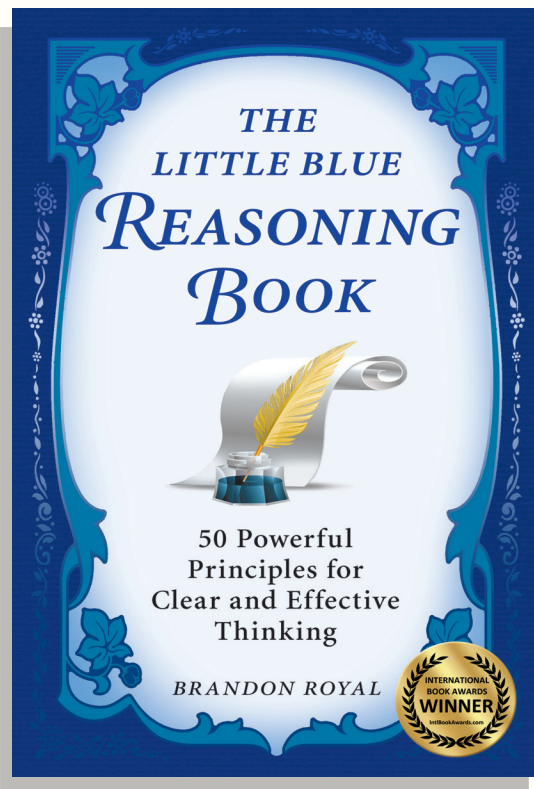


The Little Blue Reasoning Book

50 Powerful Principles for Clear and Effective Thinking



Publisher: Maven Publishing
ISBN: 978-1-897393-60-4
Paperback, Jan 2015 (Revised edition), 295 pages, 5.25" x 8"
List Price: US\$14.95/Cdn\$16.95
Available online and through major bookstores
Contact: info@mavenpublishing.com

FOR REASONING AFICIONADOS FROM ALL WALKS OF LIFE!

"The mind is a parachute that has to be opened to be of any use." This guidebook addresses one of the most critical yet seldom taught skills. Reasoning skills help us make sense of the world, including how to better make decisions, tackle opportunities, evaluate claims, and solve problems. Interwoven within the book's five sections—Perception & Mindset, Creative Thinking, Decision Making, Analyzing Arguments, and Mastering Logic—readers will discover 50 reasoning tips that summarize the common themes behind classic reasoning problems and situations. Appendixes contain summaries of fallacious reasoning, analogies, trade-offs, and a review of critical reading. A wealth of examples, charts, and insightful problems make *The Little Blue Reasoning Book* an invaluable guide for any student wanting to further sharpen his or her thinking skills.

About the Author: Brandon Royal (CPA, MBA) is an award-winning writer whose educational authorship includes *The Little Red Writing Book*, *The Little Gold Grammar Book*, and *The Little Green Math Book*. During his tenure working in Hong Kong for US-based Kaplan Educational Centers—a Washington Post subsidiary and the largest test-preparation organization in the world—he honed his theories of teaching and education and developed a set of key learning "principles" to help define the basics of writing, grammar, math, and reasoning. Brandon has been a winner at the International Book Awards, a gold medalist at the President's Book Awards, and a recipient of the "Educational Book of the Year" award as presented by the Book Publishers Association of Alberta. He continues to write and publish in the belief that there will always be a place for books that inspire, enlighten, and enrich.

