

## A Constellation Of Origami Polyhedra

*This compilation of 34 original models by origami master John Montroll offers folders illustrated directions for creating a fabulous array of avian creatures. Ranging in difficulty from intermediate to complex, the figures include a hen, chick, and rooster; waterfowl such as a duck, heron, and swan; and other wild and domesticated birds.*

*"From the internationally renowned origami master comes this wild collection of more than 20 jungle and forest animals. Models include an aardvark, panda, giraffe, rhinoceros, moose, and zebra, ranging in complexity from fairly easy to advanced. This guide's handsome, full-color format will appeal to a wide range of paperfolders"--*

*From the simple Triangular Diamond and the Tower to the more advanced Cuboctahedron and the magnificent Stella Octangular, 30 multifaceted marvels will not only challenge devotees of the ancient Japanese art of paperfolding but will also appeal to students and others interested in math and geometry.*

*This collection teaches you how to fold 37 original origami stars, each from a single square sheet of paper. Great care has been taken to keep each folding sequence elegant. The models are amazing and striking, are enjoyable to fold, and can be used as awards and decorations, and on festive occasions. Several stars use both sides of the paper to highlight interesting color patterns. Duo origami paper, which has a different color on each side, is ideal for these models. Most of the stars are two-dimensional and a few are three-dimensional. Several sets of related stars are included. There are solid-color and two-toned models. The radiant stars each have an impressive alternating color pattern. The twelve-point star looks as if it was woven from strips of paper. The magic star resembles a model made from eight sheets, but is easily folded from a single square, like all the others in this book. Most of the designs are by John Montroll; several are by Russell Cashdollar. The models range from simple to complex, but not too complex. Clear step-by-step instructions show how to fold stars with varying number of points, shapes, and color patterns.*

*Origami Gone Wild*

*The Platonic Solids*

*Beginner's Book of Modular Origami Polyhedra*

*Perfect Pets Origami*

*The Geometry Code*

*Easy Origami*

This book comprehensively documents the many and varied ways that polyhedra have come to the fore throughout the development of mathematics.

More than 20 original models range from simple to advanced and include a butterfly, praying mantis, grasshopper, hornet, ant, several beetles, and other bugs. Full-color illustrations of finished models, plus detailed instructions with diagrams.

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This manual features 17 easy-to-master projects involving the Platonic solids: the tetrahedron, hexahedron, octahedron, dodecahedron, and icosahedron. Includes detailed diagrams and photos of all the completed models.

The World of New Computational Geometry

Wheels, Life and Other Mathematical Amusements

The Geometric Bridge Between Art and Science

Maths in Bite-sized Chunks

Galaxy of Origami Stars

Geometric Origami

Appealing to everyone from college-level majors to independent learners, The Art and Craft of Problem Solving, 3rd Edition introduces a problem-solving approach to mathematics, as opposed to the traditional exercises approach. The goal of The Art and Craft of Problem Solving is to develop strong problem solving skills, which it achieves by encouraging students to do math rather than just study it. Paul Zeitz draws upon his experience as a coach for the International mathematics Olympiad to give students an enhanced sense of mathematics and the ability to includes illustrated instructions for origami projects that range from simple to challenging.

Transform ordinary dollar bills into a unicorn, dinosaur, dog, elephant, and other creatures. More than 30 original models by a renowned origamist will appeal to paperfolders from beginners to experts.

In the vein of A Beautiful Mind, The Man Who Loved Only Numbers, and Rosalind Franklin, The Dark Lady of DNA, this volume tells the poignant story of the brilliant, colorful, controversial mathematician named Dorothy Winch. Drawing on her own personal and professional relationship with Winch and archives in the United States, Canada, and England, Marjorie Senechal explores the life and work of this provocative, scintillating mind. Senechal portrays a woman who was learned, restless, imperious, exacting, critical, witty, and kind. A young disciple of Bertrand from Oxford University, Winch's contributions to mathematical physics, philosophy, probability theory, genetics, protein structure, and crystallography were anything but inconsequential. But Winch, a complicated and ultimately tragic figure, is remembered today for her much publicized feud with Linus Pauling over the molecular architecture of proteins. Pauling ultimately won that bitter battle. Yet, Senechal reminds us, some of the giants of mid-century science—including Niels Bohr, Irving Langmuir, D'Arcy Thompson, Harold Urey, and David Harker—took Winch seriously.

