

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
	<i>Chapter 1</i>	<b>Number Sense and Algebraic Thinking</b>					
<b>1</b>	<b>Introduction to Carnegie Learning Course</b>	<p>During the first day of class students will be:</p> <ul style="list-style-type: none"> <li>• Enrolled</li> <li>• Introduced to the course materials, the syllabus, student expectations and the 60/40 split</li> <li>• Discuss the use of the, icons in the text, and</li> <li>• Provided with the parent materials</li> </ul>				<ul style="list-style-type: none"> <li>• Student text</li> <li>• Student Assignments</li> <li>• Homework Helper</li> <li>• Cognitive Tutor</li> <li>• Icons</li> </ul>	
<b>1</b>	<b>2.1 Comic Strips</b> <i>Dividing a Whole into Fractional Parts</i> <i>p. 39</i> <i>Homework p. 15</i>	<ul style="list-style-type: none"> <li>• Use fractions to represent parts of a whole</li> <li>• Label parts of a whole with fractions</li> <li>• Use diagrams to represent fractions</li> </ul> <p>Students will physically create accurate representations of fractions. The focus will be on types of fractions that may be easier to represent in this form. Students review definition of and parts of a fractional number. Students will also begin to explore equivalent fractions, which will be covered more in depth later in this unit. Also later in the unit, students will work with fractions in physical as well as abstract representations. Students will need to keep the fraction strips they create during this lesson for future lessons, or you may wish to store the strips for the students.</p>		<ul style="list-style-type: none"> <li>• Use fractions to represent parts of a whole</li> </ul>	<p>This lesson concerns dividing things evenly to represent fractions, the motivating questions ask about students' experience relating physical objects using the vocabulary of fractions. Students briefly discuss the vocabulary and definition of fractions.</p> <ul style="list-style-type: none"> <li>• We all have eaten half of a sandwich before.</li> <li>• How did you know that you had eaten exactly "one half"?</li> <li>• How else could it have been cut to equal one half?</li> <li>• What other things you've seen can you quickly recognize as being one half?</li> <li>• What about one quarter or one third?</li> </ul> <p>When introducing this lesson, discuss different ways to write fractions: using words (one half), numbers (<math>\frac{1}{2}</math>), pictures, etc. Have students identify the different parts of the representations, such as "one" in "one half" being just part of the whole.</p>	<ul style="list-style-type: none"> <li>• fraction</li> <li>• numerator</li> <li>• denominator</li> </ul>	<p>Your next comic strip in the newspaper is two lines or two strips long. How will you divide each line or strip? How much of your strip will each frame be? Which would you use to have the largest frames to draw in? Which would you use to have the greatest number of frames?</p>

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1	<b>2.2 Dividing Quesadillas</b> <i>Dividing More Than One Whole into Parts p. 45 Homework p 17</i>	<ul style="list-style-type: none"> <li>• Determine how to divide more than one whole into parts based on a problem scenario</li> <li>• Determine the reasonableness of their own answers</li> <li>• Evaluate the accuracy of another's process and solution</li> </ul> Students will develop estimation skills in determining reasonableness. Continued emphasis is placed on working with other students and communicating mathematically with their peers.		<ul style="list-style-type: none"> <li>• Use fractions to divide more than one whole into equally sized parts</li> <li>• Determine whether a solution is reasonable</li> </ul>	<p>This lesson is about dividing food, motivate students by talking about divvying up food that they especially like.</p> <ul style="list-style-type: none"> <li>• What do you do if both you and your sister want the one last cookie?</li> <li>• What if your dad wanted part of it too?</li> <li>• What if there were two cookies to split between the three of you?</li> <li>• Would you each get a cookie?</li> </ul> <p>When introducing this lesson, students may discuss different ways to decide who gets the last cookie. For example, some may decide to not split it but to let one person have it (through a coin toss or an arm wrestling match). Allow them to discuss other various ways, but only for a few minutes before you direct them back to splitting the cookie evenly. Make sure students know what quesadillas and biscotti are. You may want to display a picture of each. A quesadilla is a filled tortilla folded over or with another tortilla on top, then fried. Biscotti are biscuits that frequently contain almonds.</p>	<ul style="list-style-type: none"> <li>• reasonable solution</li> </ul>	<p>If you were cooking something for the international foods festival, how would you decide how much of it to make? Would you rather make too much or too little?</p> <p>Use complete sentences to tell how you would determine how much to make for your own class and how you would divide it up for each student.</p>

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2	<b>2.3 No “I” in Team</b> <i>Dividing Groups into Fractional Parts p. 49</i> <i>Homework p. 19</i>	<ul style="list-style-type: none"> <li>• Use fractions to represent portions of a whole</li> <li>• Use diagrams to solve questions about dividing a whole</li> </ul> <p>Students will expand their experience of the different ways to use fractions. Students will work in pairs to solve problems with fractions. They will also create their own problems with fractions. In this lesson, students continue to work with fractions with like denominators. Later in the unit, students will learn to work with fractions with unlike denominators.</p>		<ul style="list-style-type: none"> <li>• Use fractions to represent portions of a whole</li> </ul>	<p>This lesson deals with finding fractional parts of a whole group, the motivating questions ask about students' experiences with large groups.</p> <ul style="list-style-type: none"> <li>• How many students have been in a league (baseball, soccer, etc.)?</li> <li>• How many teams were in the league?</li> <li>• How many teams would you have to play to win the league championship?</li> </ul> <p>When introducing this lesson, discuss the fact that each team is only a fraction (part) of the league. Help several volunteers figure out the fraction their team made up of their leagues.</p>	There is no new vocabulary introduced with this lesson.	Take a survey of your classmates to see the kinds of teams or activities they take part in outside of school. Create a diagram and write fractions to show the results of your survey. You may find that some people are in more than one activity. Will that be reflected in your diagram and fractions? If so, how? Use complete sentences to explain mathematically how to account for people in more than one activity.
3	<b>2.4 Fair Share of Pizza</b> <i>Equivalent Fractions p. 53</i> <i>Homework p. 21</i>	<ul style="list-style-type: none"> <li>• Find equivalent fractions</li> </ul> <p>As they progress through the lesson, students will depend less on diagrams and fraction strips, and more on equations.</p>		<ul style="list-style-type: none"> <li>• Write equivalent fractions</li> </ul>	<p>This lesson is about dividing up food; discuss different ways to divide one thing. Draw a circle or square on the board or overhead.</p> <ul style="list-style-type: none"> <li>• In how many ways could you divide this circle?</li> <li>• In how many ways could you divide it up making sure that each division creates equal-sized parts?</li> <li>• Let's say this circle is a pizza. If you could only have one slice, would you rather have a slice if it were cut into 4 pieces or 8 pieces?</li> </ul> <p>When introducing this lesson, allow students to demonstrate different ways to divide the circle on the board. If the students have trouble with the last question, demonstrate it by drawing 2 circles on the board, then have volunteers divide one into 4 even pieces and the other into 8.</p>	• equivalent fractions	<p>You and your brother get to paint a basement wall however you would like. You divided your wall into a grid of 16 squares. Your brother divided his into a grid of 4 squares. How can you compare how much you've each gotten done using fractions?</p> <p>Use complete sentences to explain the fractions you used. You may also use a diagram or fraction strips along with your explanation.</p>

