

Amazing Visual Math

Dissatisfied with its shape, a triangle keeps asking the local shapeshifter to add more lines and angles until it doesn't know which side is up.

"The unique visual approach ofHow to be Good at Mathsmakes basic maths easier to understand than ever before, with short, simple explanations that demystify even the most challenging topics. Find out how much you would weigh on Jupiter, calculate the average age of your football team and even use pizza to understand pesky fractions. Unlike other maths workbooks, How to be Good at Mathsintrroduces each topic with colourful pictures, real-life examples and fascinating facts. Making maths fun and easy, it is ideal for reluctant mathematicians or for revising before a test.
CONTENTS
A Numbers- sequences, ordering, multiples, fractions, decimals, percentages, ration, scaling
A Calculating- addition, subtraction, multiplication, factor pairs, long multiplication, divisions, short and long, order of operations, arithmetic laws, using a calculator
A Measurement- length, perimeter, area, triangles, parallelograms, perimeter, capacity, volume, mass and weight, temperature, imperial units, time, dates, calculating with time and money
A Geometry- lines, diagonal, parallel, perpendicular, 2D shapes, polygons, triangles quadrilaterals, circles, 3D shapes, prisms, nets, angles, degrees, angles, using a protractor, calculating angles, coordinates, plotting points, positive and negative coordinates, position and direction, compass directions, reflective and rotational symmetry, translation
A Statistics- data handling, tally marks, frequency tables, Carroll and Venn diagrams, averages, the mean, median, mode, range, using averages, pictograms, block graphs, bar charts, line graphs, pie charts, probability calculating
A Algebra- equations, solving equations, formulas and sequences "

Invites readers to explore math history and concepts, covering different types of numbers, geometry, measurements, transformations, probabilities, and statistics.

This new book is an exciting follow-up to the authors' bestsellers on differentiated math instruction, Good Questions and More Good Questions. Eyes on Math is a unique teaching resource that provides engaging, full-color graphics and pictures with text showing teachers how to use each image to stimulate mathematical teaching conversations around key K – 8 concepts. Teachers using the book can download the images for projection onto classroom white boards or screens. The questions and answers will help both students and teachers look more deeply and see the math behind the math! For each of more than 120 visuals, the text identifies the key math concept and the Common Core State Standard being addressed and then provides teachers with: Mathematical background and context.Questions to use with students to lead the instructional conversation.Expected answers and explanations of why each question is important.Follow-up extensions to solidify and assess student understanding. This book will be useful to a broad range of teachers who will find new ways to clarify concepts that students find difficult. It can be used as a resource to prepare teachers for the higher mathematical thinking requirements of the CCSS Mathematical Practices. It will also be an invaluable resource for teachers working with students with low reading ability, including English language learners and special education students. “This book provides a way for both teachers and students to get used to talking about mathematics in nonthreatening, open-ended ways. The author’s friendly explanations of the mathematical ideas the pictures are intended to surface give teachers who are less confident about the conceptual aspects of mathematics the support they need to facilitate less-scripted mathematical discourse with their students.” —Lucy West, education consultant Praise for Good Questions and More Good Questions! “A must for any educator who is serious about reaching more students more often and achieving more positive results.” —Resources for the Mathematics Educator “A valuable book for mathematics teachers, teacher educators, and faculty involved in differentiated instruction.” —Choice “A great resource.” —Mathematics Teaching in the Middle School “I highly recommend this user-friendly resource for all mathematics teachers.” —Teaching Children Mathematics

The Incredible Math Games Book

One Is a Snail, Ten Is a Crab Big Book

Everyone Can Learn Math

A Mind for Numbers

The Colossal Book of Mathematics

Patterns of the Universe

These simple math secrets and tricks will forever change how you look at the world of numbers. Secrets of Mental Math will have you thinking like a math genius in no time. Get ready to amaze your friends—and yourself—with incredible calculations you never thought you could master, as renowned “mathemagician” Arthur Benjamin shares his techniques for lightning-quick calculations and amazing number tricks. This book will teach you to do math in your head faster than you ever thought possible, dramatically improve your memory for numbers, and—maybe for the first time—make mathematics fun. Yes, even you can learn to do seemingly complex equations in your head; all you need to learn are a few tricks. You’ll be able to quickly multiply and divide triple digits, compute with fractions, and determine squares, cubes, and roots without blinking an eye. No matter what your age or current math ability, Secrets of Mental Math will allow you to perform fantastic feats of the mind effortlessly. This is the math they never taught you in school.