These renowned thinkers, in such different fields, hope her model might explain? Senechal presents a sympathetic portrait of the life and work of a luminous but tragically flawed character. At the same time, she illuminates the subtler prejudices Winch faced as a feisty woman, profound culture clashes between scientific disciplines, ever-changing notions of symmetry and pattern in science, and the puzzling roles of beauty and truth.

Dragons and Other Fantastic Creatures in Origami

Dorothy Winch and the Cultures of Science

Bugs in Origami

Origami Birds

More Than 20 Original Animal Designs

Step-by-step instructions and 970 clear diagrams show beginning and experienced paperfolders how to create 27 amazing polyhedra from one sheet of paper. Graded according to difficulty, the projects range from a simple cube, tetrahedron and octahedron to a challenging rhombic dodecahedron, sunken icosahedron, and an antidiagonal with pentagonal base.

Intricate patterns, elegant geometries, and mind-boggling graphics are trademarks of the fascinating creations of M.C. Escher. This set puts his magical visual world right at your fingertips with 17 easy-to-assemble paper sculptures, transforming his dynamically repeating patterns into three-dimensional polyhedra. The accompanying booklet reviews the geometric principles and artistic invention underlying Escher's optical marvels.

This book unravels the mystery of Geometry in Origami with a unique approach: 64 Polyhedra designs, each made from a single square sheet of paper, no cuts, no glue; each polyhedron the largest possible from the starting size of square and each having an ingenious locking mechanism to hold its shape. The author covers the five Platonic solids (cube, tetrahedron, octahedron, icosahedron and dodecahedron). There are ample variations with different color patterns and sunken sides. Dipyramids and Dimpled Dipyramids, unexplored before in this Origami, are also covered. There are a total of 64 models in the book. All the designs have an interesting look and a pleasing folding sequence and are based on unique mathematical equations.

The first edition of Connections was chosen by the National Association of Publishers (USA) as the best book in OC Mathematics, Chemistry, and Astronomy OCo Professional and ReferenceOCO in 1991. It has been a comprehensive reference in design science, bringing together in a single volume material from the areas of proportion in architecture and design, tilings and patterns, polyhedra, and symmetry. The book presents both theory and practice and has more than 750 illustrations. It is suitable for research in a variety of fields and as an aid to teaching a course in the mathematics of design. It has been influential in stimulating the burgeoning interest in the relationship between mathematics and design. In the second edition there are five new sections, supplementary, as well as a new preface describing the advances in design science since the publication of the first edition. Contents: Proportion in Architecture; Similarity; The Golden Mean; Graphs; Tilings with Polygons; Two-Dimensional Networks and Lattices; Polyhedra; Platonic Solids; Transformation of the Platonic Solids I; Transformation of the Platonic Solids II; Polyhedra: Space Filling; Isometries and Mirrors; Symmetry of the Plane. Readership: Polytechnic students, architects, designers, mathematicians and general readers."

The Mathematics Teacher

Simple to Complex

Origami Fold-by-Fold

Teach Yourself Origami

Fifth International Meeting of Origami Science, Mathematics, and Education

Origami and Math

Presents illustrated, step-by-step instructions for creating the twelve animals of the Chinese zodiac and a variety of mythological creatures in origami.

New collection of 35 original models by the origami master ranges from simple (ladybug, angelfish, sailboat) to complex (grasshopper, wooly mammoth), with a crane, lion, peacock, and several geometric shapes in between.

This paper pack contains 200 high-quality, 6-inch origami sheets printed with spectacular cosmic photos of the Milky Way Galaxy. These colorful origami papers were developed to enhance the creative work of origami artists and paper crafters. The pack contains 12 unique photos, and all of the papers are printed with coordinating colors on the reverse to provide aesthetically pleasing combinations in origami models that show both the front and back. This origami paper pack includes: 200 sheets of high-quality origami paper 12 unique photos Vibrant and bright colors Double-sided color 6 x 6 inch (15 cm) squares Step-by-step instructions for 6 easy-to-fold origami projects

Symmetry is all around us. Of fundamental significance to the way we interpret the world, this unique, pervasive phenomenon indicates a dynamic relationship between objects. Combining a rich historical narrative with his own personal journey as a mathematician, Marcus du Sautoy takes a unique look into the mathematical mind as he explores deep conjectures about symmetry and brings us face-to-face with the oddball mathematicians, both past and present, who have battled to understand symmetry's elusive qualities.