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3	<b>2.5 When Twelfths Are Eighths</b> <i>Simplifying Fractions</i> p. 57 <i>Homework</i> p. 23	<ul style="list-style-type: none"> <li>• Explain simplest form</li> <li>• Explore different methods for reducing fractions to their simplest terms</li> <li>• Find the greatest common factor of two terms to use for simplification</li> <li>• Evaluate different methods of simplifying</li> <li>• Recognize when a fraction is in its simplest form</li> </ul> <p>This lesson is a continuation of the previous lesson on finding equivalent fractions. After completing this lesson, students will be expected to apply the concepts in any problems with fractions.</p>		<ul style="list-style-type: none"> <li>• Write fractions in simplest form</li> </ul>	<p>This lesson is about dividing up food, talk about different ways to divide something.</p> <ul style="list-style-type: none"> <li>• If I were to give you a pan of brownies to share, how would you divide it up?</li> <li>• Would you want a big piece or a small piece?</li> <li>• What if you had to share it with the class?</li> <li>• What if you only had to share it with five other people?</li> <li>• How would that change the number of pieces?</li> <li>• How would that change the size of the pieces?</li> </ul>	<ul style="list-style-type: none"> <li>• simplest form</li> <li>• simplest terms</li> <li>• completely simplified</li> </ul>	<p>Now that you know that <math>\frac{9}{12}</math> of a pan of cornbread is the same as <math>\frac{3}{4}</math> of a pan, which would you rather use — twelfths or fourths? Will it make a difference to how full you think you feel? Justify your reasoning.</p>
4	<b>2.6 When Bigger Means Smaller</b> <i>Comparing and Ordering Fractions</i> p. 63 <i>Homework</i> p. 25	<ul style="list-style-type: none"> <li>• Estimate values of fractions</li> <li>• Find lowest common denominators to convert fractions</li> <li>• Compare and order fractions</li> </ul> <p>Therefore, students are building on their experience with equivalent fractions. Students also focus on using new estimation strategies.</p>		<ul style="list-style-type: none"> <li>• Compare and order fractions</li> </ul>	<p>This lesson involves some estimation, discuss different ways to estimate.</p> <ul style="list-style-type: none"> <li>• How do you estimate the cost of an item?</li> <li>• How do you estimate your weight?</li> <li>• If you didn't have the exact measuring cups, how would you estimate measuring an ingredient for a recipe?</li> </ul> <p>When introducing this lesson, discuss rounding up (as one might do to make sure they can buy an item), rounding down (as one might do when discussing weight), and using other landmarks, such as <math>\frac{1}{2}</math> (as one might do when measuring ingredients).</p>	<ul style="list-style-type: none"> <li>• least common denominator</li> <li>• less than</li> <li>• greater than</li> </ul>	<p>If you were creating your own money system, what would you base yours on? What would your coins be and what values would each have? Use fractions and decimals in your answer to show how your separate coins relate to each other.</p>
4	<i>Assessment</i>	End of Chapter Test					
	<i>Chapter 3</i>	<b>Operations with Fractions and Mixed Numbers</b>					

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5	<b>3.1 Who Gets What?</b> <i>Adding and Subtracting Fractions with Like Denominators</i> p. 73 <i>Homework</i> p. 27	<ul style="list-style-type: none"> <li>• Add and subtract like fractions</li> <li>• Formulate and apply rules for adding and subtracting like fractions</li> </ul> <p>In this lesson, students will manipulate a variety of expressions involving like fractions in story and other problems. Students will also analyze expressions with fractions, make observations about denominators, and review order of operations.</p>		<ul style="list-style-type: none"> <li>• Add and subtract like fractions</li> </ul>	This lesson's problem is about inheritance, ask students to name valued items they possess that belonged to a relative or ancestor. Have volunteers describe the item, discuss its significance, explain how they came to have it, and tell if other family members also received something from the same person. Conclude the motivator by telling students that in this lesson they will learn a way to divide things up into portions.	<ul style="list-style-type: none"> <li>• like fractions</li> <li>• unlike fractions</li> </ul>	Ask students to write a paragraph about a real-life situation in which they added or subtracted like fractions.
5	<b>3.2 Old-Fashioned Goodies</b> <i>Adding and Subtracting Fractions with Unlike Denominators</i> p.. 77 <i>Homework</i> p. 29	<ul style="list-style-type: none"> <li>• Add and subtract unlike fractions</li> <li>• Formulate and apply rules for adding and subtracting unlike fractions</li> </ul> <p>In this lesson, students will manipulate a variety of expressions involving unlike fractions in story and other problems. They will also practice identifying and using the least common denominator to perform operations with unlike fractions, analyze expressions with fractions, make observations about denominators, and review addition and subtraction of like fractions.</p>		<ul style="list-style-type: none"> <li>• Add and subtract unlike fractions</li> </ul>	This lesson's problem requires performing operations with unlike fractions, have students think about the phrase comparing apples and oranges. Ask them what it means and to provide examples of how they hear it used. Then have the students brainstorm a list of ways that someone actually could compare apples and oranges, or other dissimilar things. What would the students have to do to make the comparison valid? How could they change one or both of the objects being compared to facilitate a legitimate comparison? End the motivator by explaining that, in this lesson, students will learn to compare apples and oranges.	<ul style="list-style-type: none"> <li>• least common denominator</li> </ul>	Ask students to write a paragraph about a real-life situation in which they added or subtracted unlike fractions.

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6	<b>3.3 Fun and Games</b> <i>Improper Fractions and Mixed Numbers</i> p. 8 <i>Homework</i> p. 31	<ul style="list-style-type: none"> <li>Investigate improper fractions and mixed numbers</li> <li>Rewrite improper fractions and mixed numbers</li> <li>Add and subtract mixed numbers</li> </ul> <p>In this lesson, students will manipulate a variety of expressions involving improper fractions and mixed numbers in story and other problems. They will make observations about improper fractions. They will also add and subtract mixed numbers after rewriting the expressions.</p>		<ul style="list-style-type: none"> <li>Write improper fractions as mixed numbers</li> <li>Write mixed numbers as improper fractions</li> </ul>	<p>This lesson's problem asks students to add and subtract mixed numbers and improper fractions, ask students to imagine this scenario: You are cleaning up after a pizza party. There are open boxes with pieces of pizza in them. You want to know how much pizza was eaten and how much was left. In all, you ordered 4 extra-large pizzas. Each pizza was cut into 16 equal pieces. In one box there were 5 pieces left. In another box there were 7 pieces left. In a third box, 4 pieces were left. In the last box, there were 9 pieces of pizza left.</p> <p>Ask students how they would find the number of pizzas that were left after the party and the number that were eaten. They should express their answers as fractions. (The correct answers are <math>2\frac{5}{16}</math> pizzas are left; <math>3\frac{9}{16}</math> pizzas were eaten at the party.) Have students give suggestions as to how they could find the answers. After a few minutes of discussion, tell the students that finding these kinds of answers is the focus of this lesson.</p>	<ul style="list-style-type: none"> <li>improper fraction</li> <li>mixed number</li> </ul>	Ask students to write a story problem (based on a real-life situation) that involves adding or subtracting with improper fractions and mixed numbers.
6	<b>3.4 Parts of Parts</b> <i>Multiplying Fractions</i> p. 85 <i>Homework</i> p. 33	<ul style="list-style-type: none"> <li>Multiply fractions</li> <li>Use diagrams to understand measurement concepts</li> <li>Draw conclusions about ways to multiply fractions</li> </ul> <p>In this lesson, students will learn to multiply fractions in order to measure areas. They will then move from using diagrams to conceptualize the multiplication of fractions to formulating their own rules for the algorithm, without the use of diagrams.</p>		<ul style="list-style-type: none"> <li>Multiply fractions</li> </ul>	<p>This lesson's problem discusses early methods of measuring area, ask students to work on their own to measure paces. Have them devise a way to measure each other's pace lengths. Then collect data and record the data on the board. Have students make observations about the collected data, such as how paces differ and how suitable a pace might be as a reliable unit of measurement.</p>	<ul style="list-style-type: none"> <li>U.S. customary system</li> <li>metric system</li> </ul>	Ask students to write a paragraph about whether working on math problems in a group makes it easier to understand concepts like multiplying fractions.

