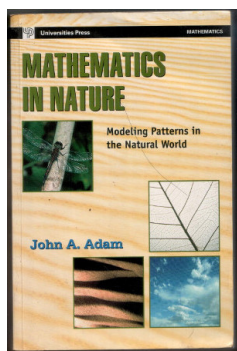# Book Review [1]
Mathematics in nature
by John A Adam

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It is a well-known fact that mathematics is the common tool with which we can explain and understand many phenomena we commonly encounter in life.

Written by a Professor of Mathematics, and based on a university course with the same name, this book gives ample proof, with examples, of the ubiquity of mathematics.

This book brings together, in a fascinating style, two apparently unrelated domains: mathematics and nature. It is best suited for a mathematically-literate reader who is also a curious observer of nature. This 360 page book demonstrates the various mathematical principles involved in modelling and explaining nature. It takes a look at the mathematical basis of modelling various aspects of nature, like meteorological phenomena, nature and landscape, botanical phenomena, bees, birds and bugs. The mathematical explanations given in this book are supported by many simple illustrations and figures. Many coloured plates are also enclosed, to drive home the point. An elaborate list of references is also made available in this book, to help those who would like to probe further.

The book is organised by mathematical tools and principles as reference and explains the corresponding natural phenomena which obey these tools. Some such frames of reference include: Fermi problems, wave equations, calculus, Fibonacci sequences, the Golden ration, geometry, Bessel functions, random walks, diffusion equations, dimensional analysis, brownian motion, fractals.

The mathematics employed is just profound enough to sustain mathematical rigour and still be meaningful to an average reader. To keep the discourse within a reasonable size, the mathematics employed is focused only on the visually-striking aspects of nature. The author calls this as "modelling patterns in the natural world". The book can be an ideal supplement to courses on applied mathematics and mathematical modelling. It will also appeal to mathematics educators and enthusiasts. It can be used for creating interesting projects for students, to enable them to discover mathematics on their own.

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[1] Mathematics in nature, John A Adam, Pub.: Universities Press, India, ISBN 8173715084
[2] About the Reviewer: http://drpartha.org.in/

The book is an excellent demonstration of "the beauty of nature as revealed by mathematics, and the beauty of mathematics as revealed in nature"

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