30 Breeds from Terriers to Hounds

37 Original Stellar Designs

A Mathematical Journey

The Art and Craft of Problem Solving

Project Origami

Origami Sculptures

*Origami continues in the excellent tradition of its four previous incarnations, documenting work presented at an extraordinary series of meetings that explored the connections between origami, mathematics, science, technology, education, and other academic fields. The fifth such meeting, SOSME (July 13–17, 2010, Singapore Management University) followed the precedent previous meetings to explore the interdisciplinary connections between origami and the real world. This book begins with a section on origami history, art, and design. It is followed by sections on origami in education and origami science, engineering, and technology, and culminates with a section on origami mathematics—the pairing that inspired the original meeting. Within this one volume, you will find a broad selection of historical information, artists' descriptions of their processes, various perspectives and approaches to the use of origami in education, mathematical tools for origami design, applications of folding in engineering and technology, as well as original and cutting-edge research on the mathematical underpinnings of origami.*

*This book focuses on origami from the point of view of computer science. Ranging from basic theorems to the latest research results, the book introduces the considerably new and fertile research field of computational origami as computer science. Part I introduces basic knowledge of the geometry of development, also called a net, of a solid. Part II further details the topic of nets. In the science of nets, there are numerous unresolved issues, and mathematical characterization and the development of efficient algorithms by computer are closely connected with each other. Part III discusses folding models and their computational complexity. When a folding model is fixed, to find efficient ways of folding is to propose efficient algorithms. If this is difficult, it is intractable in terms of computational complexity. This is, precisely, an area for computer science research. Part IV presents some of the latest research topics as advanced problems. Commentaries on all exercises included in the last chapter. The contents are organized in a self-contained way, and no previous knowledge is required. This book is suitable for undergraduate, graduate, and even high school students, as well as researchers and engineers interested in origami.*

*Suitable for folders of intermediate to advanced skills, the book presents step-by-step instructions and full-color photographs for more than two dozen breeds ranging from the familiar to the more exotic.*

*Origami goes global with 33 models by designers from more than 15 countries, including Australia, Hungary, Bolivia, China, India, and more. Figures range from simple to moderately difficult and include a frog, ocean liner, penguin, hot air balloon, dragon, and kangaroo. Notes on each model include comments on individual styles and methods of paperfolding.*

*A Plethora of Polyhedra in Origami*

*Dollar Bill Animals in Origami*

*Mythological Creatures and the Chinese Zodiac in Origami*

*2nd Revised Edition*

*Horses in Origami*

*Symmetry*

Forty original models range from simple to advanced and produce striking stars that can be used as decorations and awards. Full-color photos illustrate Map Compass, Radioactive Star, Sun, many other patterns.

Contains a collection of Montroll's best paper folding with the modern advances of computer graphics.

Origami master John Montroll introduces nearly 50 figures that range from simple to sophisticated. They're perfect for those who are familiar with the basics but seek more challenging models as well as for experienced folders. Models include a cup, hat, sailboat, crane, frog, and fish for beginners; a pheasant, robin, pig, and octahedron for intermediate folders; and a deer, elephant, bee, and waterwheel for advanced origamists — plus many other imaginative figures. Clear instructions and crisp diagrams accompany each project.

Step-by-step instructions and clear diagrams show paper folders at all levels of expertise how to fashion 37 origami models from dollar bills. Beginners will enjoy making a boat and a butterfly. Windmills and peacocks will suit intermediate-level hobbyists. An alligator and bison should prove no problem for advanced paper folders.

I Died for Beauty

Universal Symbolic Mirrors of Natural Laws Within Us; Friendly Reminders of Inclusion to Forgive the Dreamer of Separation

Introduction to Computational Origami

The British National Bibliography

Dollar Bill Origami

Origami Stars

"Instructions for 27 models of fantasy figures including 10 dragons, a wizard, ogre, unicorn, phoenix, and other imaginary creatures"--

More than 30 domestic creatures include fish, birds, cats, and dogs as well as a mouse, hamster, ferret, rabbit, and other pets. Easy to intermediate-level projects offer simple instructions and ample illustrations.