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7	<b>3.5 Parts in a Part</b> <i>Dividing Fractions</i> p. 89 <i>Homework</i> p. 35	<ul style="list-style-type: none"> <li>• Divide fractions</li> <li>• Examine and apply rules for dividing fractions</li> <li>• Compare complete and “streamlined” processes for dividing fractions</li> </ul> <p>In this lesson, students will use a concept previously learned, the multiplicative identity, as well as a new one, the multiplicative inverse, to divide fractions. They will also review long division and the role of remainders, and learn a new term, reciprocal.</p>		<ul style="list-style-type: none"> <li>• Divide fractions</li> </ul>	<p>Because this lesson’s problem discusses dividing things evenly, share with students this scenario: You and your brother and sister have decided to take your parents out to dinner. The total for the five meals comes to \$28.71. You add \$4.00 for the tip. Can you and your siblings each pay the same amount and end up paying the exact total of the bill and the tip? Why or why not? Give students a few minutes to work the problem. Then work through the math, and help students understand that the total of \$32.71 is not divisible by 3. If each sibling pays \$10.90, there will still be an extra penny left over to be paid by one of the siblings, resulting in uneven shares.</p>	<ul style="list-style-type: none"> <li>• remainder</li> <li>• multiplicative identity</li> <li>• multiplicative reverse</li> <li>• reciprocal</li> </ul>	Ask students to write a letter to a parent or other adult about why it is a good idea to know how to perform operations with fractions rather than using a calculator or looking up answers on the Internet.
7	<b>3.6 All That Glitters</b> <i>Adding and Subtracting Mixed Numbers</i> p. 93 <i>Homework</i> p. 37	<ul style="list-style-type: none"> <li>• Add and subtract mixed numbers</li> <li>• Formulate and apply rules for adding and subtracting mixed numbers</li> </ul> <p>In this lesson, students will formulate a method for adding and subtracting mixed numbers. They will analyze story problems and create diagrams to represent mixed numbers.</p>		<ul style="list-style-type: none"> <li>• Add and subtract mixed numbers</li> </ul>	This lesson’s problem discusses treasure hunters looking for gold ingots of different sizes, ask students what they know about treasure hunters from books, magazines, or television. Have them describe where people hunt for treasure, what kinds of things they are looking for, the dangers they face, and other aspects of treasure hunts.	<ul style="list-style-type: none"> <li>• mixed number</li> </ul>	Ask students to write a paragraph about how daily life would change if our dollar could be divided only into third-dollars and half-dollars.

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8	<b>3.7 Project Display</b> <i>Multiplying and Dividing Mixed Numbers</i> p. 97 <i>Homework</i> p. 39	<ul style="list-style-type: none"> <li>• Multiply and divide mixed numbers</li> <li>• Compare the procedures for multiplying and dividing mixed numbers to those for fractions</li> </ul> <p>In this lesson, students will manipulate a variety of expressions involving the multiplication and division of mixed numbers in story and other problems. They will compare the process of repeated addition with multiplication and repeated subtraction with division as it relates to mixed numbers.</p>		<ul style="list-style-type: none"> <li>• Multiply and divide mixed numbers</li> </ul>	<p>This lesson's problem is about making a scale model and determining area, present students with the following scenario:          You want to determine the approximate area of a rectangular school playground in square miles. You have a map that uses feet as the unit of measurement. The dimensions of the playground, as shown on the map, are 528 feet ( <math>\frac{1}{10}</math> mile) in one direction and 1,320 feet ( <math>\frac{1}{4}</math> mile) in the other.</p> <ul style="list-style-type: none"> <li>• Write a problem that expresses how you would find the area of the playground in miles. [<math>\frac{1}{10} \times \frac{1}{4}</math> ]. Then solve the expression.[ <math>\frac{1}{40}</math> square mile]</li> </ul> <p>Point out to students that to solve this problem in square miles, they had to multiply fractions. Tell the students they will find out that the steps for multiplying and dividing mixed numbers are similar to the procedures they used to multiply and divide fractions</p>	<ul style="list-style-type: none"> <li>• reciprocal</li> </ul>	<p>Ask students to write a paragraph about a real-life situation in which they would need to multiply or divide mixed numbers.</p>

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8	<b>3.8 Carpenter, Baker, Mechanic, and Chef</b> <i>Working with Customary Units</i> p. 101 <i>Homework</i> p. 41	<ul style="list-style-type: none"> <li>• Explore the biometric beginnings of the customary system of measure</li> <li>• Solve problems using customary measures of length, weight, and capacity</li> <li>• Use a ruler to measure length in inches and fractions of inches</li> </ul> <p>In this lesson, students will investigate the origins of the customary measurements of length. They will complete a table of customary measurements; examine the potential problems of units of measure that are too large to be effective; and work story problems that use customary units of measure.</p>		<ul style="list-style-type: none"> <li>• Rewrite between customary units of measure</li> </ul>	This lesson's problem begins with the use of body parts as units of measure; ask students if they've ever used parts of their bodies, such as fingers, or hand spans to measure objects. As an example, say that many people know parts of their bodies, such as the distance from the tip of the smallest finger to the first knuckle, that are exactly an inch long. Ask students what they measured, how they learned that a certain body part could be a "handy" measurement device and what the limitations of such a system might be.	<ul style="list-style-type: none"> <li>• customary units of measure</li> <li>• length: inch, foot, yard, mile</li> <li>• capacity: fluid ounce, cup, pint, quart, gallon</li> <li>• weight: ounce, pound, ton</li> </ul>	Ask students to describe how using a calculator (or not using one, depending on the chosen procedure) to solve the problems in this lesson would have influenced their success.
9	<i>Assessment</i> <i>Chapter 4</i>	End of Chapter Test					
		<b>Decimals</b>					
10	<b>4.1 Cents Sense</b> <i>Decimals as Special Fractions</i> p. 111 <i>Homework</i> p. 43	<ul style="list-style-type: none"> <li>• Write decimals as fractions</li> <li>• Identify the base ten system</li> <li>• Convert values of U.S coins</li> <li>• Identify place value of different types of money using fractions and decimals</li> </ul> <p>Students build on their experience with fractions, as well as decimals. Later in the unit, students will convert decimals into fractions and fractions into decimals.</p>		<ul style="list-style-type: none"> <li>• Write decimals as special fractions</li> </ul>	<p>This lesson deals with money and coins, discuss using and making change with U.S. money.</p> <ul style="list-style-type: none"> <li>• How many different ways can you make change for a dime?</li> <li>• How about a quarter?</li> <li>• When might you use a penny? A quarter? How about a dollar?</li> <li>• What kinds of things can you buy with a dime?</li> </ul> <p>When introducing this lesson, you might also wish to discuss names of money in other countries, such as India's rupee, Mexico's peso, or England's pound. Have students name other monies they have heard about or used.</p>	<ul style="list-style-type: none"> <li>• decimal</li> </ul>	<p>If you were creating your own money system, what would you base yours on? What would your coins be and what values would each have?</p> <p>Use fractions and decimals in your answer to show how your separate coins relate to each other.</p>

