



The
Core Knowledge™
Series



Resource Books for Children
from Year 1 to Year 6

PRAISE FOR THE CORE KNOWLEDGE UK SERIES

‘A strong foundation of knowledge gained in the earliest years of education is such an important asset for children, sparking their imagination and providing the cornerstone for their future learning. I welcome the aim of the Core Knowledge books to do just that and I am sure that they will be valued by many parents wishing to help their children do well at school.’

– Munira Mirza
Deputy Mayor for Education and Culture for London

‘Creativity, the arts and design are crucial to the environment and life of every citizen. They should occupy a central place in the curriculum at both primary and secondary levels. The new series published by Civitas, giving examples of how the arts and creativity can play a part in the education of every child, is a real contribution to the teaching of these subjects in all our schools.’

– Sir Nicholas Serota, Director of Tate

‘As a parent, I was always interested to know what my child had been learning at school. As a teacher, I was able to share my knowledge with the children in my class. The ideas and information provided by Core Knowledge UK do both. With clear explanations, examples and illustrations, it can help any parent with their child’s education. It has helped me ensure that the children in my class have access to old and new ideas, stories and philosophies. I look forward to introducing it further to the pupils at my school and their parents.’

– Sonia Gomez
Primary Teacher and Parent, Greater London, UK

‘The book is full of stories, poems, explanations, activities, games and experiments, together with recommendations for outings and further reading. It is attractively produced with many illustrations, diagrams and photos. Each section is written in a style suitable to be read aloud by a parent to a child. The book is not intended to be a complete curriculum nor a textbook or workbook, but is designed to be used by parents wishing to complement and reinforce their child’s school education. It will also serve as a practical help and confidence-builder for parents considering or embarking on home education. Civitas has provided a valuable service in publishing a UK edition.’

– Family Bulletin,
Published by the Family Education Trust

What Your Year 4 Child Needs to Know

PREPARING YOUR CHILD
FOR A LIFETIME OF LEARNING



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A Note to Teachers

Throughout the book, we have addressed the suggested activities and explanations to ‘parents’, since you as teachers know your students and will have ideas about how to use the content of this book in relation to the lessons and activities you plan. To discuss using Core Knowledge UK materials in your school, please contact Civitas at 55 Tufton Street, London SW1P 3QL, 020 7799 6677.

Email: coreknowledge@civitas.org.uk

Companion Website

There is a wealth of additional activities, readings and resources to supplement this book available on the Core Knowledge UK website. This includes a Teacher’s Portal with teaching ideas and resources, curriculum planning documents and images from the book that are available for use by teachers and home educators. Please visit our website at:

www.coreknowledge.org.uk

About the Editor

E.D. Hirsch, Jr is a professor at the University of Virginia and the author of *The Schools We Need* and the bestselling *Cultural Literacy* and *The Dictionary of Cultural Literacy*. He and his wife, Polly, live in Charlottesville, Virginia, where they raised their three children.

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Contents

<i>Acknowledgements</i>	v
<i>A Note to Teachers</i>	viii
<i>About the Editor</i>	viii
<i>Foreword to the UK Edition of the Core Knowledge Series</i>	xv
<i>Introduction to the UK edition of the Core Knowledge Series for Year 4</i>	xvii
<i>General Introduction to the Core Knowledge Series</i>	xix

Language and Literature

Introduction	2	The World Tree and the End of the World	49
Poetry	3	Loki and the Gifts for the Gods	50
For Want of a Nail	3	Myths from Ancient Greece and Rome	52
Colonel Fazackerley Butterworth-Toast by Charles Causley	4	Jason and the Golden Fleece	52
Eletelephony by Laura Richards	6	Perseus and Medusa	55
By Myself by Eloise Greenfield	7	Orpheus and Eurydice	57
Dream Variations by Langston Hughes	7	The Sword of Damocles	59
Ducks' Ditty by Kenneth Grahame	8	Damon and Pythias	60
Stories	8	Androcles and the Lion	61
Alice's Adventures in Wonderland by Lewis Carroll	8	Horatius at the Bridge	63
Aladdin and the Wonderful Lamp	18	Learning About Literature	64
Ali Baba and the Forty Thieves	23	Biography and Autobiography	64
The Little Match Girl by Hans Christian Andersen	28	Fiction and Non-fiction	65
William Tell	30	Learning About Language	66
The River Bank by Kenneth Grahame	32	Let's Write a Report	66
Bertie and the Lion by Michael Morpurgo	37	Let's Write a Letter	68
Legends	41	Parts of a Sentence	69
Finn MacCool and the Giant's Causeway	41	Main and Subordinate Clauses	69
The Hunting of the Great Bear	44	What Kind of Sentence Is It?	71
Mythology	48	Parts of Speech	72
Gods, Heroes and Tricksters from Scandinavia	48	Nouns	72
Norse Gods and Goddesses	48	Adjectives	72
		Verbs	73
		Adverbs	73
		Pronouns	74
		More about Verbs	74
		Let's Punctuate!	74

