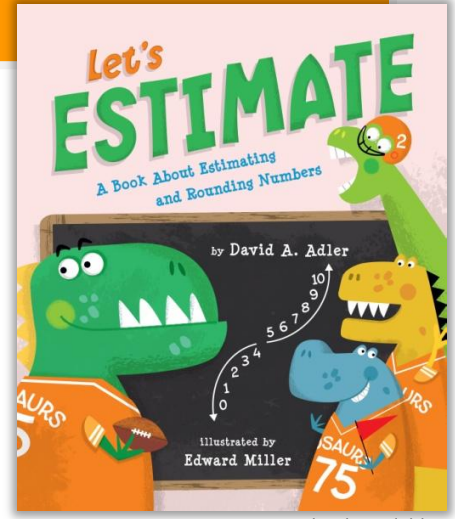


LESSON PLAN STEM

Let's Estimate: A Book About Estimating and Rounding Numbers

David A. Adler, illustrated by Edward Miller

A “dino-filled” introduction to the mathematical concept of estimating, told in a fun and engaging way. Real-world examples and clear explanations will have students estimating like pros!



Objectives: Students will be able to read for purpose and understanding, identify text type, explain how specific images contribute to and clarify a text, and understand and apply concepts of estimating and rounding numbers.

Guided Reading Level: O

Grade Level: 3

Interest Level: 2–5

Instructional Standards

Reading Informational Text: RI.2-4.1,2,3,4,5,6,7,8

Reading Foundation Skills: RF.2-4.4,4a

Writing: W.2-4.3,8

Speaking and Listening: SL.2-4.1,2,3,4,6

Language: L.2-4.3,4,6

BEFORE READING

1. Discuss the cover illustration and the book title. The illustrations look like this book could be a fictional story, but the title tells us that we will be learning information about a math topic.
2. What is the text type, fiction or nonfiction?
3. Why is it important to think about the text type before reading a book?

Nonfiction vs. fiction

- *Nonfiction texts give us information that is true*
 - *Is organized around a specific idea or topic*
 - *Teaches facts through reading*
4. Talk about other nonfiction texts you have read as a class. Do they look the same? Give examples from prior reading. Make connections to the forms of nonfiction below.

There are 4 forms of nonfiction:

- **Narrative Nonfiction** tells a story about a person, event, or place. It is based on research.
- **Expository Nonfiction** explains or informs about a topic.
- **Descriptive Nonfiction** gives the reader a visual of what is being described using rich details and figurative language.
- **Persuasive Nonfiction** is meant to influence how the reader thinks, feels, acts, or makes decisions with regard to a particular idea, issue, or proposal.



Take a picture walk through the book.

- Discuss and Identify “text features” David Adler uses in *Let’s Estimate*.
 - **Table of Contents**
 - **Foreword**
 - **Afterword**
 - **Illustrations**
 - **Photographs**
 - **Captions**
 - **Italics**
 - **Diagrams**
 - **Maps, charts**
 - **Pronunciation Guide**
 - **Headings**
 - **Labels**
 - **Glossary**
 - **Index**
 - **Further Reading**
 - **About the Author**
 - **Timeline**
 - **Bold/colored print**
- Why do you think David Adler uses many detailed illustrations, charts, diagrams, and captions in *Let’s Estimate*?
- What do you think this book will be about?
- What do you already know about estimating and rounding numbers? Estimating is figuring “about” how many. It is an educated guess.
- Show a jar of jelly beans. Ask students to guess how many are in the jar just by looking. Tell them they have 30 seconds. Why do we need to estimate? Have the students count the jellybeans at a later time and compare their answers.

Discuss estimation

It is finding a number that is **close enough** to the right answer.

You are **not** trying to get the **exact** right answer.

What you want is something that is **good enough** (usually in a hurry!).

- Practice estimating. What information do you need to determine the best answer?
 - How much wrapping paper do you need to wrap a large box?
 - How much bread do you need to make sandwiches for all your friends?
 - How many people are in the room?
 - How thick should you make each slice of cake at a party?
 - How much paint do you need to paint a wall or table?

DURING READING

- First reading/shared: Teacher reads aloud the main text and models as students read along.
- Second reading independent: Students read silently.

Think about and identify . . .

- What is the text type? Explain (Expository Nonfiction. David A. Adler is explaining the topic of estimating and rounding.)
- How do **specific** illustrations clarify information?
- How does David Adler use reasons and evidence in the book?
- What is his purpose for writing *Let’s Estimate*? To entertain, explain, or persuade?
- How are rounding and estimation connected?
- When do we need to estimate?
- Why do we need to estimate?



AFTER READING**Make Connections**

1. Go back to the book and find the new vocabulary words in bold print: **round, add, estimate, exact, about, approximate, estimation, rounding**. Create a math glossary.
2. Explain something new that you learned from the book.
3. Describe how the structure, illustrations, and words enhance meaning.
4. How does David A. Adler create humor in the book?
5. In your own words, explain “estimation.” Give examples of how you use estimation in your life.
6. How are estimating and rounding connected? Explain how rounding can help you estimate.
7. Why is estimation an important life skill?
8. Round the numbers below to the nearest **10, 100, and 1,000**. Create a “place chart” and write an explanation for each. Use the same method as on pages 16–22 in the book.

2,347 4,094 1,259 983 323,456 472 99,207 63,589

Play and practice

1. Hand out five dice to each group. Instructions: Roll five dice and create the largest number. Roll again, and round the addends to add in a standard algorithm. Then add the exact number to practice addition skills. Compare the two numbers. Did the estimate make sense? *Explain*.

Group STEM Activity

1. Find ways that estimation and rounding are used in real-life, everyday experiences:
 - building
 - cooking
 - shopping in the grocery store
 - travel
 - money
 - time management

Extension Questions

1. In small groups, discuss and write about the following questions. Share with the class.
 - How can patterns help us solve problems?
 - What is the difference between guessing and estimating?
 - How do people make good estimations in math? Why should answers in math make sense?
 - When is an estimate more appropriate than an exact calculation?
 - What makes an estimate reasonable? What makes an answer exact?
 - How important are estimations in real life?
 - How do we get better at estimating?
 - When is overestimating or underestimating a problem?
 - What are advantages and disadvantages of estimating?

Guide written by Marla Conn, reading/literacy specialist and educational consultant 3.17