Skill Builders are great tools for keeping children current during the school year or preparing them for the next grade level. A variety of fun and challenging activities provides students with practice and helps introduce basic skills to new learners. This full-color workbook contains appropriate passages and exercises based on national standards for fifth grade to help ensure that children master necessary math skills before progressing. Skill Builders combines entertaining and interactive activities with eye-catching graphics to make learning and reviewing fun and effective. The compact 6" x 9" size makes this book perfect for school, at home, or on the go. It features 80 perforated, reproducible pages and an answer key.

Designed to help pre-service and in-service teachers gain the knowledge they need to facilitate students' understanding, competency, and interest in mathematics, the revised and updated Second Edition of this popular text and resource bridges the gap between the mathematics learned in college and the mathematics taught in secondary schools. Highlighting multiple types of mathematical understanding to deepen insight into the secondary school mathematics curriculum, it addresses typical areas of difficulty and common student misconceptions so teachers can involve their students in learning mathematics in a way that is interesting, interconnected, understandable, and often surprising and entertaining. Six content strands are discussed—Numbers and Operations; Algebra; Geometry; Measurement; Data Analysis and Probability; and Proof, Functions, and Mathematical Modeling. The informal, clear style supports an interactive learner-centered approach through engaging pedagogical features: Launch Questions at the beginning of each section capture interest and involve readers in learning the mathematical concepts. Practice Problems provide opportunities to apply what has been learned and complete proofs. Questions from the Classroom bring the content to life by addressing the deep "why" conceptual questions that middle or secondary school students are curious about, and questions that require analysis and correction of typical student errors and misconceptions; focus on counter intuitive results; and contain activities and/or tasks suitable for use with students. Changes in the Second Edition New sections on Robotics, Calculators, Matrix Operations, Cryptography, and the Coefficient of Determination New problems, simpler proofs, and more illustrative examples Answers and hints for selected problems provided

See how math's infinite mysteries and beauty unfold in this captivating educational book! Discover more than 85 of the most important mathematical ideas, theorems, and proofs ever devised with this beautifully illustrated book. Get to know the great minds whose revolutionary discoveries changed our world today. You don't have to be a math genius to follow along with this book! This brilliant book is packed with short, easy-to-grasp explanations, step-by-step diagrams, and witty illustrations that play with our ideas about numbers. What is an imaginary number? Can two parallel lines ever meet? How can math help us predict the future? All will be revealed and explained in this encyclopedia of mathematics. It's as easy as 1-2-3! The Math Book tells the exciting story of how mathematical thought advanced through history. This diverse and inclusive account will have something for everybody, including the math behind world economies and espionage. This book charts the development of math around the world, from ancient mathematical ideas and inventions like prehistoric tally bones through developments in medieval and Renaissance Europe. Fast forward to today and gain insight into the recent rise of game and group theory. Delve in deeper into the history of math: - Ancient and Classical Periods 6000 BCE - 500 CE - The Middle Ages 500 - 1500 - The Renaissance 1500 - 1680 - The Enlightenment 1680 - 1800 - The 19th Century 1800 - 1900 - Modern Mathematics 1900 - Present The Series Simply Explained With over 7 million copies sold worldwide to date, The Math Book is part of the award-winning Big Ideas Simply Explained series from DK Books. It uses innovative graphics along with engaging writing to make complex subjects easier to understand.