Just Say No Once	76	One rotten apple	
Prefixes and Suffixes	76	spoils the whole barrel	82
They Sound Alike, but They're Different	77	Clean bill of health	82
Shorten Up with Abbreviations	78	Rule the roost	82
Sayings and Phrases	79	A stitch in time saves nine	83
Actions speak louder than words	79	The show must go on	83
His bark is worse than his bite	79	The writing is on the wall	84
Beggars can't be choosers	80	Touch and go	84
Let bygones be bygones	80	On its last legs	84
Last straw	80	When in Rome, do as the Romans do	85
Beat around the bush	81	Rome wasn't built in a day	85
A feather in your cap	81	Cold shoulder	85
		Suggested Resources	86

History and Geography

Introduction	89	The Legend of How Rome Began	121
World Geography	90	Religion, Roman Style	122
Quiz Time –		Rome's Powerful Location	123
How Much Do You Remember?	90	Rome's Early Republic	124
Look at the Legend	91	Who's Got Class?	124
Mediterranean Europe	93	Rome and Its Provinces	126
A Nice, Warm Climate	93	Latin Lives!	126
Italy and Vatican City	95	Conquering Carthage	127
Spain and Portugal	97	Hannibal Keeps His Promise	128
Greece	98	The Final Defeat of Carthage	130
Turkey	99	All Roads Lead to Rome	130
Eastern Europe	101	Julius Caesar Shows	
Russia	101	the Pirates Who's Boss	131
Baltic Countries	102	Pompey, Caesar's Rival	131
Balkans	103	Crossing the Rubicon	132
Rivers and Seas	103	Caesar Meets Cleopatra	132
Mountains	105	Pride Comes Before a Fall	133
Religion and Alphabet	105	All for Love - and Power	134
British Geography	106	Pax Romana	136
London and the South East	106	The Roman City Centre	137
The South West	111	Where's the Spaghetti?	138
Northern Ireland	115	Roman Sports –	
Ancient Rome	120	Play at Your Own Risk	139

Let's Go to the Races!	141	King James VI of Scotland and King James I of England	155
Pompeii: A City Frozen in Time	141	Who Was Charles I?	156
Claudius: The Emperor that Brought Britain into the Empire	143	The Civil War	157
Nero: Not a Hero	144	The Execution of Charles I and the Commonwealth	160
Christians During the Days of Ancient Rome	144	The King in an Oak Tree (adapted from <i>Our Island Story</i> by Henrietta Marshall)	161
Constantine Sees a Cross in the Sky	145	The Restoration: Politics and Society, Religion and Science	163
Constantinople: A City Full of Art	146	The Great Plague and the Great Fire	164
The Fall of the Roman Empire	147	The Glorious Revolution and the Bill of Rights	167
Justinian's Code: A Gift from the Byzantine Empire	148	A Great Explorer: Sir Francis Drake	169
British History	150	Suggested Resources	173
James I and VI:			
The Union of the Crowns	150		
Monarchs of the House of Stuart	151		
The Gunpowder Plot	152		

Visual Arts

Introduction	175	Activity 5: Make your own collage	186
Caught in the Light	175	Pictures from Stitches	187
Basking in Sunlight	175	Stitching Icarus	187
Painting with Light and Shade	176	Activity 6: Cross stitch your own picture	187
Activity 1: Capturing the light in your still life	177	Tapestry – Art to Keep the Room Warm	188
Out of the Shadows	178	Activity 7: Tracing pictures	189
The Fighting Temeraire	179	Dressing Up for an Important Occasion	190
A Wall Filled with Light	180	Activity 8: Choose your badge	191
Activity 2: Make your own mosaic	181	A Patriotic Wedding Dress	192
Filling a Space	181	Roman Monuments:	
Filling Plane Figures	181	Art to Impress the People	193
Activity 3: Big things far away	183	Trajan's Column	193
Design	184	Arch of Constantine	193
What is Design?	184	The Pantheon	194
Drawing with Scissors	184	Suggested Resources	195
Activity 4: Using a colour wheel	185		

