subject-Matter Knowledge: Solid Preparation for Academic Courses in Later Grades

Literature

Fiction is essential, but all stories are not of equal value. The selected fables, stories, myths, etc., in this program are as much a part of building subject-matter knowledge as the texts about science and social studies. Fictional works appear in each of the domains, with stories like "Bear, Gull, and Crow" in the Native Americans domain and "The Grasshopper and the Ants" in the Seasons and Weather domain.

Science

From insects to rainbows, children are very curious about the natural world. The science domains are sequenced to build knowledge within grades—as kindergartners progress from *Plants* to *Farms* to *Seasons and Weather* to *Taking Care of the Earth*—and across grades as children learn about *The Five Senses* in kindergarten and then *The Human Body* in first grade.

Social Studies

Instead of merely "activating" children's existing knowledge of their families and neighborhoods, these domains enlarge children's knowledge. Careful sequencing allows content and ideas to build on each other—such as by moving from Kings and Queens to Columbus and the Pilgrims to Presidents and American Symbols in kindergarten, and on to The Birth of Our Nation and Westward Expansion in first and second grades.

Building Coherent Knowledge: Big Ideas Draw on Multiple Domains and Subjects

In addition to the domains being carefully selected to build essential subject-matter knowledge, they are also purposefully combined within and across grades to develop coherent knowledge. Take a closer look at the kindergarten domains. Several of the science domains help students better understand agriculture, which is essential to the knowledge being built in the social studies domains since early America was largely an agrarian society. An example of carefully constructed coherence across grades is the progression (illustrated above with solid purple arrows) from *Stories* in kindergarten to *Different Lands, Similar Stories*, then *Early World Civilizations* and *Early American Civilizations* in first grade to *Early Asian Civilizations, The Ancient Greek Civilization,* and *Greek Myths* in second grade. Looser but still vital connections are also built in, such as the *Plants, Farms,* and *Seasons and Weather* domains in kindergarten supporting comprehension of *Animals and Habitats* in first grade and then *Charlotte's Web* in second grade (which is illustrated above with dashed arrows).

*Kindergarten and first-grade materials are currently available. Second-grade materials will be available in the summer of 2011.

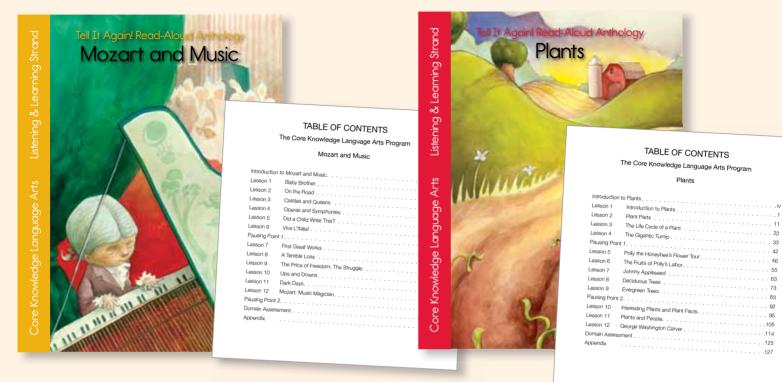
Knowledge Takes Time to Build

The Listening and Learning Strand of the Core Knowledge Language Arts Program contains 12 domains per grade, allowing each domain to be studied for at least two weeks using a variety of texts and content-related activities. This focus on

Different Lands,

Similar Stories

one topic at a time is the most efficient way to build students' knowledge and vocabulary. Mastering new topics and new words requires hearing, thinking about, and discussing them repeatedly. Sticking with a topic is also more engaging and enjoyable, since the details (e.g., Mozart was a child prodigy who, at 5 years old, covered himself in ink as he began writing a concerto) are almost always more interesting than the introduction (e.g., Mozart was a composer).



Why Emphasize Read-Alouds?