The Girl with a Mind for Math

Bedtime Math: A Fun Excuse to Stay Up Late

Visual Math Dictionary

Math and Art

Amazing Visual Math

Visual Math

This radical approach to complex analysis replaces the standard calculational arguments with new geometric ones. Using several hundred diagrams this is a new visual approach to the topic.

An interactive guide to shapes for 5- to 8-year-olds, this bright and bold lift-the-flap activity book helps children understand the properties of 2-D and 3-D shapes. Shapes are an important topic for early learners, and this visually appealing book will make it a lot of fun, too! Amazing Shapes features fun geometric characters, like Fox and Lion, and lift-the-flap activities that help kids relate shapes to everyday life. Characters pose key questions, such as "What's special about a sphere?," "What is an equilateral triangle?," and "How many lines of symmetry does a hexagon have?" Children can then lift the flaps and find the answers. An interactive pop-up will also bring learning to life by encouraging kids to spot different shapes within the scene. Amazing Shapes helps kids identify and describe 2-D and 3-D shapes, compare and contrast features of regular and irregular shapes, discuss the size and orientation of shapes, understand nets, identify and count lines of symmetry, and more! It gets kids thinking about shapes in their world and not just on the pages of a math book. Quiz questions and fun activities are found sprinkled throughout the book, encouraging kids to lift the flaps and find out more. Learning shapes is a highly visual topic, and this book tackles the subject in a visually appealing, fully interactive, and playful way.

Practice makes perfect with Turn to Learn Multiplication, an engaging and innovate book that teaches a hands-on approach to multiplication and times tables. Young students can test themselves by spinning the wheel built right into the book's cover and watching the times tables appear. On each page in the book, readers will then find great tips and tricks to help memorize times tables from 1 to 12. Turn to Learn Multiplication uses various techniques such as number grids, times tables charts, tips and memory clues, and number lines to help reinforce the times tables until young readers have them memorized. With its spinning wheel, lift-the-flaps, and colorful spreads, Turn to Learn Multiplication creates a whole new spin on times table learning.

An engineering professor who started out doing poorly in mathematical and technical subjects in school offers tools, tips and techniques to learning the creative and analytical thought processes that will lead to achievement in math and science. Original.

A Visual Approach to Teaching Math Concepts

Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching

Secrets of Mental Math

How to Measure Everything

Classic Puzzles, Paradoxes, and Problems : Number Theory, Algebra, Geometry, Probability, Topology, Game Theory, Infinity, and Other Topics of Recreational Mathematics

Visible Learning for Mathematics, Grades K-12

The author presents a selection of pieces from his Scientific American "Mathematical Games" column, presenting puzzles and concepts that range from arithmetic and geometrical games to the meaning of M.C. Escher's artwork.

Visual Math has been designed to allow learners to "see" why math makes sense. By combining logical math concepts with pictures, previously unclear images will fade and math will suddenly click for you. Pictures, graphs, and diagrams help you understand math questions in the areas of number concepts and properties, fractions and decimals, ratios and proportions, percents, algebra, geometry, and much more. Designed especially for students who have difficulty with conventional math rules, this book gives you step-by step instructions with pictures to help you solve math problems.

In Math Art and Drawing Games for Kids, you'll find an amazing collection of more than 40 hands-on art activities that make learning about math fun! Create fine art-inspired projects using math, including M. C. Escher's tessellations, Wassily Kandinski's abstractions, and Alexander Calder's mobiles. Make pixel art using graph paper, grids, and dot grids. Explore projects that teach symmetry with mandala drawings, stained glass rose window art, and more. Use equations, counting, addition, and multiplication to create Fibonacci and golden rectangle art. Play with geometric shapes like spirals, hexagrams, and tetrahedrons. Learn about patterns and motifs used by cultures from all over the world, including Native American porcupine quill art, African Kente prints, and labyrinths from ancient Crete. Cook up some delicious math by making cookie tangrams, waffle fractions, and bread art. Take a creative path to mastering math with Math Art and Drawing Games for Kids!