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10	<b>4.2 What's in a Place?</b> <i>Place Value and Expanded Form p. 115</i> <i>Homework p. 45</i>	<ul style="list-style-type: none"> <li>• Use a place-value chart to write a decimal</li> <li>• Write decimals in word form</li> <li>• Write decimals in expanded form</li> </ul> <p>Students will solidify their grasp of place value of decimal numbers. Later in the unit, students will use this knowledge to estimate and compare decimals.</p>		<ul style="list-style-type: none"> <li>• Represent decimals using a place-value chart</li> <li>• Write decimals in word form</li> <li>• Use expanded form to write decimals</li> </ul>	<p>This lesson is about softball statistics; discuss sports stats (statistics).</p> <ul style="list-style-type: none"> <li>• Who has a favorite baseball player?</li> <li>• Do you know his stats?</li> <li>• Why are batting averages expressed in numbers less than one?</li> <li>• What about other sports - what kinds of stats do we keep track of for them?</li> </ul> <p>When introducing this lesson, discuss sports statistics. Explain that the number 1 would mean all the time or 100% of the time. No one gets a hit every time they try (at bat). Even the best hitters in history got hits 1 out of 3 tries. Their stats looked like this: 0.300.</p>	<ul style="list-style-type: none"> <li>• place-value chart</li> <li>• standard form</li> <li>• expanded form</li> </ul>	Which method best helps you determine the value of a digit in a decimal number: expanded form, place value chart, standard form, or word form?
11	<b>4.3 My Dog is Bigger Than Your Dog</b> <i>Decimals as Fractions: Comparing and Rounding Decimals p. 119</i> <i>Homework p. 47</i>	<ul style="list-style-type: none"> <li>• Convert decimal numbers to fractions</li> <li>• Order decimals</li> <li>• Round decimal</li> </ul>		<ul style="list-style-type: none"> <li>• Write decimals as fractions</li> <li>• Compare and order decimals</li> <li>• Round decimals</li> </ul>	<p>This lesson is about measuring dogs' heights, discuss taking precise measurements.</p> <ul style="list-style-type: none"> <li>• Who has been involved in a project where you had to take precise measurements?</li> <li>• Did you need to know measurements to the half-inch or smaller? Why?</li> <li>• How can you find the measure of something smaller than an inch?</li> <li>• What's the smallest unit of length measurement you can find easily?</li> <li>• Why might people want to know the exact height of their pet?</li> </ul> <p>When introducing this lesson, discuss different things you might need precise measurements for. If students cannot think of projects that fit, suggest such projects as building a door, making clothes, fabricating a part for a car, etc.</p>	<ul style="list-style-type: none"> <li>• rounding</li> </ul>	<p>When might you want measurements to the nearest whole number? When might you want measurements to the nearest tenth? When might you want measurements to the nearest hundredths?</p> <p>Use complete sentences answer each question and give examples of numbers you might use in each instance.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
11	<b>4.4 Making Change and Changing Hours</b> <i>Adding and Subtracting Decimals</i> p. 123 <i>Homework</i> p. 49	<ul style="list-style-type: none"> <li>• Represent decimal numbers using base-ten pieces or diagrams of the pieces</li> <li>• Correctly set up addition and subtraction equations using decimals</li> <li>• Add and subtract decimal numbers</li> </ul>		<ul style="list-style-type: none"> <li>• Add and subtract decimals</li> <li>• Represent decimals using base-ten pieces</li> </ul>	<p>This lesson begins by talking about decimals with U.S. money, talk about writing money amounts.</p> <ul style="list-style-type: none"> <li>• What different ways can you use to write cents amounts?</li> <li>• Why are cents expressed as decimals after the decimal point?</li> <li>• What do numbers to the left of the point represent?</li> <li>• How do you set up equations to add and subtract money?</li> </ul>	<ul style="list-style-type: none"> <li>• base-ten pieces</li> </ul>	<p>When paying for items that total \$9.05, some people will give the cashier \$10.05. That is more than they needed to give. Why do they do this? Acting out this problem using money or base-ten blocks may help you discover the answer. Then answer if you would ever pay this way.</p>
12	<b>4.5 Rules Make The World Go Round</b> <i>Multiplying Decimals</i> p. 127 <i>Homework</i> p. 51	<ul style="list-style-type: none"> <li>• Multiply decimal numbers</li> <li>• Convert between decimals, mixed numbers, and improper fractions, then back to decimals</li> </ul> <p>Students continue to explore the idea of decimals as special fractions. Since students have already converted decimals to fractions and have already multiplied fractions, this should be an easy step.</p>		<ul style="list-style-type: none"> <li>• Multiply decimals</li> </ul>	<p>This lesson is about making a scale model of the solar system, discuss scale.</p> <ul style="list-style-type: none"> <li>• When you look at a map, where do you look to find the actual mileage represented?</li> <li>• Why don't they make maps with the true mileage?</li> <li>• Where else would scaling something up or down be useful?</li> </ul> <p>When introducing this lesson, discuss the vastness of the solar system and universe. If students cannot suggest other ways to use scale, you might suggest such things as diagramming microscopic cells or drawing a cityscape. If you have access to them, display and explain the models of the planets at this time.</p>	<ul style="list-style-type: none"> <li>• product</li> </ul>	<p>Given its large size, what size scale do you think is best to use to demonstrate the size of the solar system? Use complete sentences and examples to explain your reasoning.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
12	<b>4.6 The Better Buy</b> <i>Dividing Decimals</i> p. 129 <i>Homework</i> p. 53	<ul style="list-style-type: none"> <li>• Divide decimals by whole numbers</li> <li>• Divide decimals by decimals</li> </ul> Students continue to build concepts about decimals and fractions.		<ul style="list-style-type: none"> <li>• Divide decimals by whole numbers</li> <li>• Divide decimals by decimals</li> </ul>	This lesson is about dividing decimals by decimals, discuss ways of dividing things into pieces using the yarn or string. This piece of yarn is 1.5 yards long. <ul style="list-style-type: none"> <li>• How can I divide it in half?</li> <li>• How can I be sure that both parts are equally-sized?</li> <li>• What's another way to divide it?</li> <li>• How long will each piece be?</li> <li>• How do you know?</li> <li>• Can you tell how long each piece is without the yardstick?</li> </ul> When introducing this lesson, discuss different ways to divide. Students may use a strategy, such as dividing a yard-long piece first, then dividing the half piece. Other students may simply fold the piece onto itself make a cut on the folded end.	<ul style="list-style-type: none"> <li>• dividend</li> <li>• divisor</li> <li>• quotient</li> </ul>	In what type of circumstances might you have to divide a decimal by a decimal?
13	<b>4.7 Bonjour!</b> <i>Working with Metric Units</i> p. 133 <i>Homework</i> p. 55	<ul style="list-style-type: none"> <li>• Use metric units to take measurements</li> <li>• Analyze and choose appropriate units</li> </ul> Students will increase their familiarity with the metric system.		<ul style="list-style-type: none"> <li>• Use metric units to measure length, mass, and capacity</li> <li>• Choose the appropriate unit of measure</li> </ul>	This lesson is about the metric system, discuss common metric units students may have heard of. <ul style="list-style-type: none"> <li>• What units of metric measurement do we use in the United States?</li> <li>• What other kinds of units of measurements have you heard of, using metrics?</li> <li>• Why do you think the U.S. does not use metrics?</li> </ul> When introducing this lesson, discuss well-known metric units of measurement. If students can't think of any, suggest such things as kilometers (as in a 10K race) and liters (as in a 2-liter bottle of soda pop).	<ul style="list-style-type: none"> <li>• metric system</li> <li>• meter</li> <li>• gram</li> <li>• liter</li> </ul>	Which method of measurement do you think is the best - customary or metric? Give examples of units of measure in your answer. Use complete sentences to justify your answer.
13	<i>Assessment</i> <i>Chapter 5</i>	End of Chapter Test <b>Ratio and Proportions</b>					

