iMath Readers

Save Now, Buy Later:
Finding Unit Prices

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Math Objective

Children learn about unit price, or the rate, for items. They understand that units are specific measurements, such as pounds and ounces. Children divide dollar amounts by a unit amount to find the unit price. They learn different strategies to divide, such as using hundred grids, making a double number line diagram, or solving a problem with an algorithm. They use ratios to compare two amounts.

iMath Discover Activity

In this activity, children find the price and quantity of a product from two or more stores. Children divide the price of the package by the total units to get the price per unit. They compare prices to find the best deal.

Materials

- grocery store ads from the mail, newspapers, or online
- pencil
- paper

➤ Objectives

Children will:

• research to find the same product from two or more stores.
• record the price and the quantity of each product.
• find the number of items in one package.
• do a per unit price comparison.
• use hundred grids.
• use a double number line diagram.
• use an algorithm.

Lesson Plan

Before Reading

Investigation	Math Concepts
Ask children to look at the picture on pp. 4–5. Read the text. Ask: *What things do you think you could save money on?* Record children's answers on the board.	Connecting to what they know helps children engage in the topic.
Ask: *Have you ever cut back on some expenses so you could save money for something you really wanted?* Record children's answers on the board. Ask: *What do you think this story will be about?*	Accessing prior knowledge gets children to think about and engage with the topic.

Join a family as they try and save money by buying in bulk. Children find the unit price of items by using different division strategies.

During Reading

Investigation	Math Concepts
pp. 6–9: Invite a volunteer to read p. 6 aloud. Ask: *What is a ratio?* Record children's answers on the board. Have another volunteer read p. 7 aloud. Distribute a sheet that shows four hundred grids. Have children shade three and a half grids. Then, have them group the shaded units into two equal groups as shown on p. 7. Ask: *What is the unit price for a pound of apples?* Have children answer the other questions on p. 7. Read p. 8 aloud. Draw the double number line diagram on the board. Demonstrate how to count back to show the unit price. Read p. 9 aloud. Ask: *What algorithm would help you divide?* Have children instruct you as you write the division problem and divide.	Children divide whole numbers and decimal numbers, using concrete models or drawings and strategies based on place value, properties of operations, and the relationship between multiplication and division and/or subtraction and division. Children illustrate and explain the calculation by using equations, algorithms, ratios, hundreds grids, and double number lines. Children convert units of measurement.

During Reading (continued)

Investigation	Math Concepts
pp. 12–13: Read p. 12 aloud. Have children draw a double number line diagram to represent the problem. (Refer back to p. 8.) Ask: *May I have a volunteer to draw the double number line on the board?* Read p. 13 aloud and have children set up a long division problem to find the unit price of *Tiny Flakes*.	Children use a double number line diagram to conduct repeated subtraction and find the unit price of an item. They write an algorithm and use long division.
pp. 14–15: Invite a volunteer read p. 14 aloud. Distribute two copies of sheets with hundreds grids on them. Have children shade the grids to represent 120. Then, have them group the shaded units into three equal groups. Ask: *What is the unit price of an ounce?* Read p. 15 aloud. Have children use the second sheet of grid paper to find the unit price of the papayas.	Children use hundreds grids to show a total, divide, and find the unit price of an item.
pp. 16–17: Read p. 16 aloud. Brainstorm ideas with children about how to solve this two-step problem. Work the two division problems on the board as a demonstration. Read p. 17 aloud. Have children work this similar two-step problem on their own with paper and pencil. Walk around and check their work.	Children select a division strategy. They write an algorithm and use long division.
pp. 18–19: Read p. 18 aloud. Invite a volunteer to write the division algorithms for the problem on this page on the board in long-division format. Invite another volunteer to show the division problems as equations. Read p. 19 aloud. Have children work this division problem on their own with paper and pencil.	Children write an algorithm and fluently use long division. They also are able to write an equation.

During Reading (continued)

Investigation	Math Concepts
pp. 20–21: Have children read pp. 20–21 silently. Divide the class into two groups. Assign each group one of the problems on p. 20. Say: *Work your problem together and show how to solve it two different ways. You will present your solutions to the class.* Give children time to solve the problem, then let each group present their work.	Children select division strategies. They write and demonstrate how to divide.
pp. 22–23: Read the pages aloud. Invite two volunteers to work the problem on p. 22 on the board. Look at p. 23. Work through the problem on that page, demonstrating how to change pounds to ounces. Then show children a bag of bulk dry beans. Tell them the beans are $5.45 a pound. Then, have them find the unit price per ounce.	Children understand that a unit measurement must be converted. They write an algorithm and use long division. They also are able to write an equation.
pp. 24–27: Children may read pp. 24–25 silently. Encourage a discussion of the text. Have children pair up. Read pp. 26–27 aloud. Ask: *Which size rice will have the lower unit price per pound?* Tell children to work together to answer the question. Have the pairs create a graph or table to show their answers.	Children select division strategies. They write and demonstrate how to divide. They create a graph or table to show comparisons.

During Reading (continued)

Investigation	Math Concepts
pp. 28–30: Invite a volunteer to read p. 28 aloud. Say: *I checked on the price of free-range chicken. I found a ten-pound package for $35.95. What is the unit price per pound?* Write this information on the board. Have children solve the problems on p. 28 and use the new information to solve a third problem. Have children write ratios for each package size of chicken. Let children make comparisons and choose the wisest buy of the three options. Have children read p. 29 silently. Ask: What is different about this problem? (It has two decimal numbers in it.) How would you approach solving this problem? What would you do first, next, last? Read p. 30 aloud. Ask: *How many pounds are in a half a peck? How do you know?* Say: *Now solve the problem at the bottom of the page.*	Children select the best strategy. They write an algorithm and use long division. They also are able to write an equation.
pp. 31–33: Read these pages together. Ask: *Why is it important to save wild apple trees? What is your favorite kind of apple? Have you ever been to a farmers' market? What did you see there besides vegetables?*	Children evaluate the importance of biological diversity.
pp. 34–35: Have children look at p. 36 and solve the problem using pencil and paper. Then, invite different volunteers to share their strategies and answers. Read p. 35 aloud. Have children answer the questions and solve the problems.	Children divide, using concrete models or drawings and strategies based on place value and properties of operations.
pp. 36–40: Read pp. 36–37 aloud. Have children answer questions and solve problems. Have them write ratios. Have children read pp. 38–40 and solve problems as they read. Discuss various strategies for each set of problems. Have children refer back to pp. 6–9 for ideas.	Children review the usefulness of hundreds grids, double number lines, algorithms, and ratios in division.

During Reading (continued)

Investigation	Math Concepts
pp. 41–44: Invite volunteers to read each of these pages in turn. Discuss strategies and work problems on the board. Have children voice their opinions about which strategy is the best to use in different situations.	Children review the usefulness of hundreds grids, double number lines, algorithms, and ratios in division.
p. 45: Work with children to help them set up their money diary. Help children find and understand the different word-processing programs that include tabulating software that are available to them.	Children plan and design their money diary and consider using a software program.

After Reading

Ask children to restate the key ideas in the book.

Investigation	Understanding Math
Children interview their parents to make a weekly grocery-shopping list. Children find coupons and listings to figure out where the best deals are.	Children use a real-world situation to understand how to find unit prices and make comparisons.
Have children create a unit price game where they can practice finding the unit price of items in different measurements. Game pieces might include drawings of grocery items or office supplies.	Children design and build a game and practice division skills.