How do you approach a math problem that challenges you? Do you keep trying until you reach a solution? Or are you like Amy, who gets frustrated easily and gives up? Amy is usually a happy and enthusiastic student in grade five who loves to dance, but she is struggling with a tough math assignment. She doesn't think she is good at math because her classmates always get the answers faster than she does and sometimes she uses her fingers to help her count. Even though her mom tries to help her, Amy is convinced she just cannot do math. She decides not to do the assignment at all since she thinks she wouldn't do well anyway. As Amy goes about her day, her experiences at ballet class, the playground, and gym class have her thinking back to how she gave up on her math assignment. She starts to notice that hard-work, practice, and dedication lead to success, thanks to her friends and teachers. She soon comes to understand that learning math is no different than learning any other skill in life. With some extra encouragement from her math teacher, a little help from her mom, and a new attitude, Amy realizes that she can do math!

Visual Guide to Math

How to Be a Math Genius

Turn to Learn Multiplication

The Greedy Triangle

A Counting by Feet Book

3D Math Primer for Graphics and Game Development, 2nd Edition

The wonderful thing about mathematical art is that the most beautiful geometric patterns can be produced without needing to be able to draw, or be 'good at art'. Mathematical art is accessible to learners of all ages: its algorithmic nature means that it simply requires the ability to follow instructions carefully and to use a pencil and ruler accurately. It is engaging, enriching, thoroughly enjoyable and is a great leveller in the classroom. Learners who may not normally shine in mathematics lessons will take your breath away with their creativity. Those who struggle with their mathematics will experience the joy of success through their mathematical art-making. The six Artful Maths activities in this book are hands-on tasks that will develop important skills such as hand-eye co-ordination, manual dexterity and design thinking, which is a valuable form of problem-solving. Decisions need to be made about placement, size and colour, all of which entail thinking about measurements, proportions and symmetry. They can be undertaken alone or with a teacher to draw out the mathematics underlying the patterns and to practice key content in the school curriculum. For ages 9 to 16+. Contents: Curves of Pursuit, Mazes and Labyrinths, Impossible Objects, Epicycloids, Perfect Proportions, Parabolic Curves.

How far could you hop? If you hopped like a frog...you could jump from home plate to first base in one mighty leap! Did you know that a frog can jump 20 times its body length? Or that an ant can lift an object 50 times its own weight? Read this book and find out what you could do -- if you had the amazing abilities of animals! And there are endless possibilities for making more hilarious comparisons of your own. Get ready for ratio and proportion like you've never seen them before!

A creative young boy with a passion for practicing origami finds a surprising source of encouragement on his diverse city block. Joey loves things that fold: maps, beds, accordions, you name it. When a visiting mother of a classmate turns a plain piece of paper into a beautiful origami crane, his eyes pop. Maybe he can learn origami, too. It's going to take practice -- on his homework, the newspaper, the thirty-eight dollars in his mother's purse . . . Enough! No more folding! But how can Joey become an origami master if he's not allowed to practice? Is there anywhere that he can hone the skill that makes him happy -- and maybe even make a new friend while he's at it?

A counting book featuring animals with different numbers of feet.