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
14	<b>5.1 Heard It and Read It</b> <i>Ratios and Fractions</i> p. 145 <i>Homework</i> p. 57	<ul style="list-style-type: none"> <li>Analyze relationships and write ratios from them</li> <li>Write ratios in two different formats</li> <li>Write different ratios using a single data set</li> </ul> <p>In this lesson, students will analyze and compare numbers as ratios in story and other problems. They will make observations about ratios and learn the importance of accurately recording quantity names when writing ratios from story problems. They will also use the number comparisons to write different ratios and learn how to order ratios by size from greatest to least.</p>		<ul style="list-style-type: none"> <li>Write ratios as fractions</li> <li>Compare ratios</li> </ul>	<p>This lesson's problem is about ratios, ask volunteers to explain how a batting average in baseball or a shooting percentage in basketball is found. (In the former, the number of hits is divided by the number of times at bat. In the latter, the number of baskets made is divided by the number of shot attempts.) Ask students to explain one of these computations using the phrase "out of." If students have difficulty, give them an example: Maggie made 16 out of 32 shots in the game last night. Therefore, her shooting percentage was 50%. After a few minutes of discussion, tell them that finding and recording this kind relationship between two numbers is the focus of this lesson.</p>	<ul style="list-style-type: none"> <li>ratio</li> <li>equivalent ratios</li> </ul>	Ask students to write a paragraph describing how ratios could be used in everyday life.
14	<b>5.2 Equal or Not, That Is the Question</b> <i>Writing and Solving Proportions</i> p. 149 <i>Homework</i> p. 59	<ul style="list-style-type: none"> <li>Analyze and compare ratios and rates</li> <li>Write ratios as proportions</li> <li>Complete proportions using equivalent fractions</li> <li>Compete proportions using the products of the means and the extremes</li> </ul> <p>In this lesson, students will analyze and compare ratios and rates in story and other problems. They are introduced to proportions and will learn two ways of solving proportions when a term is missing.</p>		<ul style="list-style-type: none"> <li>Write proportions</li> <li>Solve proportions using equivalent ratios and rates</li> <li>Find the means and extremes of a proportion</li> </ul>	<p>This lesson's problem is about proportions, share with students this scenario: A soccer team had been awarded a penalty shot at the end of a tie game. If they make the penalty shot, they will win the league championship. The coach is considering three players to take the penalty. Amber has taken 4 penalty shots this season and has made 3 of them. Lindsay has taken 6 and made 4. Li has taken 3 and made 2. Which player would you recommend take the penalty shot? Why? Have the class make suggestions on how the coach could determine which player ought to take the shot. Whom would they choose? Why? After a few minutes of discussion, tell them that this lesson will introduce them to a way of solving a problem like this one.</p>	<ul style="list-style-type: none"> <li>ratio</li> <li>equivalent ratios</li> </ul>	Ask students to write a paragraph answering this question: Is solving proportions easy or difficult for me? Why?

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
15	<b>5.3 The Survey Says</b> <i>Using Ratios and Rates</i> p. 155 <i>Homework</i> p. 61	<ul style="list-style-type: none"> <li>• Write and solve a variety of proportion problems, based on real-life story situations</li> <li>• Find a unit rate</li> </ul> <p>In this lesson, students continue their work with proportions and are introduced the term unit rate. They also analyze and solve various problems using proportions, based on stories. The problems require students to decide which units belong in the proportions, as well as how to manipulate them.</p>		<ul style="list-style-type: none"> <li>• Find unit rates</li> <li>• Write and solve proportions</li> </ul>	This lesson is about math and shopping, and asks students to describe ways they have used math in shopping for food, entertainment, or other items. To get the discussion started, ask students if they think big packages of food items are usually cheaper or more expensive than small packages. After a few minutes, tell students that this lesson will give them the math tools they need to become smart consumers.	<ul style="list-style-type: none"> <li>• unit rate</li> </ul>	Ask students to make a list of “Smart Shopper Math Tips” to help people use math to be smart consumers.
15	<b>5.4 Who’s Got Game?</b> <i>Using Proportions to Solve Problems</i> p. 159 <i>Homework</i> p. 63	<ul style="list-style-type: none"> <li>• Write and solve a variety of proportion problems, based on real-life story situations</li> <li>• Use proportions to convert between metric and customary systems of measurement</li> <li>• Learn how to use variables and division to solve proportions</li> </ul> <p>In this lesson, students will work with a variety of proportion problems, converting between metric and customary systems. They will also be introduced to the important concept of the variable and solve equations based on proportions they set up from story problems.</p>		<ul style="list-style-type: none"> <li>• Solve problems using proportions</li> </ul>	This lesson’s problem is about the marketing of video games, ask students to name their three favorite video games. Write their nominations on the board, tallying votes for each selection. After as many students have voted who want to, ask them to tally the winners. Conclude by saying that this lesson will use math to explain something about how video games are chosen and sold.	<ul style="list-style-type: none"> <li>• variable</li> </ul>	Because this is the last lesson in the chapter, ask students to write a paragraph about what they have learned about solving proportions and how they could apply it in everyday life.
16	<i>Assessment</i>	End of Chapter Test					
	<i>Chapter 6</i>	<b>Percents</b>					