Music

Introduction	197	Strong Feeling	210
Elements of Music	197	The Story of Swan Lake	211
Reading and Writing		Edward Elgar	213
Musical Notes	198	Gustav Holst:	
Reading and Writing Rhythm	199	The Planets Made Him a Star	215
Keeping Time	201	Some Songs for Year 4	216
Rests	202	All Through the Night	
Loud and Soft	203	by John Ceiriog Hughes	216
Let's Join the Orchestra	204	Annie Laurie by William Douglas	
The Brass Family	204	and Alicia Scott	217
The Woodwind Family	206	London's Burning	217
All Together Now	209	On Ilkley Moor Baht 'At	218
Composers and Their Music	209	In Dublin's Fair City	219
Rimsky-Korsakov's		Alouette	220
Musical Connections	209	Aiken Drum	221
Tchaikovsky: Music That Brings		Suggested Resources	222

Mathematics

Introduction	223	Estimating Sums and Differences	236
Numbers as far as		More Than One Operation	237
Hundred Thousands	224	Mental Subtraction	237
Thousands	224	Sums and Differences	
Reading and Writing		of Four-Digit Numbers	238
Four-Digit Numbers	225	Adding with Thousands	238
Ten Thousands and Hundred		Subtraction:	
Thousands	226	Regrouping More Than Once	240
Counting with Thousands	228	Subtracting Across Zeros	240
Skip-Counting with Thousands	229	Four-Digit Subtraction	241
Rounding Numbers	229	Adding and Subtracting	
Comparing and Ordering Numbers	231	Amounts of Money	242
Working with Numbers	232	More Mental Addition	
Ordinal Numbers	232	and Subtraction	242
Using Number Lines	233	Multiplication	243
Addition and Subtraction	234	Multiplication Tables	243
Column Addition	234	Square Numbers and Square Roots	244
Mental Addition	235	Review: Brackets and	
More Mental Addition Techniques	235	the Order of Operations	245

Multiplying Visually and Vertically	246	Multiplying and Dividing	
A Short Way to Multiply	247	Amounts of Money	262
Multiplying Tens, Hundreds		Word Problems	263
and Thousands	248	A Two-Step Word Problem	263
Multiplying Three-Digit		An Estimation Problem	263
and Four-Digit Numbers	248	A Problem Where You	
Checking Multiplication	250	Need to Guess	264
Another Way to Write		Time, Dates and Graphs	265
Expanded Form	250	Time to the Minute	265
Solving Word Problems		Elapsed Time in Minutes	266
Using Multiplication	251	24 Hours in a Day	266
Division	252	Working with the Calendar	267
Division Tables	252	Writing Dates	268
Dividing Tens, Hundreds and		Reading and Writing Graphs	269
Thousands	252	Geometry	271
Two-Digit Quotients	252	Polygons	271
Checking Division	254	Angles	273
Dividing Three-Digit Numbers	254	Congruent and Symmetrical Figures	274
Roman Numerals	255	Perimeter	275
Parts of a Whole: Fractions		Area	276
and Decimals	257	Solids	276
Review: Recognising Fractions	257	Measurement	277
Numerator and Denominator	257	Imperial and Metric Measures	277
Equivalent Fractions	258	Measurement Word Problems	279
Comparing Fractions	259	Measure and Draw Line Segments	280
Mixed Numbers		Estimating Linear Measurements	281
and Whole Numbers	259	Measuring Weight	283
Decimals: Tenths	261	Measuring Capacity	283
Decimals and Hundredths	261	Measuring Temperature	284
		Suggested Resources	285

Science

Introduction	287	Reptiles	292
Classifying Animals	288	Birds	292
What Do They Have in Common?	288	Mammals	293
Does It Have a Backbone?	289	Ecology	294
Classifying the Vertebrates	290	Living Things Depend	
Fish	290	on Each Other	294
Amphibians	292	How Natural Cycles Work	295