Martin Gardner's Mathematical Games columns in Scientific American inspired and entertained several generations of mathematicians and scientists. Gardner in his crystal-clear prose illuminated corners of mathematics, especially recreational mathematics, that most people had no idea existed. His playful spirit and inquisitive nature invite the reader into an exploration of beautiful mathematical ideas along with him. These columns were both a revelation and a gift when he wrote them; no one—before Gardner—had written about mathematics like this. They continue to be a marvel. This is the original 1983 edition and contains columns published from 1970-1972. It includes three columns on the game of Life.

Presents instructions for folding thirty-nine origami models, from geometrical figures to an elephant—each made from a single sheet of paper—that emphasize the mathematical principles behind each design.

Origami Worldwide

Origami Polyhedra Design

M. C. Escher. Kaleidocycles

Origami 5

A Constellation of Orgami Polyhedra

Activities for Exploring Mathematics, Second Edition

**Integrate practical insights from modern physics, ancient Hermetic Laws, non-dual meta-physics, transpersonal psychology, and humor, as tools for undoing conflicting beliefs we've dreamed ourselves into. The seven Hermetic laws are explored in depth and demonstrate how a mindfulness that embraces 'other' as 'self' can reverse the typical misapplication of these inescapable laws of Mentalism, Correspondence, Vibration, Polarity, Rhythm, Cause & Effect and Generation. Ubiquitous geometric symbols, paired to each of these laws - the circle, vesica piscis, sine wave, line, spiral, fractal and yin-yang - and their countless commonplace variations, seen from the vantage point of shared interests, reflect these ideas. The inspired use of natural law restores attributes of life, love, strength, purity, beauty, perfection and gratitude to our awareness.**

**Internationally renowned origami artist John Montroll presents 26 models of horses. Full-color illustrations accompany detailed instructions for folding fanciful figures -- including a stick horse, rocking horse, unicorn, and Pegasus -- as well as actual breeds such as Clydesdale, thoroughbred, and mustang. Suitable for folders at all levels, the models range from simple to complex.Dover Original.**

**Too hip to be square. Shape up with this mind-blowing set that--quite honestly--we didn't even know was possible until our editors discovered the exquisite artwork of Heinz Strob's Snagology Project. Inspired by his work, our designers have created Geometric Origami, a new, sophisticated origami kit for advanced origami artists. Create 15 paper projects using the specially designed strips included in the set: Tetrahedron, Hexahedron, Octahedron, Dodecahedron, Icosahedron, Truncated Tetrahedron, Cuboctahedron, Icosidodecahedron, Rhombic Triacantahedron, Snub Dodecahedron, Zonohedron, and Buckyballs. Don't worry--there's even a few pronounceable shapes like an Egg and a Geometric Bracelet, plus more surprises. (We would include them here, but we're still looking up their proper spellings.) \* Gain a whole new perspective on geometry and the world of origami. \* Great fun for the entire family--or for your local geometry professor. Geometric Origami offers the next generation of art and paper crafting for origami enthusiasts.**

**Let the real world show you how maths works. Maths is often cited as the 'most difficult' or 'complex' subject to study, many people admitting to a wariness that was probably ingrained into them in their school days. In Maths in Bite-sized Chunks, Chris Waring proves that it's easy to break the subject down into accessible, understandable information, much of which, in fact, we use in one way or another every day of our lives. Each chapter takes readers through the theory, demonstrating how to master it with worked-through problems and examples from the real world. Topics that once seemed impenetrable suddenly become relatable and easier to unpick. So whether it's algebra or statistics that once had you flummoxed, get ready for a new way of being mathematically minded.**

**Dogs in Origami**

**A Constellation of Origami Polyhedra**

**Origami PaperMilky Way Photos 200 Sheets 15cm**

**Polyhedra**

**Connections**

Project Origami: Activities for Exploring Mathematics, Second Edition presents a flexible, discovery-based approach to learning origami-math topics. It helps readers see how origami intersects a variety of mathematical topics, from the more obvious realm of geometry to the fields of algebra, number theory, and combinatorics. With over 100 new pages, this updated and expanded edition now includes 30 activities and offers better solutions and teaching tips for all activities. The book contains detailed plans for 30 hands-on, scalable origami activities. Each activity lists courses in which the activity might fit, includes handouts for classroom use, and provides notes for instructors on solutions, how the handouts can be used, and other pedagogical suggestions. The handouts are also available on the book's CRC Press web page. Reflecting feedback from teachers and students who have used the book, this classroom-tested text provides an easy and entertaining way for teachers to incorporate origami into a range of college and advanced high school math courses. Visit the author's website for more information.