Reading aloud to children is absolutely essential to building the knowledge that enables comprehension. Written language contains vastly more sophisticated vocabulary, ideas, and syntax than spoken language. So listening to a text read aloud has benefits that listening to a lecture, watching a movie, or engaging in a class

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Lesson 1	to Different Lands, Similar Stories
	and and and a lood
Lesson 2	Lon Po Po
Lesson 3	Pretty Salma
Lesson 4	Tom Thumb
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Lesson 6	Thumbelina
Lesson 7	Issun Boshi: One-Inch Boy
Lesson 8	Mufaro's Beautiful Daughters
Lesson 9	The Irish Cinderlad, Part I
Pausing Point	The Irish Cinderlad, Part II
Domain Asses	
Appendix	Sment

discussion cannot provide (although these activities have their own benefits). In addition, students' reading comprehension is not as advanced as their listening comprehension until they are 13 or 14 years old. The need for read-alouds in the early grades is obvious: young children cannot read at all, and children ages 5 to 8 are focused on decoding and gaining fluency. But even after age 9 or so, when most children can read some texts with comprehension, listening comprehension still far surpasses reading comprehension. Eighth-graders, for example, may be able to read their grade-level science textbook, but would still benefit from their teacher reading aloud a more advanced text, such as a popular book for adults by Isaac Asimov. Reading aloud is critical throughout elementary and middle school, even after students become independent readers. The knowledge and vocabulary they gain while listening will support their silent reading and allow them to move more quickly into advanced texts.

Read-Alouds Make for Rich Lessons

To maximize students' learning, each read-aloud comes with a complete lesson, including clear objectives for both the language arts skills and the content knowledge to be mastered, core vocabulary, comprehension guestions, and a broad array of extension activities. There are also "Guided Listening Supports" that prompt teachers to explain vocabulary and ask questions to actively engage students in processing and responding while they listen. The lesson on the following three pages presents the "Teddy Roosevelt's Hero" read-aloud, which is part of the *Presidents and American Symbols* domain in kindergarten.

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Presidents and American Symbols

Introduction	to Presidents and American Symbols
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recommended that you cover the *Kings and Queens* domain prior to this domain, because it will be beneficial to draw on students' background knowledge of kingdoms to make a comparison between a king and a president.

If you have already taught the Columbus and the Pilgrims domain, you may also draw on what students already learned about the Pilgrims who chose to leave England and later started a colony in America. This connection is important in two ways: Students will realize the Pilgrims wanted the *freedom* to worship as they pleased instead of what the king wanted; students will also understand what the colonies were, and how the Pilgrims were one of many groups of people to set up colonies in North America. It is important to draw on this background knowledge so that students can have a context when they learn about how George Washington fought against England and won freedom for the colonies, which then became the United States of America. Students start out by learning about two of our country's founding fathers, George Washington and Thomas Jefferson. They will hear about the legend of Washington and the cherry tree, and his role as a general in the American Revolution and as the first president. They will then continue on to learn about Jefferson's writing talent and the Declaration of Independence.

Students will also learn that when the colonists decided to fight for their freedom from England, they themselves were keeping freedom from a large number of African-American slaves. The domain then covers Abraham Lincoln, the president of our country during the Civil War, and his role in ending slavery only about two hundred years ago.

Finally, the domain segues to Theodore Roosevelt, who remembers as a child when Abraham Lincoln died, and how this hero made an impact on his growth as an adult and later his presidency. Students will also learn about Roosevelt's love for the outdoors and how he worked for nature conservation.

The domain concludes with a story about the carving of Mount Rushmore, which commemorates the four presidents presented in this domain: George Washington, Thomas Jefferson, Abraham Lincoln, and Theodore Roosevelt.

Presidents and American Symbols

Tell It Again! Read-Aloud Anthology

You will find the Instructional Objectives and Core Vocabulary for this domain below. The lessons that include Student Choice/ Domain-Related Trade Book Extensions, Image Cards, Parent Letters, Instructional Masters, and Assessments are also listed in the information below.