Fossils	297	How the Ear Works	327
Depending on Each Other	298	Astronomy	328
A Web of Living Things	299	The Universe:	
Hold Your Breath!	300	Big and Getting Bigger!	328
Should You Drink the Water?	301	How Do We Learn	
The Human Body: The Skeletal and Muscular Systems	302	About Outer Space?	329
Muscle and Bone	302	Our Solar System	332
Bones and Connections	302	Planets in Motion:	
The Skull	304	Orbit and Rotation	334
The Spinal Column	304	Earth's Satellite: The Moon	337
The Ribs	304	The Force of Gravity	339
The Scapula	305	When Day Becomes Night:	
The Pelvis	305	A Solar Eclipse	341
Will You Sign My Cast?	306	The Inner Planets	342
Many Muscles	306	Mercury	343
Voluntary and Involuntary Muscles	308	Venus	343
Connecting Muscles and Bones	308	Earth	343
The Human Body: The Brain and Nervous System	309	Mars	344
Your Powerful Brain	309	The Asteroid Belt	345
You've Got Nerves	310	The Outer Planets	345
Reflex Responses	311	Jupiter	345
Light and Vision	312	Saturn	346
Fast and Straight	312	Uranus	347
Mirrors Flat and Curved	313	Neptune	347
Lenses	315	Pluto	347
What Colour is Light?	318	A Solar System Model	349
How Your Eyes See	318	Dirty Snowballs and Shooting Stars	350
Sound and Hearing	322	Constellations: Shapes in the Stars	351
Good Vibrations	322	The Lives of Famous Scientists	352
What Does Sound Travel Through?	322	Nicolaus Copernicus	352
The Speed of Sound	324	Galileo Galilei	353
Loud and Quiet	325	Isaac Newton: Discoverer of Gravity	354
High and Low	326	Caroline Herschel	356
		Alexander Graham Bell	358
		Suggested Resources	360
<hr/>			
<i>Illustration and Photo Credits</i>			363
<i>Text Credits and Sources</i>			365
<i>Index</i>			366

Foreword to the UK Edition of the Core Knowledge Series

This is the fourth in a series of books for parents who want to help their children do well at school. It describes what every child should aim to have learnt by the end of the school year. It is not a description of everything that could be known but rather a guide to the knowledge that children will need to advance to the next stage of their education. Nor is it primarily a textbook, although it could be used as such – along with other teaching resources – if schools wish.

The Core Knowledge series gives parents the tools to judge how effectively their children are being taught. And it provides teachers with clear aims that can be shared with parents, thereby enlisting them in the common cause of getting the best from every child.

Why publish a British version of a book originally designed for American children? For the last 50 years in both Britain and America there has been no consensus about how and what children should be taught. Sometimes knowledge was dismissed as mere ‘rote learning’, which was contrasted unfavourably with ‘critical thinking skills’. Others argued that education should be ‘child centred’ not ‘subject centred’. Professor Hirsch, who inspired the Core Knowledge series, was among the first to see that the retreat from knowledge was misguided. Above all, he showed that to compare ‘knowledge’ with ‘thinking skills’ was to make a false contrast. They are not mutually exclusive alternatives. Thinking skills can be ‘knowledge-rich’ or ‘knowledge-lite’. The purpose of a good education is to teach children how to think clearly – to see through dubious reasoning, to avoid being conned, to learn how to question their own assumptions, to discover how to be objective or to argue a case with clarity. Knowledge does not get in the way of reasoning: it’s what we reason with.

The Core Knowledge approach has six main strengths.

- It helps parents to bring out the best in their children. It provides a guide to what young people should be learning and helps parents decide on the school best suited to their child.
- It helps teachers. By providing clear expectations that are shared with parents, teachers are better able to benefit every child. Schools are always at their best when parents and teachers work together.
- It helps children to learn on their own initiative. The books are written in language suitable for each year group, so that children can read alone or with their parents.

- It provides more equal opportunities for everyone. Some children do not receive effective support at home, perhaps because some of us did not ourselves get the best education. A good school can do much to make up for lost ground and the Core Knowledge series is designed for this very task. The books describe what every child can learn if given the chance. What's more, many parents find that they learn as much as their children!
- It encourages social cohesion. Britain today has more cultures, ethnic groups and religions than 50 years ago. If we all share in a common stock of knowledge, social solidarity based on mutual respect for our legitimate differences is more likely.
- It strengthens democracy. A free and democratic society depends on the mass of people being well-informed. We often say that modern societies are 'knowledge based'. It's true. People who do not share in the knowledge that is regularly used by television news programmes or in our newspapers are at risk of being misled.