Sample Pages from *The Little Blue Reasoning Book*

THE LITTLE BLUE REASONING BOOK



50 Powerful Principles
for Clear and Effective
Thinking

REVISED EDITION

BRANDON ROYAL



Maven Publishing

Contents

Preface	9
Introduction	11
Quiz	13
Chapter 1: Perception and Mindset	
Selective Perception	17
The Magic of Coincidence	18
The Four Classic Mandates	21
Chapter 2: Creative Thinking	
Overview	29
Lateral Thinking	29
Divergent vs. Convergent Thinking	35
Mind Maps	40
Devil's Advocate Technique	41
Idea Killers and Idea Growers	44
Brainstorming	51
Reframing Problems	56
Selling Creative Ideas	57

Chapter 3: Decision Making

Overview	61
Pros-and-Cons Analysis	62
Matrices	68
Decision-Event Trees	78
Probability Trees	83
Weighted Ranking	83
Utility Analysis	90
Sunk Costs	93
Hypothesis Testing	95
Prisoner's Dilemma	101
Chapter 4: Analyzing Arguments	
Overview	107
The ABCs of Argument Structure	108
Evaluating Arguments	109
The Five Common Reasoning Flaws	116
Testing Critical Reasoning	129
Putting It All Together	147

Chapter 5: Mastering Logic

Overview	151
"If...Then" Statements	152
"No-Same-Must-All" Statements	155
Mutual Exclusivity and Exclusively	157
Statements of Logical Equivalency	159
Testing Logic-Based Reasoning	161
Appendix I – Summary of Reasoning Tips 1 to 50	173
Appendix II – Fallacious Reasoning	179
Appendix III – Avoiding Improper Inferences	196
Appendix IV – Analogies	192
Appendix V – The 10 Classic Trade-offs	198
Appendix VII – Tips for Taking Reading Tests	207
Answers and Explanations to Problems and Exercises	227
Answers to the Quiz	283
Selected Bibliography	285
Index	287
About the Author	293

Chapter 2 Creative Thinking



*Our task,
regarding creativity,
is to help children climb their own
mountain, as high as possible.
No one can do more than that.*
—Loren Malaguzzi

14 • The Little Blue Reasoning Book

Problem 4 Nine Dots

Draw no more than four straight lines (without lifting the pencil or pen from the paper) in order to cross through all nine dots.



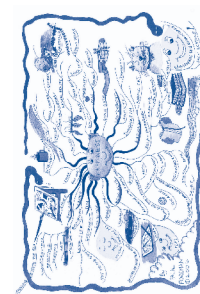
Problem 5 Two Water Buckets

A circus owner sends one of his clowns to bring water back from a nearby river. The clown wants to mix the water with a special health concentrate to give to the elephants, and needs exactly seven gallons of water. He gives the clown a five-gallon bucket and a three-gallon bucket and tells him to bring back exactly seven gallons of water. How can the clown measure out exactly seven gallons of water using nothing but these two buckets and not guessing at the amount?



Creative Thinking • 41

Exhibit 2.2 "Happiness" Mind Map by Paul Foreman



68 • The Little Blue Reasoning Book

Matrices

K7: Tip #12: A matrix is a useful tool to summarize data that can be contrasted across two variables and sorted into four distinct outcomes.

Understanding Matrices

The most common matrices appear as two-column, two-row tables. A matrix is used to present data, where two items are being contrasted with two other items and there are four possibilities or outcomes. The matrix below is based on a famous time management principle highlighting the need to concentrate on "important but not urgent" tasks.

Exhibit 3.1 Time Management Matrix

	Important Tasks	Unimportant Tasks
Urgent Tasks	Important and Urgent Tasks • Example: A major project is due in three days! • Results in crisis management. • Time management problems are not found here.	Unimportant but Urgent Tasks • Example: The phone rings and you need to pick it up (this is an unimportant but urgent task; it is not related to the project at hand). • Good time management means putting limits here.
Not Urgent Tasks	Important but not Urgent Tasks • Example: A major project is assigned but is not due for three months. • Never get around to it. • Not enough time devoted here. • Obvious effective and ineffective individuals. • Time management problems found here.	Unimportant but Not Urgent Tasks • Example: "You attend a community seminar event for any purpose in the project at hand; later that night you have TV." • Short-term, transient relieving work; wasted time. • Low priority items. • Good time management means putting limits here.

