

Shoo Rayner

## Archimedes: the Man Who Invented the Death Ray

United Kingdom (2019)

TAGS: [Archimedes](#) [Greek philosophy](#)



We are still trying to obtain permission for posting the original cover.

General information	
<i>Title of the work</i>	Archimedes: the Man Who Invented the Death Ray
<i>Country of the First Edition</i>	United Kingdom
<i>Country/countries of popularity</i>	worldwide
<i>Original Language</i>	English
<i>First Edition Date</i>	2019
<i>First Edition Details</i>	Shoo Rayner, <i>Archimedes: the Man Who Invented the Death Ray</i> , 2019.
<i>ISBN</i>	1908944358
<i>Genre</i>	Graphic novels
<i>Target Audience</i>	Children
<i>Author of the Entry</i>	John Hale, University of Otago, johnhalenz@gmail.com
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## Creators



### **Shoo Rayner , b. 1956 (Author, Illustrator)**

Shoo (Hugh) Rayner is an author, illustrator, and teacher of drawing. He was born in Kingston-upon-Thames, the child of a member of the British Army who moved around the world. He spent his childhood in Germany, Pakistan, Yemen, and the United Kingdom. He is a graduate of Anglia Ruskin University (formerly Cambridge College of Art and Technology). He lives in Gloucestershire, near the Forest of Dean. He has illustrated over 250 books, and has two successful Youtube sites teaching drawing ([Shoo Rayner Drawing](#), and [Draw Stuff Real Easy](#)).

Rayner creates picture books and middle-grade fiction for children. He admits that after failing his English O level he developed a visual approach to writing and telling stories. He refers to himself as a "storyteller illustrator" (see [here](#), accessed: December 4, 2019). His published output is prolific: he has published a large number of series of Early Readers for children, including the *Lydia* series, the *Victor* series, the *Little Horrors* series, the *Ginger Ninja* series, the *Monster Boy* series, and the *Olympia* series.

Rayner's work in these series involves simple, easy-to-read stories, aimed at readers "at the most important stage of reading development where they can be put off, or enthused for life." (*Something about the Author*, 169)

Sources:

Official [website](#) (accessed: December 4, 2019)

Official [channel](#) on You Tube (accessed: December 4, 2019)

[DrawStuffRealEasy](#), channel on You Tube (accessed: December 4, 2019)

[Profile](#) at en.wikipedia.org (accessed: April 6, 2019)

'Hugh (Shoo) Rayner,' *Something About the Author*, Ed. Lisa Kumar.

Vol. 151. Detroit, MI: Gale, 2004, p. 168-171.

Bio prepared by Elizabeth Hale, University of New England, ehale@une.edu.au and Ayelet Peer, Bar-Ilan University, ayelet.peer@gmail.com

### **Questionnaire**

Response to author's questionnaire on Author's [Vimeo channel](#) (accessed: April 4, 2019).

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## Additional information

### Summary

*Archimedes: the Man Who Invented the Death Ray* is an illustrated chapter book that explains the life and work of the Greek scientist (287-212 BC). Rayner explains that Archimedes lived in Sicily, in Syracuse, and his inventions (such as the Death Ray of the title) staved off the Roman conquest of Sicily for two years.

The chapters describe his discovery of fundamental principles of physics and maths: levers, pulleys, pi, the screw pump, the principle named after him (Archimedes' principle; then two military applications, his claw and his death ray (related to lasers). Each of these is explained, and illustrated, in a narrative given to his young son by the Roman general who finally overcame Sicily. The ingenious narration comes as the admiring tribute by a Roman to a Greek enemy.

By leveraging we can lift much greater weights than by straightforward exertion: "Give me a lever long enough and I will move the world," Archimedes is said to have said. By pulleys, the same only more so. He worked out the proportion of circumference to radius in a circle as 1: 34 approx and used pi to calculate areas of curving surfaces. Lifting again, his screw pump would lift water by bucket and counterweight, a "levertype crane." His celebrated Principle of displacement was discovered when he observed that the amount of water displaced by varying bodies, including his own, varied according to weight, not simply volume. His "claw" was a siege weapon defending his city against attacking ships. His "death ray" used curved mirrors to aim many rays of sunshine onto a single point.

Rayner points out that Archimedes' discoveries remain relevant: "His mathematical formulae are still used every day. Levers and cranes and pulleys are used everywhere." Lasers and odometers use his principles.

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### Analysis

Rayner aims to entertain his young readers while delivering mathematical knowledge. The many anecdotes about this important scientist are used to enliven the exposition of some basic principles. There's the legend, that upon working out his principle of displacement he leapt from his bath and ran outside naked, shouting



Eureka! "I have found it!" Not only that, but that he used the principle to detect a fraudulent mixing of gold with iron by a goldsmith. The pictures show his gadgets like the claw in vivid action. The dramatizing and indirections of the telling bring to life the often tortuous way in which Greek ideas entered the Roman mind, and so into the universal science of the modern day. A challenging, quirky example of the reception history of Greek thinkers.

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Classical, Mythological,  
Traditional Motifs,  
Characters, and  
Concepts

[Archimedes Greek philosophy](#)

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Other Motifs, Figures,  
and Concepts Relevant  
for Children and Youth  
Culture

[Knowledge Past Science](#)

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