We are keen to work with teachers who share our ideals and who hope to play a leading part in developing this new curriculum in Britain. In co-operation with teachers, we have been evolving lesson plans and teacher resource guides, which are available on our website at www.coreknowledge.org.uk. If any teachers would like their school to be one of the pioneers, please contact Civitas at coreknowledge@civitas.org.uk.

David G. Green
Director of Civitas

Introduction to the UK Edition of the Core Knowledge Series for Year 4

The concerns that led Professor Hirsch and others to set up the Core Knowledge Foundation in the USA in 1986 are shared by many in Britain. Civitas has acquired direct experience of the problem through its network of supplementary schools. Beginning with a group of children in the East End of London in 2005, Civitas now runs 22 supplementary schools for over 600 children in different parts of the UK. The children attend once a week, either on Saturdays or after school, for help with English and maths. The children are, for the most part, attending full-time schools in areas with higher-than-average indicators of social deprivation, where academic outcomes are not the best in the country. Some children join supplementary schools at the age of seven, eight or even older, unable to read properly and unable to handle simple addition and subtraction. Our approach in the Civitas Schools has been to employ dedicated teachers with high expectations and a commitment to providing solid learning foundations. Children are assessed annually and it has become quite usual to see them make two or three years of progress in their reading and maths ages over the course of one calendar year.

The concepts that Professor Hirsch mentions in his General Introduction such as ‘critical thinking’ and ‘learning to learn’ have been just as prevalent in the UK’s schools, where the curriculum has become less knowledge-based and more focused on attaining ‘skills’, as if the two things can be separated. The acquisition of skills requires knowledge, and a knowledge-poor curriculum is one that condemns pupils – especially children from less advantaged backgrounds – to remain outside the mainstream of attainment and fulfilment. The Core Knowledge Foundation believes that all children should be able to unlock the library of the world’s literature; to comprehend the world around them; to know where they stand (literally) on the globe; and to realise the heritage that the history of their country has bestowed on them.

Making a reality of this ideal has been the outstanding achievement of the Core Knowledge Foundation in the hundreds of schools across the USA where its curriculum is being taught, and it is why we so admire the work of Professor Hirsch and his colleagues at the Core Knowledge Foundation.

As Professor Hirsch explains in his General Introduction, the project operates within the overarching framework of the Core Knowledge Sequence, produced by dozens of educators over a gestational period of several years. To bring this sequence into the

classroom or the home, the Sequence is fleshed out by a book for each year group. We at Civitas were honoured and delighted to be entrusted by the Core Knowledge Foundation with the task of adapting the books for teachers, parents and pupils in the UK. This has entailed some changes to reflect differences between our cultures, for example, Visual Arts describes pictures in the National Gallery, tapestries in great houses around Britain and needlework prepared for royalty. Our songs come from Wales, Scotland, Ireland and Yorkshire. Elgar and Holst appear in our music chapter and Richard of York helps us to remember the colours of the rainbow. We illustrate the speed of sound with Concorde; British musical nomenclature has been used in the Music chapter and metric rather than imperial measures in Science. We have revised the lists of resources to include books and educational materials readily available in the UK. However, for the most part, the US text has been left intact – because knowledge is universal!

We have adapted the Core Knowledge Sequence for the UK and it is freely available online at <http://www.coreknowledge.org.uk/sequence.php>. This will enable parents and teachers to understand how the grammar of each subject is unrolled over six years of primary school education. The UK Sequence follows the US Sequence very closely, with a few obvious changes. Maths has been slightly revised to reflect the demands of the National Curriculum; and British history and geography replace American. (American history and geography will be covered under World History and Geography.)

We share the view of the Core Knowledge Foundation that knowledge is best conveyed through subjects, and so we have followed their division of each book into chapters covering Language and Literature, History and Geography, Visual Arts, Music, Mathematics and Science. We will be producing volumes for each year group up to Year 6, and these will tie in with the UK version of the Core Knowledge Sequence.

In most states of the USA, children start their full-time education in Kindergarten when they are five rising six, whereas in the UK children of that age would be starting Year 1, having already spent a year in Reception. For this reason, the first book in Civitas UK Core Knowledge series, *What Your Year 1 Child Needs to Know*, represented, with small alterations, the text of *What Your Kindergartner Needs to Know*. The second book, *What Your Year 2 Child Needs to Know*, followed the text of the next book in the US series, *What Your First Grader Needs to Know*. This volume follows the text of *What Your Third Grader Needs To Know*, published in the USA in 2002.