Why Presidents and American Symbols Are Important

This domain explores the lives and legacies of four famous presidents and introduces students to several national symbols, including the American flag, the Statue of Liberty, the White House, and Mount Rushmore. Students begin by learning the basics about our government, what a president is, what a president does, and how a person becomes president. It is highly

V Presidents and American Symbols | Introduction

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Teddy Roosevelt's Hero 🎉

② Lesson Objectives

Core Content Objectives

Students will:

- Recognize Theodore Roosevelt as an important presider United States
- Know that Theodore Roosevelt overcame childhood he nroblems
- Know that Theodore Roosevelt loved the outdoors

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., le and listen to the speaker, raise hand to speak, take "excuse me" or "please," etc. (L.K.1)
- Carry on and participate in a conversation over for
- turns, staying on topic, initiating comments or res partner's comments, with either an adult or anoth same age (L.K.3)
- Identify and express physical sensations, mental emotions of self and others (L.K.4)
- Listen to and understand a variety of texts, incl stories, fairy tales, fables, historical narratives, text, nursery rhymes, and poems (L.K.11)

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Introducing the Read-Aloud

What Have We Already Learned?

Remind students that they have heard the stories of three former U.S. presidents so far in this domain. Tell students that you are going to say a statement about one of these great men and they are to name which of the three presidents the statement is about. Tell students their three choices: George Washington, Thomas Jefferson, and Abraham Lincoln.

Teddy Roosevelt's Hero

- · This president was admired for his honesty and has a cherry tree legend about him. (George Washington)
- These two presidents were two of the Founding Fathers who helped create the United States of America. (George Washington and Thomas Jefferson)
- This man had a talent for writing, and wrote the Declaration of Independence, a statement saying that the colonists were free from England and had the right to live, to be free, and to be happy. (Thomas Jefferson)
- · This general fought England for American independence during the American Revolution. (George Washington)
- This man became the first president of the United States. (George Washington)
- This man became the third president of the United States. (Thomas Jefferson)
- This man known as "Honest Abe" was president during the U.S. Civil War and hid a paper under his hat that said all slaves were set free. (Abraham Lincoln)

Ask: "Which of these three presidents do you admire the most? What things have they done to make you feel this way?" Remember to repeat and expand upon each response, using richer ", eic. (L.K.15) and aloud, i.e., who, wh

 Answer questions that require making interpretations, judgments, or giving opinions about what is heard in a aloud, including answering "why" questions that require

- recognizing cause/effect relationships (L.K.17) Make personal connections to events or experiences in
- aloud and/or make connections among several read-alo
- Learn new words from read-alouds and discussions (L.K Retell important facts and information from a read-aloud Core Vocabulary

education, n. What someone has learned Example: Because of her good education, Leah knew a lot about

Variation(s): none

expert, n. Someone who knows a lot about a subject *Example:* The zookeeper is an expert on wild animals and can tell

Variation(s): experts judge, v. To form an opinion about a person or a situation

Example: You should not judge a person by his or her looks; you sh get to know the person.

Variation(s): judges, judged, judgi

_]	At a Glance	o - a, Judging		
s h	Sunce	Exercise		
1	Introducing the Read-Aloud	What Have We Already Learned?	Materials	Minut
11		Personal Connections		
ŀŀ	Presenting the Read-Aloud	Purpose for Listening		10
Ŀ	Discussing the Read-Aloud	Teddy Roosevelt's Hero		
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ictional Master 7B-1

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d more complex language, including, if possible, any read-alo cabulary. If a student's response includes inaccurate factual formation, refer back to earlier read-alouds and/or illustrations prrect any misunderstandings.

nal Connections

10 minutes

sk: What is a hero? Explain that heroes are people you admire espect, and look up to because they have done good things in neir lives.

lave students share who their heroes are. Ask what these people have done to cause students to admire them so much. Fell the students that today they will be listening to a story abo another one of the past presidents of the United States, Presidents Theodore Roosevelt. Explain to the students that, during the r aloud, they will hear about one of President Roosevelt's heroe

ose for Listening

Tell students to listen for the struggles that Roosevelt had as child, and how he overcame those problems as he became a adult. Ask students to identify Theodore Roosevelt's hero and hero of Theodore Roosevelt's father.

Presenting the Read-Aloud



Teddy Roosevelt's Hero

Show image 7A-1: Theodore Roosevelt

Everybody gets scared sometimes, but we can learn what to do about it. Today we are going to hear a true story about someone who decided that he would never let being scared stop him from doing what was right. This is a story about young Teddy Roosevelt.

