iMath Readers

Winning the Game:
Putting Miles in Their Place
by John Perritano

Math Objective
While tracking game scores, children add and subtract decimals to thousandths. They use models or drawings and strategies based on place value, properties of operations, and the relationship between addition and subtraction. Children use a tally chart, base-ten blocks and decimal blocks, and a place-value chart. Children use expanded notation to add and subtract integers.

iMath Discover Activity
In this activity, children practice subtraction and addition of decimal numbers. By rolling six number cubes, children create decimal numbers that they will compare.

Materials
- 6 blank cubes or 6 number cubes
- masking tape
- marker
- paper and pencil

➤ **Objectives**

Children will:
• read and write decimal numbers.
• determine which number is greater or lesser than.
• practice addition and subtraction of decimals.
• use a tally chart, base-ten blocks and decimal blocks, expanded notation, and a place-value chart.
• learn the language of addition and subtraction.

Lesson Plan

Before Reading

Investigation	Math Concepts
Ask children to look at the picture on pp. 4–5. Read the text. Ask: *What kind of game would you create for a geography class?* Record children's answers on the board.	Connecting to what they know helps children engage in the topic.
Ask: *Have you ever looked at the odometer on your family car? An odometer measures how many miles you drive. It measures mileage in miles and tenths of miles.* Record children's answers on the board. Say: *Some cars have another odometer that allows you to track the mileage of a special trip. Do you know how far it is from your house to the school? To your grandparent's house?*	Accessing prior knowledge gets children to think about and engage with the topic.

Children join three children and their teacher Mr. Rivera as they play a geography game and track mileage. Children add, subtract, multiply, and divide decimals to thousandths. They use concrete models or drawings and strategies, such as expanded notation, to find answers.

During Reading

Investigation	Math Concepts
pp. 6–9: Move children into small groups. Have them read these pages silently. Then assign one of the four Ideas in this section to each group. Let children reread their page aloud. Then, have them discuss their Idea and design a presentation of that Idea to the class. As you reread the pages aloud, let each group give their presentation.	Teaching the material to fellow students helps children understand and engage with the topic. Children read, write, and compare decimals to thousandths. They read and write decimals to thousandths using base-ten numerals, number names, and expanded form. Children compare two decimals to thousandths based on meanings of the digits in each place.

During Reading (continued)

Investigation	Math Concepts
pp. 12–13: Ask: *Can someone explain*	Children add and subtract decimals to

how to play the geography game, Go the Extra Mile*?* (Refer back to p. 5.) Then have a volunteer read p. 12 aloud. Have children work the addition and subtraction problems on this page using a paper and pencil place-value chart that they draw for Mr. Rivera's miles and points. (Refer back to p. 9.) Ask: *May I have a volunteer to draw a place-value chart for Mr. Rivera on the board?* Invite 3 more volunteers to draw three additional place-value charts on the board for Ramona, Deon, and B.J. Leave vertical room so that the charts may be added to as the game progresses. Follow the same strategy for Ramona's turn. Invite another volunteer to fill in the second place-value chart on the board with Ramona score. Read p. 13 aloud and follow the same strategy with Deon's question and score.	thousandths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
pp. 14–16: Ask: Have a volunteer read p. 14 aloud. Let children answer the questions, solve the problems, and fill in the paper and pencil chart they make for B.J. Have a volunteer fill in B.J.'s place-value chart on the board with his miles and score. Say: *Look at the table and bar graph on p. 16.* Have children refer back to p. 8 and write Deon's and B.J.'s scores in expanded notation. Have them write Mr. Rivera's score using place-value blocks and Ramona's using a tally chart. Then, have children solve the subtraction problem and answer the question.	Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Children use a bar graph to make comparisons. Children create place-value charts, tally charts, place-value blocks, and use expanded notation.

During Reading (continued)

Investigation	**Math Concepts**
pp. 17–19: Read p. 17 aloud. Let the children answer the questions on this page using their paper and pencil chart	Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place

for Mr. Rivera. Update Mr. Rivera's information on his place-value chart on the board. Ask: *How far is Mexico City from here? Pedra Herrada?* Let volunteers use an Internet map site to find out this information. Read p. 18 aloud. Have children figure out Ramona's score using their paper and pencil place-value chart for her. Invite a volunteer to add the new information to Ramona's chart on the board.	value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Children relate mileage to real-world distances and learn spatial placement.
pp. 20–22: Read the pages aloud. Let children answer the questions on these pages and update the appropriate paper and pencil charts. Invite a volunteer to update the charts on the board. Say: *Look at the table and bar graph on p. 22.* Have children solve the subtraction problem and answer the question.	Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
pp. 23–26: Read each page aloud. Have children answer the questions, solve the problems, and update their paper and pencil charts. Then, have them update the charts on the board for Round 3.	Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
pp. 27–25: Invite a volunteer to read p. 27 aloud. Show children a current photograph of the White House. Ask: *Who lives in the White House today? What has changed about the White House since 1792?* Read p. 28 aloud. Ask: Work the problem with the class. Look at p. 29. Have children check their totals on their paper and pencil place-value charts and discuss the bar graph.	Children connect to social studies and gain perspective on their place in history. Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place value and properties of operations.
pp. 30–33: Read each page aloud. Have children answer the questions, solve the problems, and update their paper and pencil charts. Then, have them update the charts on the board for Round 4.	Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place value and properties of operations.

During Reading (continued)

Investigation	**Math Concepts**

pp. 34–35: Read these pages together. Ask: *What does magnitude mean in this text?* It is based on the Latin word *magni*, which means greatness of size or amount. *What does a seismologist do? Why is their work so important?* Have children look up the word and find its root. Then, have children discuss the relative size of the tsunamis mentioned.	Children learn about the work of seismologists who measure earthquake and tsunami strength in decimals.
pp. 36–41: Have children look at p. 36 and check their paper and pencil place-value chart totals. Then, invite different volunteers to read each of the remaining pages aloud. Have children answer the questions, solve the problems, and update their paper and pencil charts. Then, have them update the charts on the board for Round 5.	Children add and subtract decimals to thousandths, using concrete models or drawings and strategies based on place value and properties of operations.
pp. 42–44: Read each page aloud. Have children answer questions and solve problems. Discuss various strategies.	Children review the value of place-value charts, tally charts, place-value blocks, and expanded notation.
p. 45: Work with children to help them create their games. Have children brainstorm some of their favorite board games. Provide drawing materials.	Children brainstorm ideas. They create a system and write rules to show that system. They plan and build their own game board and pieces.

After Reading

Ask children to restate the key ideas in the book.

Investigation	**Understanding Math**
Invite children to go on a walk using a pedometer. Tell them to record the different mileages to places of significance on the walk. Then, have children total their mileage.	Children connect with their local environment and real-world uses for decimals and operations using decimals.
Have children collect decimal numbers for a few days. They may find them in money amounts, car mileage, or on maps. Have children select 3 of the numbers to write using expanded notation, a tally chart, or place-value blocks (children may use graph paper to illustrate place-value blocks).	Children notice decimals in their everyday life and review the value of place-value charts, tally charts, place-value blocks, and expanded notation as a way to show those decimals and add and subtract them.