

Educator Computer Science Reading Lists

Engaging children in literature to introduce computational thinking provides a creative platform to understand abstract computer science concepts through the familiar visual and verbal pattern of books. This also reinforces language and literacy skills by applying computational problem-solving and critical thinking while allowing children to explore the concepts through guided discussion and relatable experiences. This method also provides a less intimidating, unplugged entry point to computational concepts, especially for students who are multilingual learners.

Benefits

- Boosts writing and literacy: Students can learn computational concepts such as decomposition (breaking down a problem) and debugging (finding and fixing errors) through the process of analyzing, writing, and/or revising a story.
- Enhances higher-order thinking: Analyzing literature through a computational lens improves critical thinking, problem-solving, and analytical skills. For example, students can use the writing process as an algorithm for developing a story.
- Supports multilingual learners: Combining computational thinking with literacy enables students to integrate their backgrounds in both areas, making it easier for them to learn computational concepts.
- Offers an "unplugged" learning path: Using literature, such as picture books and graphic novels, provides a way to teach computational concepts without requiring computers. This can be an accessible and engaging method for teachers and students who lack extensive technology or coding knowledge.
- Fosters creativity and resilience: The iterative nature of both computational thinking and writing encourages students to experiment, try different solutions, and learn from both successes and failures. This process helps build resilience and adaptability.

Resources

- [Birdbrain Technologies Reading List](#)
- [CodeVA's Computer Science Reading List](#)
- [30 Technology Books for Elementary Kids](#)
- [Computing at School Secondary Reading List](#)
- [Computing at School Primary Reading List](#)