His mother called him "Theodore" when she introduced him to her friends. His own friends called him "T. R." for short. His father called him "Teddy" when saying something he especially wanted his son to remember. "Teddy," he might say, "there is nothing more important than a good education," and Teddy Roosevelt would listen.¹ Teddy always listened to what his father said.

Show image 7A-2: Young Teddy watches Lincoln's funeral train²

2 Describe what you see in the picture

1 An education is what someone has

learned

3 A funeral is when people gather to honor someone who has died.

4 Who remembers something good that Abraham Lincoln did?

5 People are gathering out of respect for Abraham Lincoln. They want to say good-bye.

One day when Teddy was six years old, he and his younger brother, Elliott, were visiting their grandparents in New York City, where all the Roosevelt family lived. Teddy's friend, Edith Carow (CARE-oh), was with them, but the children were not playing as they usually did. They stood by a window with Mr. Roosevelt, Teddy's father, and watched a train slowly moving by, not far from the house. Mr. Roosevelt said, "Inside that train is Abraham Lincoln, the president of the United States. President Lincoln died, and that train is taking him back to his home for his funeral."3

Teddy asked, "Why is the train moving so slowly, Father?"

"A lot of people loved Abraham Lincoln, Teddy, and thought he was a very good man.⁴ People are sorry he died. They want Lincoln's family to know this, and they are gathering along the train tracks to show how much they will miss him." 5



Show image 7A-3: Lincoln

Show image 7A-4: Frail Teddy Roosevelt

Teddy thought about this. "Do *you* think Pres a good man, Father?" Teddy greatly admired his wanted to know how his father felt about the pre Mr. Roosevelt replied, "I think Abraham Linco

man, Teddy, and a great president. A great presid

of people and do a lot of good things. Abraham L

a poor family, but he worked hard. He was smart

so many people liked him that he was elected pre

remember, Teddy, you should **judge** ⁷ a man not b

clothes he wears or whether he lives in a fancy pa

by what he tries to do and why. Why, some of the best

have known hardly had two pennies to rub together." ⁸

But Teddy Roosevelt rarely got out to meet different k

people in different parts of town. Mostly he stayed quiet

because he had medical problems that made it hard for I breathe. His mother worried that if he tried to be too activ

might get sick and die. 9 His father thought differently. "Te

said, "only you can decide how you will live. I suggest you

your body instead of being afraid to push it too hard. Lool

the eye and tell it, 'I will not let you beat me. I will not just

Does it sound like Mr. Roosevelt admired President Lincoln? Why or why not?

or form an opinion about

10 minutes

What do you think it means that someone "hardly had two pennies to rub together"? Teddy's father is saying that some of the best people he has known have been poor.



(Point to Teddy's mother in the icture and note how she is peeking in on him because she is



orried about him.)

followed his father's advice. does this suggest to you

dae Foundati

watch while other people do all the important and exciting will truly live my life!'" Show image 7A-5: Active Teddy Roosevelt Teddy listened. Through years of long, hard effort, he turned himself into someone who was all action. He built up his body

how Teddy felt about his

eone who knows a lot about

and box. He spent more and more time outdoors, climbing hig mountains, hiking for miles and miles, and fishing and hunting. Teddy built up his mind, too. His love for the outdoors led him to learn all about wild animals, birds, and fish. He becam such an ${f expert}^{\pm 1}$ that famous scientists said, "Young Roosev

lifting weights, becoming a strong swimmer and learning to wr

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woman named Alice Lee. He studied to become a lawyer and wrote a book about the U.S. Navy, which navy officers agreed was the best book on the subject. Then he started to work ir the government of the state of New York. Always doing a do: projects at once, he did all of them well.

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Four years after Theodore and Alice married, Alice gave b to a baby girl, whom they named Alice. Theodore had never so happy. He loved his wife and new daughter and was now of the New York government leaders, doing work he knew wa helping people. Only two days after little Alice was born, how Theodore's lovely young wife became sick and died.

