

# Little People, BIG DREAMS

## TEACHERS' GUIDE



Ada Lovelace

Little People, BIG DREAMS

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\$14.99 US/\$17.99 CAN

ISBN: 9781786030764

Ages: 4 to 8 (Grades: PreK to 2)

32 pages

Hardcover, 7.6 x 9.5 inches



### LEARNING OBJECTIVE:

Equipped with a boundless imagination and a love of numbers and logic, Ada Lovelace is an icon in the field of mathematics and computer sciences. Her lifelong dedication to her studies and remarkable achievements will inspire children today with the principle that ingenuity and perseverance can yield wondrous results.

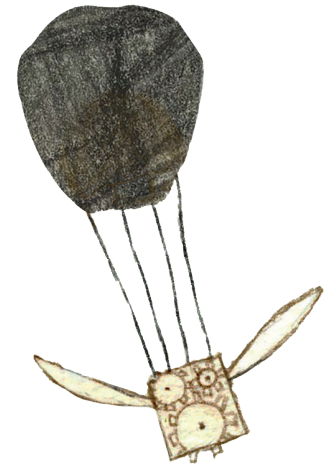
### ESSENTIAL QUESTIONS IN THIS UNIT

1. Why was Ada Lovelace an important person?
2. What about Ada's personality helped her to become a successful mathematician?
3. Why did people think Charles Babbage's calculator seemed "like magic?"
4. After she met Charles, what idea did Ada have to help his calculator "do even more amazing things?"
5. How did Ada describe her coding idea? What word did she use?
6. What object that we use every day did Ada's idea help create?



## CLASSROOM DISCUSSION TOPICS

1. Ask students what kind of relationship Ada seemed to have with her parents. Discuss the fact that, as a child, she was often left alone. Ask the students how Ada's imagination helped her in these times. Why do they think Ada's mother didn't like her imaginative ideas?
2. The book explains that Ada suffered a long illness. Ask the students what she did to stay busy during her sickness. What would they do if they were sick and had to stay home for a long time? What things would they miss? What things would they not miss?
3. Discuss with students the ways in which Ada loved both numbers and poetry. How do they think that affected Ada's life? Do they think combining arts and sciences can make better ideas? Why?
4. Charles Babbage was a famous mathematician. Ask the students if they can name other famous mathematicians or scientists. Then ask them to name famous celebrities. Compare the lists - which is longer? Ask the students why they think this is.



## STUDENT ACTIVITIES

1. Ada's idea was important in developing modern day computers. Have the class create a list of where computers can be found and how they are used every day, leaving room to add more ideas as students think of them.
2. As a girl first learning mathematics, Ada used a specific tool to calculate. Ask the students to name that tool. Have they ever used one? If you have one or can borrow one for class (there are also inexpensive options online), show the students how it is used to do calculations. Provide equations to solve based on their skill level.
3. Encourage your students to explore the wonderful world of coding! Start with Code.org, which offers activities, games, and courses tailored to specific age ranges. If your school offers specific coding programs, help students navigate them in the classroom, and invite them to explore them at home.
4. On the last page of the story, the author says, "your dreams can take flight." Using the bird cut-out from the next page, have students write down their dreams, as well as the steps they will need to take to achieve them.



Using the bird cut-out below, write your dreams on it and think of the steps you will have to take in order to achieve your own flight.

