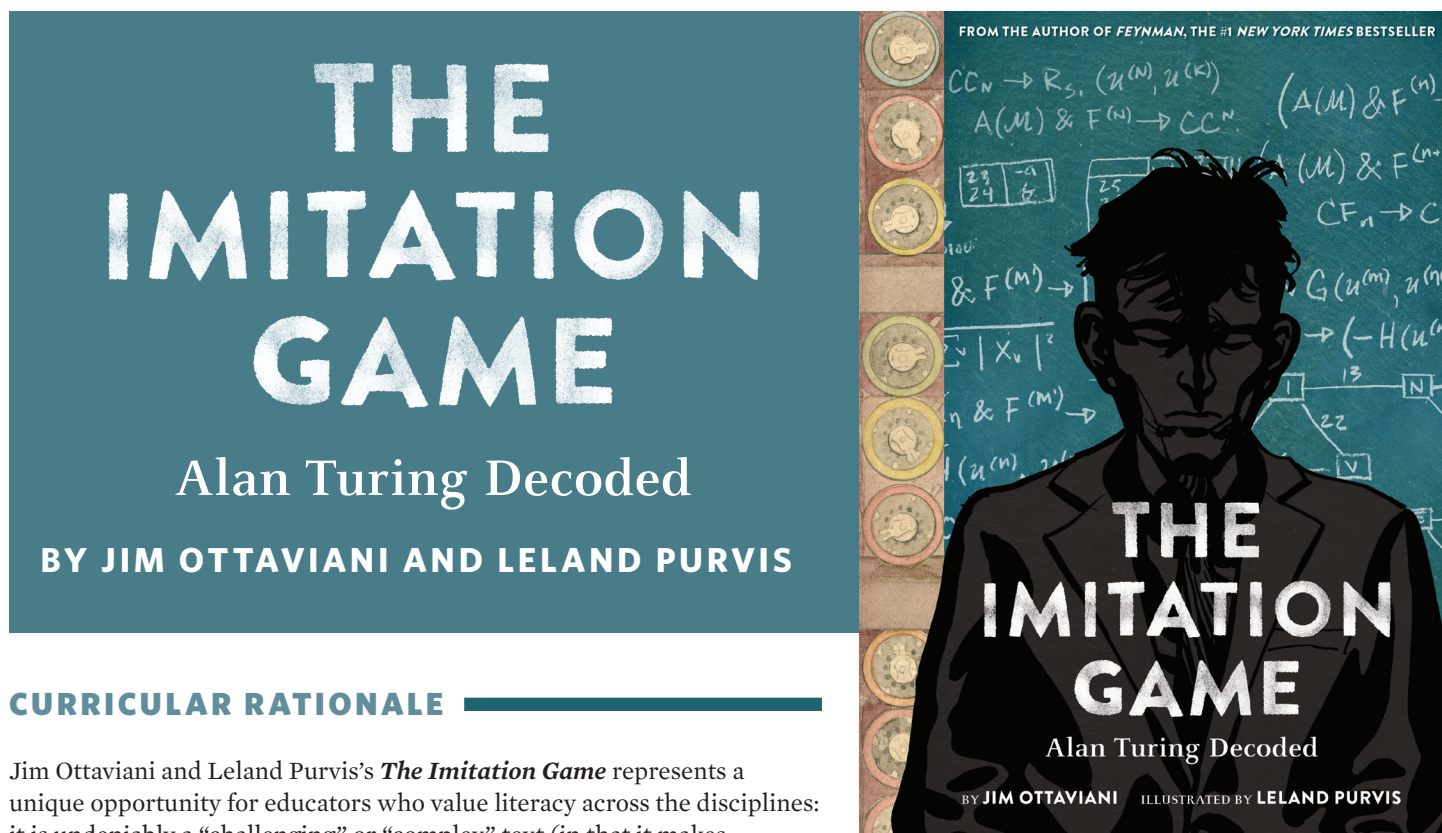


# ABRAMS COMICARTS GRAPHIC NOVEL TEACHING GUIDE



## CURRICULAR RATIONALE

Jim Ottaviani and Leland Purvis's *The Imitation Game* represents a unique opportunity for educators who value literacy across the disciplines: it is undeniably a “challenging” or “complex” text (in that it makes demands at the levels of language and structure as well as in background knowledge) while never ceasing to engage in terms of both ideas and narrative. The artistry applied to its conveyance through the comics medium serves to intensify both sides of the equation: the storytelling is highly inviting yet deceptively sophisticated. With this in mind, it's an ideal text for inclusion in reading lists in both college and college-preparatory curricula. The intent of this brief guide is to provide flexible teaching options that you can adapt to your needs and those of your students.