40+ Fun Art Projects to Build Amazing Math Skills

The Phantom Tollbooth

RIGHT ACUTE & OBTUSE ANGLES -

Eyes on Math

If You Hopped Like A Frog

Math Art and Drawing Games for Kids

Math and Art: An Introduction to Visual Mathematics explores the potential of mathematics to generate visually appealing objects and reveals some of the beauty of mathematics. It includes numerous illustrations, computer-generated graphics, photographs, and art reproductions to demonstrate how mathematics can inspire or generate art. Focusing on accessible, visually interesting, and math through their visual and conceptual beauty. Sequentially organized according to mathematical maturity level, each chapter covers a cross section of mathematics, from fundamental Euclidean geometry, tilings, and fractals to hyperbolic geometry, platonic solids, and topology. For art students, the book stresses an understanding of the mathematical background of relatively complicated yet intriguing mathematical theories and notions. Features Provides an accessible introduction to mathematics in art Supports the narrative with a self-contained mathematical theory, with complete proofs of the main results (including the classification theorem for similarities) Presents hundreds of figures, illustrations, computer-generated graphics, designs, photographs, and art reproductions, mainly preser exercises, about half of which are fully solved Covers Euclidean geometry, golden section, Fibonacci numbers, symmetries, tilings, similarities, fractals, cellular automata, inversion, hyperbolic geometry, perspective drawing, Platonic and Archimedean solids, and topology New to the Second Edition New exercises, projects and artworks Revised, reorganized and expanded chapters More use of color A journey through a land where Milo learns the importance of words and numbers provides a cure for his boredom.

Key math vocabulary and concepts for young children explained simply in this friendly and informative reference book. Clear, accessible pictures and diagrams support this first introduction to numbers, calculating, measuring, geometry, and data-collecting, making basic math skills easier to understand. Packed with key terms and useful tips to help remember as well as practical examples of math kids. Place value, number bonds, multiplication tables, and fractions are just a few of the math concepts explained and reinforced in a variety of ways for children with different learning styles. Covering everything a young child needs to know, this unique reference book follows the curriculum and provides a strong foundation for math skills through the rest of the school years. A perfect homework and build confidence.

"A coloring book that reveals math's hidden beauty and contemplative power as never before with 78 coloring designs and games that explore symmetry, fractals, tessellations, randomness, and more."--

How to Excel at Math and Science (even If You Flunked Algebra)

More-Igami

Geometry Genius

A Coloring Adventure in Math and Beauty

A Visual Exploration of Mathematics

How to Be Good at Maths

Packed with math puzzles and quizzes, this book tackles the basic concepts of measuring, from measuring length to telling the time. It helps kids understand the language and math of measuring, while having lots of math fun. Includes flaps and a pop-up scene. Full color.

This engaging book presents the essential mathematics needed to describe, simulate, and render a 3D world. Reflecting both academic and in-the-trenches practical experience, the authors teach you how to describe objects and their positions, orientations, and trajectories in 3D using mathematics. The text provides an introduction to mathematics for game designers, including the fundamentals of coordinate spaces, vectors, and matrices. It also covers orientation in three dimensions, calculus and dynamics, graphics, and parametric curves.

Designed to present mathematics in a new, approachable way, this book explores the history and application of math in the natural world. With incredible artwork from Ximo Abadía, the reader can visualize atoms, explore the geometric complexity of beehives, and wonder at the movement of the planets. With engaging, easy-to-understand text by acclaimed science writer Colin Stuart, this title will truly captivate and inspire.

Group theory is the branch of mathematics that studies symmetry, found in crystals, art, architecture, music and many other contexts, but its beauty is lost on students when it is taught in a technical style that is difficult to understand. Visual Group Theory assumes only a high school mathematics background and covers a typical undergraduate course in group theory from a thoroughly visual perspective. The more than 300 illustrations in Visual Group Theory bring groups, subgroups, homomorphisms, products, and quotients into clear view. Every topic and theorem is accompanied with a visual demonstration of its meaning and import, from the basics of groups and subgroups through advanced structural concepts such as semidirect products and Sylow theory.