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
16	<b>6.1 One in a Hundred</b> <i>Percents</i> <i>p. 169</i> <i>Homework</i> <i>p. 65</i>	<ul style="list-style-type: none"> <li>• Write decimals as percents</li> <li>• Write fractions with denominators of 100 as percents</li> <li>• Find the percent equivalent of fractions</li> </ul> <p>Therefore, students will use their skills and knowledge of fractions and decimals to find percents.</p>		<ul style="list-style-type: none"> <li>• Use a fraction to find the percent of a number</li> </ul>	<p>This lesson is about using information gathered by a library, discuss the use of statistics. A statistic is information often gathered from a sample of a larger group. They often use percentages.</p> <ul style="list-style-type: none"> <li>• What kinds of organizations or people use this kind of information?</li> <li>• What do you think they do with the information?</li> <li>• Why do they just get information from a sample and not the whole group?</li> </ul> <p>When introducing this lesson, discuss how statistics are used by advertising agencies, school systems, restaurants, etc. The information is then used to create new products, air new commercials, develop new menus, etc. Students should be able to see that it would be too hard to get information from an entire population.</p>	<ul style="list-style-type: none"> <li>• Percent</li> </ul>	<p>The school cafeteria asks you to give a survey to help them create menus for next year. What questions will you ask? How many people will you ask? What kinds of numbers will you use to present your results? How will your results help the cafeteria? How will your results help all the students in your school? Use complete sentences to explain your answers.</p>
17	<b>6.2 Brain Waves</b> <i>Making Sense of Percents</i> <i>p. 173</i> <i>Homework</i> <i>p. 67</i>	<ul style="list-style-type: none"> <li>• Find 1% and 10% of a number</li> <li>• Devise a way to find a percent of a number based on what they know about finding 1% or 10%</li> <li>• Work with percents over 100 and less than 1</li> </ul> <p>Students continue to develop meaning and algorithms for percents. In this lesson student's work with finding percents of numbers that are not 100. Later in the unit, students will learn other methods for finding numbers given a percent or for finding percents given two numbers.</p>		<ul style="list-style-type: none"> <li>• Use benchmark percents of 1% and 10% to find the percent of a number</li> </ul>	<p>This lesson is about brain mass or weight; discuss mass and anatomy of a brain.</p> <ul style="list-style-type: none"> <li>• What is mass?</li> <li>• What is the mass of a gram?</li> <li>• How heavy is 40 grams?</li> <li>• How about 400 grams?</li> <li>• What is a brain made up of?</li> <li>• How big is a person's brain?</li> <li>• About how much mass do you think it has?</li> <li>• How do you think other animal's brains compare in size or mass to ours?</li> </ul> <p>When introducing this lesson, discuss that mass is basically the weight of an object. Students should know that a gram is about the weight of a paperclip. They can then make estimates as to other measures of mass in grams. Students should also know that brains are made up of tissue, nerves, and fluid. Most people's brains have a mass of just over 1000 grams (1 kilogram).</p>	<ul style="list-style-type: none"> <li>• Benchmark percent</li> </ul>	<p>Is there a relationship between brain size and mental abilities? Use complete sentences and examples from the lesson to explain your answer.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
17	<b>6.3 Commissions, Taxes, and Tips</b> <i>Finding the Percent of a Number</i> p. 177 <i>Homework</i> p. 69	<ul style="list-style-type: none"> <li>• Set up proportions to help them find a percent of a number</li> <li>• Choose between two processes to find a percent of a number</li> </ul> <p>Therefore, students use what they have learned about ratios as well as fractions to develop their understanding about percents.</p>		<ul style="list-style-type: none"> <li>• Use a proportion to find the percent of a number</li> </ul>	<p>This lesson is about commission, taxes, and tips, discuss why they might want to know how to find these percents on their own.</p> <ul style="list-style-type: none"> <li>• Does anyone here work on commission or for tips?</li> <li>• How is commission determined by your boss?</li> <li>• How do customers decide how much to tip?</li> <li>• When you're buying something, how do you know if it will be taxed or not?</li> <li>• How do you estimate the tax so you know you have enough for the total?</li> </ul> <p>When introducing this lesson, discuss different methods for tipping or deciding commission. Some customers decide tip more by the meal and number of people, rather than figuring a percent of the bill. Students should also have an idea of what is taxed and by how much in your state.</p>	<ul style="list-style-type: none"> <li>• Commission</li> </ul>	<p>Choose one subject to discuss: commission, taxes, or tips. Do you think that using a percent is a good way to determine how much to pay or be paid? If not, what is a better way? Use complete sentences to justify your answers mathematically. Be sure to use examples in your answer.</p>
18	<b>6.4 Find It on the Fifth Floor</b> <i>Finding One Whole, or 100%</i> p. 181 <i>Homework</i> . p 71	<ul style="list-style-type: none"> <li>• Set up a proportion to find a number that corresponds to 100%</li> <li>• Use different methods for finding a number that corresponds to 100%</li> </ul> <p>Students use what they have already learned about proportions as well as how to find 1% to solve problems. Students will also evaluate the new method and make a choice about which method to use.</p>		<ul style="list-style-type: none"> <li>• Use a proportion to find a number that corresponds to 100%</li> </ul>	<p>This lesson is about discounts and markups, discuss how stores set their prices.</p> <ul style="list-style-type: none"> <li>• Does anyone here work in a store, in retail?</li> <li>• How does the store make money?</li> <li>• How do they set their prices for items?</li> <li>• How do they change the prices for sales?</li> <li>• What happens to the prices after the sales?</li> </ul> <p>When introducing this lesson, discuss retail sales. Students should know that stores must charge a percentage more than they bought an item for to make money and that sale prices are usually set by taking a percent off the regular price. If a student works in retail, he or she may know about loss leaders, items that are sold at — or even below — cost to get customers in the door.</p>	<ul style="list-style-type: none"> <li>• Discount</li> <li>• Markup</li> </ul>	<p>Which method works best for you when finding a number that corresponds to 100%: finding 1% and multiplying it by 100 or setting up a proportion? Use complete sentences to explain your choice mathematically. Be sure to include an example of a problem using each method.</p>

<b>Day</b>	<b>Pages</b>	<b>Lesson Overview</b>	<b>Standards</b>	<b>Objectives (SWBA. )</b>	<b>Motivation</b>	<b>Key Terms</b>	<b>Open Ending Writing Task</b>
<b>18</b>	<b>6.5 It's Your Money</b> <i>Finding Percents Given Two Numbers</i> p. 185 <i>Homework</i> p. 73	<ul style="list-style-type: none"> <li>• Set up a proportion to find a percent</li> <li>• Find percent given two numbers</li> <li>• Find simple interest using a principal and interest rate</li> </ul>		<ul style="list-style-type: none"> <li>• Use a proportion to find a percent, given two numbers</li> <li>• Find simple interest</li> </ul>	<p>This lesson is about finances, discuss different ways to earn and manage money.</p> <ul style="list-style-type: none"> <li>• How many of you have different ways to earn money already?</li> <li>• How do you earn money?</li> <li>• What do you do with your cash?</li> <li>• What else can you do with it?</li> <li>• How can the bank help you earn money?</li> <li>• Do you put a certain amount for spending and another amount to save?</li> </ul>	<ul style="list-style-type: none"> <li>• simple interest</li> </ul>	How would you create a budget for yourself? What kinds of expenses do you have? What percent of your income would you put towards each expense? Use complete sentences to explain your budget. Be sure to include specific amounts and percents.
<b>19</b>	<b>6.6 So You Want to Buy a Car</b> <i>Percent Increase and Percent Decrease</i> p. 189 <i>Homework</i> p. 75	<ul style="list-style-type: none"> <li>• Use a ratio to find a percent increase</li> <li>• Use a ratio to find a percent decrease</li> </ul> <p>Therefore students continue to develop their basic understanding of percents as well as develop their computational skills</p>		<ul style="list-style-type: none"> <li>• find the percent of increase of a quantity</li> <li>• find the percent of decrease of a quantity</li> </ul>	<p>This lesson is about saving for and buying a car, and discusses the type of budget one needs for this.</p> <ul style="list-style-type: none"> <li>• Is anyone saving money for a purchase in the future?</li> <li>• Is anyone saving to get a high-cost item?</li> <li>• Is anyone saving for college?</li> <li>• Is anyone saving to buy a car for when they turn sixteen?</li> <li>• How much do cars cost?</li> <li>• How much does the car you want cost?</li> </ul>	<ul style="list-style-type: none"> <li>• percent increase</li> <li>• percent decrease</li> </ul>	Would you rather get a loan with a larger payment over a short time or a loan with a smaller payment over a longer time? Why? (You may wish to use rates given in the lesson to use as examples in your answer.) Use complete sentences to justify your answer mathematically. Be sure to include money amounts as examples.
<b>20</b>	<i>Assessment</i> <i>Chapter 7</i>	End of Chapter Test					
		<b>Integers</b>					

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
21	<b>7.1 I Love New York</b> <i>Negative Numbers in the Real World</i> p. 199 <i>Homework</i> p. 77	<ul style="list-style-type: none"> <li>• Represent numbers as positive and negative integers</li> <li>• Plot positive and negative integers on a number line</li> <li>• Find the difference between integers using a number line</li> </ul> <p>In this lesson, students learn interesting facts about New York, city and state, and use these facts to explore the concepts of positive and negative integers and the use of a number line. They will work with and plot values of such quantities as temperature, elevation, and profit and loss.</p>		<ul style="list-style-type: none"> <li>• Write integers to represent real-life situations.</li> <li>• Graph integers on a number line.</li> <li>• Compare integers.</li> </ul>	This lesson's problem deals with temperatures, ask students to describe the hottest and coldest days they have ever experienced. Ask them how they knew it was the most extreme day they had experienced, what the temperature was, how it felt, what they did, and so on. Conclude the warm-up by explaining that in this lesson they will learn about how people measure extremes such as high and low temperatures, and the role that the number zero plays in this measurement system.	<ul style="list-style-type: none"> <li>• Write integers to represent real-life situations.</li> <li>• Graph integers on a number line.</li> <li>• Compare integers.</li> </ul>	Share with students this scenario: A student wants to get a grade of B in math. Getting a B requires an average of 87 on weekly quizzes throughout the grading period. Ask students to describe a number line she could make to plot her scores on weekly quizzes that would keep her informed about whether she is maintaining a B average.
21	<b>7.2 Going Up?</b> <i>Adding Integers</i> p. 203 <i>Homework</i> p. 79	<ul style="list-style-type: none"> <li>• Translate text into abstract arithmetic representations</li> <li>• Use both real-life and abstract representations to solve problems</li> <li>• Write a rule for adding integers</li> </ul> <p>In this lesson, students draw a diagram and use it to solve math problems involving the addition of integers, both positive and negative. They then move to more abstract representations, such as a number line, and write integer addition problems based on text descriptions. Finally, they formulate a rule for adding integers using a number line.</p>		<ul style="list-style-type: none"> <li>• Add integers</li> </ul>	Ask students to name objects, machines, places, or other elements that have something in common with a number line. Have volunteers explain how their suggestions are like a number line. If no one mentions a building with different floors and a basement, or an elevator in such a building, ask students to explain how these things share some characteristics with a number line.	<ul style="list-style-type: none"> <li>• sum</li> <li>• integer addition</li> </ul>	Ask students to write a paragraph on how knowing how to add negative integers could be useful in real-life situations.