Decision Making • 95

Hypothesis Testing

K7: Tip #18: For the purposes of hypothesis testing, the minimum requirement for causal inference is evaluation using a "two-way" table. It is not uncommon to try to evaluate claims that have yet to be proven. This is the basis of hypothesis testing. Although hypothesis testing is usually associated with hard-core research, it also has wide-ranging applications and can be used to try to determine answers to the following everyday questions: Do vegetarians live longer? Does TV viewing lead to violence? Does a new miracle headache drug work better than aspirin? Do stockholders make better stock market investment decisions than regular business people? Do I have cancer?

Inevitably, we end up asking whether one thing leads to another, and this linkage came and often into play. The minimum requirement for causal inference is evaluation using a "two-way" table. This "two-way" table is a de facto matrix, used to contrast information according to two variables, and for which information can be divided into four categories.

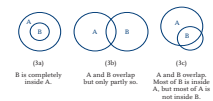
Consider whether a greater than average job skill level leads to a greater than average annual income level.

	Job Skill Level		
	Higher	Lower	
Higher	30	20	50
Lower	20	30	50
	50	50	100

158 • The Little Blue Reasoning Book

Exhibit 5.4 (Cont'd)

Statement III—Some *A*s are *B*s—could refer to any of diagrams (a), (b), or (c).



Statement IV—Most *A*s are *B*s—could refer to either diagram (a) or (b).



Mastering Logic • 159

Statements of Logical Equivalency

Exhibit 5.5 LOGICAL EQUIVALENCY STATEMENTS

	Mutual exclusivity	Mutual exclusivity	Reciprocity or overlap
"All-type statements"	• All cats are mammals. • Cats are mammals. • Every cat is a mammal. • Anything that is a cat is a mammal. • All non-mammals are non-cats.	• All cats are mammals. • All birds are not whales.	n/a
"Only-type statements"	• Only mammals are cats. • A thing is a cat only if it is a mammal.	• Only things that are not birds are cats. • Only things that are not cats are birds.	n/a
"No-type statements"	• No cat is not a mammal. • Nothing is a cat unless it is a mammal.	• No cats are birds. • No birds are cats. • Nothing that is a cat is a bird. • Nothing that is a bird is a cat.	n/a

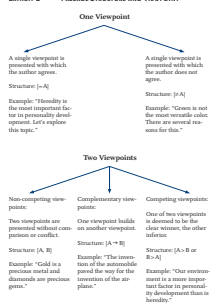
216 • The Little Blue Reasoning Book

Exhibit A GUIDE WORDS

I. Confirmation Words GREEN LIGHT "Keep going in the same direction." Examples: • "However...therefore" • "On the one hand...on the other hand" • "Consequently...consequently"	III. Contrast Words FLASHING YELLOW "Get ready to turn." Examples: • "And...and...but" • "After...after...but" • "Because...because...but" • "Since...since...but"
II. Illustration Words FLASHING GREEN "Slow down and be watchful." Examples: • "First...second...third" • "After...after...but" • "Since...since...but"	IV. Conclusion Words RED LIGHT "You're about to arrive." Examples: • "Consequently...therefore" • "Hence...hence" • "Thus...thus"

Tips for Taking Reading Tests • 217

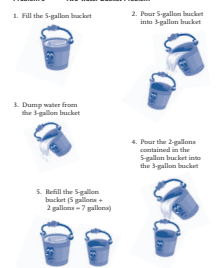
Exhibit B PASSAGE STRUCTURE AND VIEWPOINT



234 • The Little Blue Reasoning Book

Answers and Explanations • 239

Problem 5 Two Water Bucket Problem



Here's a second solution: Empty both buckets. Fill the 5-gallon bucket and pour the water into the 3-gallon bucket. Again fill the 5-gallon bucket and pour water into the 3-gallon bucket until it is full. One gallon will be in the 3-gallon bucket. Empty the 3-gallon bucket and pour the 5 gallons of water from the 5-gallon bucket into the 3-gallon bucket. There are now 4 gallons of water in the 3-gallon bucket. Fill the 5-gallon bucket. Fill the 3-gallon bucket. The clown now has 7 gallons of water.