Robert Whelan
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General Introduction to the Core Knowledge Series

I. WHAT IS YOUR CHILD LEARNING IN SCHOOL?

A parent of identical twins sent me a letter in which she expressed concern that her children, who are in the same grade in the same school, are being taught completely different things. How can this be? Because they are in different classrooms; because the teachers in these classrooms have only the vaguest guidelines to follow; in short, because the school, like many in the United States, lacks a definite, specific curriculum.

Many parents would be surprised if they were to examine the curriculum of their child's elementary school. Ask to see your school's curriculum. Does it spell out, in clear and concrete terms, a core of specific content and skills all children at a particular grade level are expected to learn by the end of the school year?

Many curricula speak in general terms of vaguely defined skills, processes and attitudes, often in an abstract, pseudo-technical language that calls, for example, for children to 'analyse patterns and data', or 'investigate the structure and dynamics of living systems', or 'work cooperatively in a group'. Such vagueness evades the central question: what is your child learning in school? It places unreasonable demands upon teachers, and often results in years of schooling marred by repetitions and gaps. Yet another unit on dinosaurs or 'pioneer days'. *Charlotte's Web* for the third time. 'You've never heard of the Bill of Rights?' 'You've never been taught how to add two fractions with unlike denominators?'

When identical twins in two classrooms of the same school have few academic experiences in common, that is cause for concern. When teachers in that school do not know what children in other classrooms are learning in the same grade level, much less in earlier and later grades, they cannot reliably predict that children will come prepared with a shared core of knowledge and skills. For an elementary school to be successful, teachers need a common vision of what they want their students to know and be able to do. They need to have *clear, specific learning goals*, as well as the sense of mutual accountability that comes from shared commitment to helping all children achieve those goals. Lacking both specific goals and mutual accountability, too many schools exist in a state of curricular incoherence, one result of which is that they fall far short of developing the full potential of our children. To address this problem, I started the non-profit Core Knowledge Foundation in 1986. This book and its companion volumes in the Core Knowledge Series

are designed to give parents, teachers – and through them, children – a guide to clearly defined learning goals in the form of a carefully sequenced body of knowledge, based upon the specific content guidelines developed by the Core Knowledge Foundation (see below, ‘The Consensus Behind the Core Knowledge Sequence’).

Core Knowledge is an attempt to define, in a coherent and sequential way, a body of widely used knowledge taken for granted by competent writers and speakers in the United States. Because this knowledge is taken for granted rather than being explained when it is used, it forms a necessary foundation for the higher-order reading, writing and thinking skills that children need for academic and vocational success. The universal attainment of such knowledge should be a central aim of curricula in our elementary schools, just as it is currently the aim in all world-class educational systems.

For reasons explained in the next section, making sure that all young children in the United States possess a core of shared knowledge is a necessary step in developing a first-rate educational system.

II. WHY CORE KNOWLEDGE IS NEEDED

Learning builds on learning: children (and adults) gain new knowledge only by building on what they already know. It is essential to begin building solid foundations of knowledge in the early grades when children are most receptive because, for the vast majority of children, academic deficiencies from the first six grades can *permanently* impair the success of later learning. Poor performance of American students in middle and high school can be traced to shortcomings inherited from elementary schools that have not imparted to children the knowledge and skills they need for further learning.

All of the highest-achieving and most egalitarian elementary school systems in the world (such as those in Sweden, France and Japan) teach their children a specific core of knowledge in each of the first six grades, thus enabling all children to enter each new grade with a secure foundation for further learning. It is time American schools did so as well, for the following reasons:

(1) Commonly shared knowledge makes schooling more effective.

We know that the one-on-one tutorial is the most effective form of schooling, in part because a parent or teacher can provide tailor-made instruction for the individual child. But in a non-tutorial situation – in, for example, a typical classroom with twenty-five or more students – the instructor cannot effectively impart new knowledge to all the students unless each one shares the background knowledge that the lesson is being built upon.

Consider this scenario: in third grade, Ms Franklin is about to begin a unit on early explorers – Columbus, Magellan and others. In her class she has some students who were in Mr Washington’s second-grade class last year and some students who were in Ms Johnson’s second-grade class. She also has a few students who have moved in from other towns. As Ms Franklin begins the unit on explorers, she asks the children to look at a globe and use their fingers to trace a route across the Atlantic Ocean from Europe to North America. The students who had Mr Washington look blankly at her: they didn’t learn that last year. The students who had Ms Johnson, however, eagerly point to the proper places on the globe, while two of the students who came from other towns pipe up and say, ‘Columbus and Magellan again? We did that last year.’