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
22	<b>7.3 Test Scores, Grades, and More</b> <i>Subtracting Integers</i> <i>p. 207</i> <i>Homework</i> <i>p. 81</i>	<ul style="list-style-type: none"> <li>• Translate text into abstract arithmetic representations</li> <li>• Use both real-life and abstract representations to solve problems</li> <li>• Write a rule for subtracting integers</li> </ul> <p>In this lesson, students use a real-life school situation, test scoring, to learn about subtraction of positive and negative integers. They will write equations that incorporate the subtraction of negative integers and compare this process to the addition and subtraction of positive integers as well as to the addition of negative integers. They will work subtraction problems on a number line and, finally, write a rule for subtracting integers, both positive and negative.</p>		<ul style="list-style-type: none"> <li>• subtract integers</li> </ul>	<p>This lesson's problem deals with scoring tests, ask students to discuss the fairest way of scoring math tests. Should there be extra credit questions or partial credit for answers without work shown? Should students be penalized for wrong answers or guesses? Conclude the warm-up by explaining that in this lesson they will use test-scoring as a way of learning how to perform another operation with integers.</p>	<ul style="list-style-type: none"> <li>• difference</li> <li>• integer subtraction</li> </ul>	<p>Have students take a position, in favor or opposed, on this statement and write a paragraph supporting their position: People in today's world need to understand the concept of negative numbers.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
22	<b>7.4 Checks and Balances</b> <i>Multiplying and Dividing Integers</i> p. 211 <i>Homework</i> p. 83	<ul style="list-style-type: none"> <li>• Translate text into abstract arithmetic representations</li> <li>• Use both real-life and abstract representations to solve problems</li> <li>• Write rules for multiplying and dividing integers</li> </ul> <p>In this lesson, students use a checking account model to learn about multiplying and dividing positive and negative integers. They will first examine these operations as forms of repeated addition and subtraction, then move to working with products of integers, both positive and negative in all combinations. They will discover the rule for the product of negative integers. Then they will repeat the same basic process for dividing positive and negative numbers.</p>		<ul style="list-style-type: none"> <li>• Multiply integers</li> <li>• Divide integers</li> </ul>	Ask students how many have bank accounts. Allow those that do to explain why they opened their accounts, where they are, how much they are charged in service fees, and other aspects. Conclude the warm-up by explaining that in this lesson they will examine bank accounts as a way of learning about multiplication and division with integers.	<ul style="list-style-type: none"> <li>• Product</li> <li>• Quotient</li> </ul>	Have students write a short newspaper article about your class and its study of performing operations with integers.
23	<b>7.5 Weight of a Penny</b> <i>Absolute Value and Additive Inverse</i> p. 215 <i>Homework</i> p. 85	<ul style="list-style-type: none"> <li>• Use a number line and absolute values to determine distance from a specific value</li> <li>• Use both real-life and abstract representations to solve problems</li> <li>• Write examples of opposites and additive inverses</li> </ul> <p>In this lesson, students use a table based on data comparing the weights of pennies to learn about absolute value. They then transfer their knowledge to abstract representations of absolute value.</p>		<ul style="list-style-type: none"> <li>• Write the absolute value of a number</li> </ul>	Ask students to design an experiment in which they would weigh something small, such as coins, that is unlikely to vary much from sample to sample. What instruments could they use? How would they record their results? How many measurements would they need to take to obtain enough results to make a conclusion? Conclude the warm-up by explaining that in this lesson they will read about such an experiment as a way to learn about a new math concept called absolute value.	<ul style="list-style-type: none"> <li>• Absolute value</li> <li>• Additive inverse</li> <li>• Opposites</li> </ul>	Have students describe a presentation, with illustrations, they could give about the concept of additive inverses and absolute numbers to kindergarten students. Encourage them to use their creativity to make the presentation appealing to young children.

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
23	<b>7.6 Exploring the Moon</b> <i>Powers of Ten</i> p. 219 <i>Homework</i> p. 87	<ul style="list-style-type: none"> <li>Express numbers in expanded form and using powers of 10</li> <li>Express numbers using negative powers of 10</li> <li>Multiply and divide using positive and negative powers of 10</li> <li>Write and apply rules for multiplying and dividing using positive and negative powers of 10</li> </ul> <p>In this lesson, students build on their knowledge, from Lesson 1.6, of writing numbers in expanded form using powers of ten. They use this form to multiply and divide numbers pertaining to the moon. They also learn about negative powers of ten and how they are used to write very small numbers.</p>		<ul style="list-style-type: none"> <li>Represent numbers using powers of 10</li> <li>Multiply and divide by powers of 10</li> </ul>	<p>Ask students to make guesses about the following facts concerning our moon:</p> <ul style="list-style-type: none"> <li>What is the moon’s diameter (distance through the middle)?</li> <li>How tall are the tallest mountains on the moon?</li> <li>How hot does it get on the moon?</li> </ul> <p>Write down several suggestions and leave them on a corner of the board. Tell students that in this lesson they will find the answers to these questions, as well as other facts about the moon. They will use the information to learn about a way of writing very large and very small numbers.</p>	<ul style="list-style-type: none"> <li>power</li> <li>exponent</li> <li>power of 10</li> <li>expanded form</li> </ul>	Have students write a paragraph describing what writing numbers in this way would be like if our number system were based on 7 rather than 10.
24	<b>7.7 Expanding Our Perspective</b> <i>Scientific Notation</i> p. 223 <i>Homework</i> p. 89	<ul style="list-style-type: none"> <li>Write very large numbers in scientific notation</li> <li>Write very small numbers in scientific notation</li> <li>Formulate a rule for converting large and small numbers to scientific notation</li> </ul> <p>In this lesson, students are introduced to scientific notation, building on their work with positive and negative powers in previous lessons. They will complete tables of scientific facts, writing numbers in both scientific and regular notation.</p>		<ul style="list-style-type: none"> <li>Read and write numbers using scientific notation</li> </ul>	<p>This lesson’s problem deals with a shorthand method of writing very large and very small numbers, ask students if they know what shorthand is. Have students describe shorthand writing and brainstorm other kinds of “streamlined” notation. Help them to understand that shorthand, along with other streamlined methods of writing such as court reporting and computer code writing is a way of transmitting a large amount of information in an abbreviated form. Conclude by explaining that in this lesson they will learn a streamlined method of writing very large and very small numbers—scientific notation.</p>	<ul style="list-style-type: none"> <li>scientific notation</li> <li>negative exponent</li> </ul>	Ask students to write a paragraph discussing possible reasons why scientific notation was developed.
24	<i>Assessment</i>	End of Chapter Test					