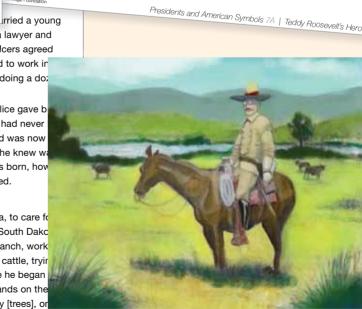


Show image 7A-7: Roosevelt out West

12 Back then, far west of New York, there was much open land and many cowboys.

Heartbroken, Teddy asked his older sister, Anna, to care for new baby. Then he left New York and traveled to South Dakc land of wide-open prairies.¹² He bought a cattle ranch, work alongside the cowboys he hired to move herds of cattle, tryir to stay too busy to think about his sadness. There he began feel healthy again. He wrote, "My ranch-house stands on the brink. From the low, long veranda, shaded by leafy [trees], or looks across [to grassy] meadowland, behind which rises a line of [steep] cliffs. This . . . is a pleasant place in . . . summer evenings when a cool breeze stirs along the river and blows in the faces of the tired men, who [lean] back in their rocking-chairs [what true

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Deonle

inds of y at home nim to /e, he ddy," he ı build up fear in sit and things, I

d by estle h 10

elt

77



American does not enjoy a rocking-chair?], books in gazing sleepily out at the [hills] in the after-glow of si

Show image 7A-8: Roosevelt the cowboy

However, Teddy did not look quite like other cowk wore glasses, and his cowboy outfit had been made clothing designer back East. He also served as a de special kind of policeman-while living in the West. chased three outlaws 13 for days before catching and them.



13 or people who had broken the law

Show image 7A-9: Roosevelt as a young politician

Comprehension Questions

Teddy loved the West, but little Alice was in the E his daughter, so at last he went home. He decided, right. If such a terrible thing as losing my wife can have

warning, I must use every day I have in this world to do important things." He started working in government again so he could help people. Theodore Roosevelt did not know it then, but he himself would one day become president of the United States.

Discussing the Read-Aloud

15 minutes



- 1. Who was Teddy Roosevelt's hero as a child? (his father)
- 2. Why did Teddy's father admire Abraham Lincoln? (Lincoln came from a poor family, worked hard, was a good leader, and was a kind, honest man.)
- 3. What was Teddy's problem as a child? (He had medical problems that made it hard for him to breathe.)
- What do you think gave Teddy the courage to build up his body and mind, even though he was a sick child? (the love and support of his father)
- What kinds of things did Teddy do because he enjoyed 5 the outdoors? (climbed mountains; hiked; hunted; fished; learned about wildlife; etc.) What kinds of things do you enjoy outdoors? (Answers may vary.)

Word Work: Expe

Think Pa

Rooseve

president

6.

2.

1. In the read-aloud today, we heard that Teddy Roose became an expert in the outdoors and about animals Say the word expert with me.

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- 3.
- An expert is someone who knows a lot about a topic. 4. Someone is an expert if he or she knows how to do so
- very well or can answer most questions about a topic. Tell about someone you know who is an expert in some 5. Try to use the word expert when you tell about it. (Ask tv or three students. If necessary, guide and/or rephrase the students' responses: "One person I know who is an expe ____. S/he is an expert in ____.")
- 6.

What's the word we've been talking about?

Use a Making Choices activity for follow-up. Directions: I am go to describe some people. If any of the people I describe sound like an expert, say, "expert." If any of the people I describe don't sound like an expert, say, "not an expert."

- someone who can answer all your questions about any type
- 2.
- someone who is just beginning to learn to read (not an expert) someone who takes apart a watch, but cannot put it back 3.
- someone who knows how to fix any problem with any 4.
- Complete Remainder of the Lesson Later in the Day

Teddy Roosevelt's Hero 🎉

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Extensions

Show images 7A-1 through 7A-9. Have the students Image Review what they see in each picture and what they have lea is associated with the picture. As the students share to repeat and expand upon each response using rich more complex language, including, if possible, any r vocabulary.

Parent Letter

Send home Instructional Master 7B-1.

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