When all the students in a class *do* share the relevant background knowledge, a classroom can begin to approach the effectiveness of a tutorial. Even when some children in a class do not have elements of the knowledge they were supposed to acquire in previous grades, the existence of a specifically defined core makes it possible for the teacher or parent to identify and fill the gaps, thus giving all students a chance to fulfill their potential in later grades.

(2) Commonly shared knowledge makes schooling more fair and democratic.

When all the children who enter a grade can be assumed to share some of the same building blocks of knowledge, and when the teacher knows exactly what those building blocks are, then all the students are empowered to learn. In our current system, children from disadvantaged backgrounds too often suffer from unmerited low expectations that translate into watered-down curricula. But if we specify the core of knowledge that all children should share, then we can guarantee equal access to that knowledge and compensate for the academic advantages some students are offered at home. In a Core Knowledge school, *all* children enjoy the benefits of important, challenging knowledge that will provide the foundation for successful later learning.

(3) Commonly shared knowledge helps create cooperation and solidarity in our schools and nation.

Diversity is a hallmark and strength of our nation. American classrooms are usually made up of students from a variety of cultural backgrounds, and those different cultures should be honoured by all students. At the same time, education should create a school-based culture that is common and welcoming to all because it includes knowledge of many cultures and gives all students, no matter what their background, a common foundation for understanding our cultural diversity.

In the next section, I will describe the steps taken by the Core Knowledge Foundation to develop a model of the commonly shared knowledge our children need (which forms the basis for this series of books).

III. THE CONSENSUS BEHIND THE CORE KNOWLEDGE SEQUENCE

The content in this and other volumes in the Core Knowledge Series is based on a document called the *Core Knowledge Sequence*, a grade-by-grade sequence of specific content guidelines in history, geography, mathematics, science, language arts and fine arts. The *Sequence* is not meant to outline the whole of the school curriculum; rather, it offers specific guidelines to knowledge that can reasonably be expected to make up about *half* of any school's curriculum, thus leaving ample room for local requirements and emphases. Teaching a common core of knowledge, such as that articulated in the *Core Knowledge Sequence*, is compatible with a variety of instructional methods and additional subject matters.

The *Core Knowledge Sequence* is the result of a long process of research and consensus building undertaken by the Core Knowledge Foundation. Here is how we achieved the consensus behind the *Core Knowledge Sequence*.

First we analysed the many reports issued by state departments of education and by professional organisations – such as the National Council of Teachers of Mathematics and the American Association for the Advancement of Science – that recommend general outcomes for elementary and secondary education. We also tabulated the knowledge and skills through grade six specified in the successful educational systems of several other countries, including France, Japan, Sweden and West Germany.

In addition, we formed an advisory board on multiculturalism that proposed a specific knowledge of diverse cultural traditions that American children should all share as part of their school-based common culture. We sent the resulting materials to three independent groups of teachers, scholars and scientists around the country, asking them to create a master list of the knowledge children should have by the end of grade six. About 150 teachers (including college professors, scientists and administrators) were involved in this initial step.

These items were amalgamated into a master plan, and further groups of teachers and specialists were asked to agree on a grade-by-grade sequence of the items. That sequence was then sent to some one hundred educators and specialists who participated in a national conference that was called to hammer out a working agreement on an appropriate core of knowledge for the first six grades.

This important meeting took place in March 1990. The conferees were elementary school teachers, curriculum specialists, scientists, science writers, officers of national organisations, representatives of ethnic groups, district superintendents and school

principals from across the country. A total of twenty-four working groups decided on revisions in the *Core Knowledge Sequence*. The resulting provisional *Sequence* was further fine-tuned during a year of implementation at a pioneering school, Three Oaks Elementary in Lee County, Florida.