Stress-Free Math

The Mathematics That Every Secondary School Math Teacher Needs to Know

The Mathemagician's Guide to Lightning Calculation and Amazing Math Tricks

The Math Book

What Works Best to Optimize Student Learning

Your Brilliant Brain and How to Train It

Equipped with the #1 guide to help kids (and their parents) with math homework, students will be able to quickly find the definitions and illustrated examples that will enable them to solve many of the math challenges they face. Covering everything from "addend" to "zero," Stress-Free Math: Is perfect for both kids and their parents looking for help with math homework and the tools to ace the class! Gives students in grades 4-9 more than 400 definitions, full-color illustrations, and examples. Covers subjects like measurement, algebra, geometry, fractions and decimals, statistics and probability, and problem solving. Helps students solve math problems with confidence. Is a fully updated reimagining of the best-selling Math Dictionary for Kids. This well-organized and easy-to-follow quick reference guide includes illustrated, concise explanations of the most common terms used in general math classes. Packed with strategies to help students get better grades and master math concepts without any headaches, this math study guide also discusses how students can use manipulatives and basic math tools to improve their understanding and includes handy measurement conversion tables, guides to geometric shapes, and more. Each concept covered has a concise definition and an example or illustration. Grades 4-9

Kids can learn basic math concepts while having fun, using this activity-driven book of games and exercises. Includes dice and counter pieces to supplement math play.

"There are only three cookies and four hungry friends to share them with. This is not good. This is not equal!"--

Meet Raye Montague?the hidden mastermind who made waves in the U.S. Navy! After touring a German submarine in the early 1940s, young Raye set her sights on becoming an engineer. Little did she know sexism and racial inequality would challenge that dream every step of the way, even keeping her greatest career accomplishment a secret for decades. Through it all, the gifted mathematician persisted?finally gaining her well-deserved title in history: a pioneer who changed the course of ship design forever. The Girl With a Mind for Math: The Story of Raye Montague is the third book in a riveting educational series about the inspiring lives of amazing scientists. In addition to the illustrated rhyming tale, you'll find a complete biography, fun facts, a colorful timeline of events, and even a note from Montague herself!

The Story of Raye Montague

See how Math Makes Sense

A Visual Guide to Acing Math in Grades 4-9

Visual Group Theory

Mathematical Mindsets

How to Be Good at Math Workbook Grades 2-3

Our mission: to make math a fun part of kids' everyday lives. We all know it's wonderful to read bedtime stories to kids, but what about doing math? Many generations of Americans are uncomfortable with math and numbers, and too often we hear the phrase, "I'm just not good at math!" For decades, this attitude has trickled down from one generation to the next, and we have a culture that finds math dry, intimidating, and just not cool. Bedtime Math wants to change all that. Inside this book, families will find fun, mischief-making math problems to tackle—math that isn't just kid-friendly, but actually kid-appealing. With over 100 math riddles on topics from jalapeños and submarines to roller coasters and football, this book makes math fun and accessible. It's math that looks nothing like school. And with three different levels of challenge (wee ones, little kids, and big kids), there's something for everyone. We can make numbers fun, and change the world, one Bedtime Math puzzle at a time.

PLEASE NOTE - this is a replica of the print book and you will need paper and a pencil to complete the exercises. Love it or hate it, math is an essential subject to know. Now you can master it with this colorful practice ebook. Do you feel a bit left behind in math class? Or are you a math genius and want to practice more at home? This workbook has everything you need to know about math through practice questions and practical exercises. Easy-to-follow instructions allow you to try out what you've studied, helping you understand what you've learned in school or giving extra study practice before that important test. Aimed at children aged 7-11 (Grades 2 and up), the ebook covers a wide range of math topics, including fractions, percentages, multiplication, measurement, geometry, coordinates, data handling, graphs, and equations. And there are answers at the back to check that you're on the right path. This workbook accompanies the How to Be Good at Math coursebook, but can also be used on its own.

Your child is done with shapes and identifying them in everyday objects. This time, you have to encourage your child to work with shapes. We are going to discuss right, acute and obtuse angles in the pages of this math book for kids. Go ahead and grab a copy of this book today!