## STEM TEACHING INDEX

The interdisciplinary nature of STEM—how the mechanical, practical, and theoretical knowledge domains must collaborate to make lasting progress in real-world contexts—is reinforced repeatedly in *The Imitation Game*. Moreover, students will gain an understanding of the comparative lack of compartmentalization in Alan Turing's day, and how dissolving barriers between theory and practice fosters intellectual growth, with Turing himself being an exemplar of this. You can use this index to locate specific STEM topics, but please note that terms/concepts such as math, computers, ciphers, and artificial intelligence are not listed as they are touched upon exhaustively throughout. The presentation of the topics below is sometimes embedded in narrative so that students can use context clues to aid comprehension, and sometimes as expository text, with Turing or other narrators providing explanations directly.

*algorithms* 38, 40, 44, 47-48, 63

*astronomy* 16, 21, 51, 59

*biology* 209, 214

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*chemistry* 10-11, 214

*decision (stopping) problem*  
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*engineering* 182

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*logic/reasoning* 13, 26-27, 214

*machines (paper, Turing, Universal)*  
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*morphogenesis* 209, 214

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*numbers, computable* 56

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*problems, solvable and unsolvable*  
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*proofs* 38, 49

*quantum mechanics* 26

*sound* 140, 161

*systems, complete and consistent* 39

In addition to the complexity of the text, educators gearing instruction to CCSS will find that *The Imitation Game* fulfills a range of secondary-level nonfiction and fiction curricular objectives. Examples of alignment with CCSS in math, which are informed by NCTM’s emphasis on “problem solving, reasoning and proof, communication, representation, and connections,” are present on nearly every page of the book.

## A NOTE ON SENSITIVITIES

Both alcohol use and sensuality are presented in passing as biographical data. Specifically, Turing’s own homosexuality—for which he was prosecuted and forced to subject to estrogen injections—naturally becomes a focus in the latter stages of the book. Note, however, that the treatment of such topics is largely implicit rather than graphic.

## CRITICAL THINKING QUESTIONS

Please use these questions to further inquiry into, and analysis of, *The Imitation Game* as needed. They can function as the basis for group discussion, as writing assignments or prompts, or even as assessment items. Or, by sharing these questions prior to reading, you can have students use them as a support tool to identify major themes and monitor their understanding.

1. While Alan Turing’s story has been told in other media, how do the **comics elements** in this graphic biography add insight into his mindset or elicit emotions in ways not possible otherwise? Consider the use of special fonts inside word balloons, the lettering of sound effects, non-grid page layouts, and how color is used to signal shifts in time frame or speaker. Also, how would you evaluate the creators’ ability to convey abstraction visually through a combination of different formal elements?
2. How does the **multiple point-of-view storytelling** enhance the reader’s understanding of Turing and/or the times in which he lived? Focus on points when the story transitions from one narrator to another, or how the different narrative caption boxes interact directly (or juxtapose) with one another. How are such devices used to express immediacy so that events feel as if they are occurring not in the past, but now?
3. Connect content across texts by researching, as needed, the **renowned historical figures** that appear (e.g., Winston Churchill, Ian Fleming, Ludwig Wittgenstein) or the pioneers in STEM (e.g., Babbage, Gödel, Hilbert, Lovelace) whose ideas are often personified. How do such figures enrich Turing’s own story, and do you agree with how these persons or their thoughts are depicted? How might a graphic biography of any of them present Turing?
4. Summarize and critique Turing’s repeatedly stated belief that in terms of cognition there is ultimately little **difference between humans and machines**. For example, does he fairly characterize the theological objections to this argument, and have advances in computer science and/or psychology since his lifetime confirmed or undermined his contentions? In addition, in what ways does the book’s subtext amplify this philosophical argument to the societal level—namely, what are the “instructions” that are received in institutions like the military, or in the form of behavioral norms, and how do these affect individual lives?
5. **Games** are referenced throughout *The Imitation Game* in the form of sports, chess, jigsaw puzzles, and other pastimes. What would Turing have thought of the prominence of games in today’s culture, and would he have been a “gamer”? . . . or perhaps even a game developer? Why or why not? In what ways does it make sense that he formulated his famous theoretical test for whether computers can be distinguished from people by an outside observer in the form of a game? In what sense do gamers today rely on logic and reasoning?
6. Explore the extensive **notes and references** in the book’s back matter. In your opinion, how justified are the “small fictions” that the authors created based upon the bibliographic sources cited? How might you have extrapolated differently from the known record in order to convey the unknown and unknowable, whether these relate to historical events or the inner lives of particular people?

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This guide was developed by Peter Gutiérrez, a former math and language arts classroom teacher. Other STEM titles he developed guides for at Abrams include *Climate Changed* and *How to Fake a Moon Landing*.