In only a few years, many more schools – urban and rural, rich and poor, public and private – joined in the effort to teach Core Knowledge. Based largely on suggestions from these schools, the *Core Knowledge Sequence* was revised in 1995: separate guidelines were added for kindergarten, and a few topics in other grades were added, omitted or moved from one grade to another, in order to create an even more coherent sequence for learning. Revised editions of the books in the Core Knowledge Series reflect the revisions in the *Sequence*. Based on the principle of learning from experience, the Core Knowledge Foundation continues to work with schools and advisors to ‘fine-tune’ the *Sequence*, and is also conducting research that will lead to the publication of guidelines for grades seven and eight, as well as for preschool. (*The Core Knowledge Sequence UK* can be downloaded from the Civitas Core Knowledge UK website www.coreknowledge.org.uk/sequence.php)

IV. THE NATURE OF THIS SERIES

The books in this series are designed to give a convenient and engaging introduction to the knowledge specified in the *Core Knowledge Sequence*. These are resource books, addressed primarily to parents, but which we hope will be useful tools for both parents and teachers. These books are not intended to replace the local curriculum or school textbooks, but rather to serve as aids to help children gain some of the important knowledge they will need to make progress in school and be effective in society.

Although we have made these books as accessible and useful as we can, parents and teachers should understand that they are not the only means by which the *Core Knowledge Sequence* can be imparted. The books represent a single version of the possibilities inherent in the *Sequence*, and a first step in the Core Knowledge reform effort. We hope that publishers will be stimulated to offer educational software, games, alternative books and other imaginative vehicles based on the *Core Knowledge Sequence*.

These books are not textbooks or workbooks, though when appropriate they do suggest a variety of activities you can do with your child. In these books, we address your child directly, and occasionally ask questions for him or her to think about. The earliest books in the series are intended to be read aloud to children. Even as children become able to read the books on their own, we encourage parents to help their children read more actively by reading along with them and talking about what they are reading. You and your

child can read the sections of this book in any order, depending on your child's interests or depending on the topics your child is studying in school, which this book may complement or reinforce. You can skip from section to section and re-read as much as your child likes.

We encourage you to think of this book as a guidebook that opens the way to many paths you and your child can explore. These paths may lead to the library, to many other good books and, if possible, to plays, museums, concerts and other opportunities for knowledge and enrichment. In short, this guidebook recommends places to visit and describes what is important in those places, but only you and your child can make the actual visit, travel the streets and climb the steps.

V. WHAT YOU CAN DO TO HELP IMPROVE EDUCATION

The first step for parents and teachers who are committed to reform is to be sceptical about oversimplified slogans like 'critical thinking' and 'learning to learn'. Such slogans are everywhere and, unfortunately for our schools, their partial insights have been elevated to the level of universal truths. For example: 'What students learn is not important; rather, we must teach students to learn *how* to learn.' 'The child, not the academic subject, is the true focus of education.' 'Do not impose knowledge on children before they are developmentally ready to receive it.' 'Do not bog children down in mere facts, but rather, teach critical-thinking skills.' Who has not heard these sentiments, so admirable and humane, and – up to a point – so true? But these positive sentiments in favour of 'thinking skills' and 'higher understanding' have been turned into negative sentiments against the teaching of important knowledge. Those who have entered the teaching profession over the past 40 years have been taught to scorn important knowledge as 'mere facts', and to see the imparting of this knowledge as somehow injurious to children. Thus it has come about that many educators, armed with partially true slogans, have seemingly taken leave of common sense.

Many parents and teachers have come to the conclusion that elementary education must strike a better balance between the development of the 'whole child' and the more limited but fundamental duty of the school to ensure that all children master a core of knowledge and skills essential to their competence as learners in later grades. But these parents and teachers cannot act on their convictions without access to an agreed upon, concrete sequence of knowledge. Our main motivation in developing the *Core Knowledge Sequence* and this book series has been to give parents and teachers something concrete to work with.

It has been encouraging to see how many teachers, since the first volume in this series was published, have responded to the Core Knowledge reform effort.

Parents and teachers are urged to join in a grassroots effort to strengthen our elementary schools. The place to start is in your own school and district. Insist that your school clearly state the core of *specific* knowledge and skills that each child in a grade must learn. Whether your school's core corresponds exactly to the Core Knowledge model is less important than the existence of some core – which, we hope, will be as solid, coherent, and challenging as the *Core Knowledge Sequence* has proven to be. Inform members of your community about the need for such a specific curriculum, and help make sure that the people who are elected or appointed to your local school board are independent-minded people who will insist that our children have the benefit of a solid, specific, world-class curriculum in each grade.

Share the knowledge!

E. D. Hirsch, Jr
Charlottesville, Virginia