Banish math anxiety and give students of all ages a clear roadmap to success Mathematical Mindsets provides practical strategies and activities to help teachers and parents show all children, even those who are convinced that they are bad at math, that they can enjoy and succeed in math. Jo Boaler—Stanford researcher, professor of mathematics education, and author of *What Works in Mathematics Education*—has studied why students don't like math and often fail in math classes. She's followed thousands of students through middle and high schools to study how they learn and to find the most effective ways to unleash the math potential in all students. There is a clear gap between what research has shown to work in teaching math in schools and at home. This book bridges that gap by turning research findings into practical activities and advice. Boaler translates Carol Dweck's concept of 'mindset' into math teaching and parenting strategies, showing how students can go from self-doubt to strong self-confidence, which is so important to math learning. Boaler reveals how to help students overcome math anxiety and provides a clear roadmap to success. Mathematical Mindsets: Explains how the brain processes mathematics learning Reveals how to turn mistakes and struggles into valuable learning experiences Provides examples of rich mathematical activities to replace rote learning Explains ways to give students a positive math mindset Shows how assessment and grading policies need to change to support real understanding Scores of students hate and fear math, so they end up leaving school without an understanding of basic mathematical concepts. Their evasion and departure hinders math-related pathways and STEM career opportunities. Research has shown very clear methods to help students overcome math anxiety, but the information has been confined to research journals—until now. Mathematical Mindsets provides a proven, practical roadmap to mathematics success for any student at any age.

An Introduction to Visual Mathematics

Visual Complex Analysis

The Language of the Universe

Artful Math Activity Book

Math, Grade 5

The Cookie Fiasco

Uses flaps and pull-tabs to reinforce such mathematical concepts as shapes, fractions, and multiplication.

Rich tasks, collaborative work, number talks, problem-based learning, direct instruction...with so many possible approaches, how do we know which ones work the best? In Visible Learning for Mathematics, six acclaimed educators assert it's not about which one—it's about when—and show you how to design high-impact instruction so all students demonstrate more than a year's worth of mathematics learning for a year spent in school. That's a high bar, but with the amazing K-12 framework here, you choose the right approach at the right time, depending upon where learners are within three phases of learning: surface, deep, and transfer. This results in “visible” learning because the effect is tangible. The framework is forged out of current research in mathematics combined with John Hattie's synthesis of more than 15 years of education research involving 300 million students. Chapter by chapter, and equipped with video clips, planning tools, rubrics, and templates, you get the inside track on which instructional strategies to use at each phase of the learning cycle: Surface learning phase: When—through carefully constructed experiences—students explore new concepts and make connections to procedural skills and vocabulary that give shape to developing conceptual understandings. Deep learning phase: When—through the solving of rich high-cognitive tasks and rigorous discussion—students make connections among conceptual ideas, form mathematical generalizations, and apply and practice procedural skills with fluency. Transfer phase: When students can independently think through more complex mathematics, and can plan, investigate, and elaborate as they apply what they know to new mathematical situations. To equip students for higher-level mathematics learning, we have to be clear about where students are, where they need to go, and what it looks like when they get there. Visible Learning for Math brings about powerful, precision teaching for K-12 through intentionally designed guided, collaborative, and independent learning.

Get better at math and numbers by realizing which math skills you already use in daily life, and learn new ones while having fun. Did you realize how much math you are already using when playing computer games, planning a trip, or baking a cake? This ebook shows how to expand the knowledge you've already got, how your brain figures things out, and how you can get even better at all sorts of math. Explore amazing algebra, puzzling primes, super sequences, and special shapes. Challenge yourself with quizzes to answer, puzzles to solve, codes to crack, and geometrical illusions to inspire you, and meet the big names and even bigger brains who made mathematical history, such as Pythagoras, Isaac Newton, and Alan Turing. Whether you're a math mastermind or numbers nerd, or are completely clueless with calculations, train your brain to come out on top. How to Be a Math Genius explains the basic ideas behind math, to give young readers greater confidence in their own ability to handle numbers and mathematical problems, and puts the ideas in context to help children understand why math really is useful and even exciting! Fun, cartoon-style illustrations help introduce the concepts and demystify the math.

Mesmerizing Math