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
	<i>Chapter 8</i>	<b>Algebraic Problem Solving</b>					
<b>25</b>	<b>8.1 Life in a Small Town</b> <i>Picture Algebra p. 231</i> <i>Homework p. 91</i>	<ul style="list-style-type: none"> <li>• Draw pictures to represent a word problem</li> <li>• Write an equation using words</li> <li>• Write an equation using variables</li> <li>• Solve an equation based on a word problem</li> </ul> <p>Students have already used equations – including ones using variables – so this should not be too unfamiliar a task. Later in the unit, the problems and equations will become more complicated.</p>		<ul style="list-style-type: none"> <li>• Use picture algebra to represent and solve a problem</li> </ul>	<p>This lesson is about learning about a small town; discuss different important features of your city or town.</p> <ul style="list-style-type: none"> <li>• What is the population of our town?</li> <li>• What are the major industries here?</li> <li>• Where do most people work?</li> <li>• What are the main sections where people live in town?</li> <li>• What other sections are there to the town?</li> <li>• What else is important to know about our town?</li> </ul> <p>When introducing this lesson, display or distribute the information about your town from the chamber of commerce or another source. Now is a good time to inspire civic pride!</p>	<ul style="list-style-type: none"> <li>• Variable</li> <li>• Equation</li> </ul>	<p>If you were running for mayor of a town, would you rather only one person be running against you or more than one? Why? Use complete sentences to explain your reasoning. Give examples of the votes you may get from the town. Use the numbers in Problem 2 if needed.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
25	<b>8.2 Computer Games, CDs, and DVDs</b> <i>Writing, Evaluating, and Simplifying Expressions</i> <i>p. 237</i> <i>Homework</i> <i>p. 93</i>	<ul style="list-style-type: none"> <li>Evaluate algebraic expressions</li> <li>Use a table to organize solutions for expressions</li> </ul> <p>Students move from using picture algebra into using more abstract expressions. Later in the unit, expressions will sometimes include two-step problems. But for this lesson, each step is spelled out separately.</p>		<ul style="list-style-type: none"> <li>evaluate expressions</li> </ul>	<p>This lesson is about buying items online, discuss how and where to buy to buy safely.</p> <ul style="list-style-type: none"> <li>Who has bought something online?</li> <li>How did you know it was a secure – or safe – site?</li> <li>Did the cost of shipping make a difference in your decision?</li> <li>What are the different ways sellers charge for shipping and handling?</li> </ul> <p>When introducing this lesson, discuss the fact that the site must be secure to safeguard against identity theft. One sign is that the checkout page's address has https instead of just http at the beginning (s for secure). Another sign is if the address says: http://secure.websitename.com.</p> <p>Every seller has different methods for charging shipping and handling. Many build it into the price of each item. Some sites have one set price per item, while others have a set shipping charge for different order totals. Warn students that they may wish to check out the security of a site as well as their shipping and handling policies before looking at their merchandise.</p>	<ul style="list-style-type: none"> <li>Algebraic expression</li> <li>Evaluate</li> </ul>	<p>When you order online, what kind of shipping and handling policies do you think are best? Give an example that includes a sample order with price of at least one item, shipping and handling, tax (if any), and total cost. Be sure to describe how the cost of shipping and handling was determined.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
26	<b>8.3 Selling Cars</b> <i>Solving One-Step Equations</i> p. 241 <i>Homework</i> p. 95	<ul style="list-style-type: none"> <li>• Write an equation based on a word problem</li> <li>• Solve a one-step equation</li> <li>• Choose a method of solution for a one-step equation</li> </ul> <p>Students build on what they learned in the previous lesson on expressions. Later in the unit, students will write and solve two-step equations.</p>		<ul style="list-style-type: none"> <li>• Solve one-step equations.</li> </ul>	<p>This lesson is about car dealerships and salespeople, talk about buying cars.</p> <ul style="list-style-type: none"> <li>• Who has been with their parents when they've bought a car?</li> <li>• How did they find the car?</li> <li>• What other ways are there to find a new or used car?</li> <li>• What kinds of things do you need to do when looking for a new car?</li> </ul> <p>When introducing this lesson, discuss different ways to find cars: dealerships, classified ads, the Internet. Some private sellers simply put a sign in their car and rely on someone seeing it as they drive by. This may be a good time to display car ads to show important features such as pricing and accessories. You may also wish to make sure students understand the different types at this time: sedan, coupe, SUV, van, luxury sports car. Students may want to add to the list.</p>	<ul style="list-style-type: none"> <li>• Solve</li> <li>• One-step equation</li> </ul>	Which do you find easier to solve: an algebraic expression or an equation? Why do you think that is? Use complete sentences to justify your explanation. Be sure to include examples of each.

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
26	<b>8.4 A Park Ranger's Work is Never Done</b> <i>Solving Two-Step Equations</i> p. 245 <i>Homework</i> p. 97	<ul style="list-style-type: none"> <li>• Write an equation based on a word problem</li> <li>• Solve a two-step equation</li> <li>• Choose a method of solution for a two-step equation</li> </ul> Students build on what they learned in previous lessons on expressions, equations, and one-step equations.		<ul style="list-style-type: none"> <li>• Solve one-step equations.</li> </ul>	<p>This lesson is about park ranger's talking about their varied job responsibilities.</p> <ul style="list-style-type: none"> <li>• Who has been to a national park or national forest before?</li> <li>• Where did you go?</li> <li>• What did you do there?</li> <li>• Did you see any forest rangers? What were they doing?</li> <li>• What else do park rangers do?</li> </ul> <p>When introducing this lesson, discuss the many tasks a forest ranger has in his or her job. Jobs at different parks may vary, but in general, most rangers need to know about fire control, law enforcement, public relations, conservation of natural resources, and wildlife care. Many park rangers specialize in tasks such as scientific or craft demonstrations, while others give historical dramatizations. Other rangers train in search and rescue missions. Some rangers perform jobs as simple as traffic control or cleaning of facilities. Many park rangers do quite a number of these tasks.</p> <p>You may wish to share job descriptions for park rangers with the class at this time.</p>	<ul style="list-style-type: none"> <li>• Two-step equation</li> <li>• Inverse operations</li> </ul>	<p>We actually use two-step problems quite often, such as when finding averages or when adding numbers in a recipe. Find or make up an example of an everyday two-step problem. Write it and solve it.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
27	<b>8.5 Where's the Point?</b> <i>Plotting Points in the Coordinate Plane</i> p. 251 <i>Homework</i> p. 99	<ul style="list-style-type: none"> <li>Identify parts of a coordinate system</li> <li>Name points in a coordinate plane</li> <li>Find and label points in a coordinate plane</li> </ul> <p>This is the first time students have worked with this type of graph in this book. The next lesson will also use a grid graph and the next chapter will build on this information to teach geometry.</p>		<ul style="list-style-type: none"> <li>Identify points in the coordinate plane.</li> <li>Graph points in the coordinate plane.</li> </ul>	<p>This lesson is about the Cartesian Coordinate system, talk about grids.</p> <ul style="list-style-type: none"> <li>Who has worked with grid systems before?</li> <li>Where have you seen them?</li> <li>Where might they be handy?</li> </ul> <p>When introducing this lesson, discuss different uses of grids. They are handy for maps because they help pinpoint locations. They are also handy for a layout of a city; because it is easy to find one's way around when all roads go either north-south or east-west (the cities of Phoenix and Washington, D.C. are both laid out this way). Grids can also help copy a picture or the like. And, as the text will explain, grids can help show relationships between numbers. Allow students to brainstorm other ways grids may be helpful in everyday life. If you have time, you may even wish to model using grids in some of the aforementioned ways.</p>	<ul style="list-style-type: none"> <li>Cartesian coordinate system</li> <li>Coordinate plane</li> <li>x- axis</li> <li>y-axis</li> <li>Origin</li> <li>Ordered pair</li> <li>x- coordinate</li> <li>y-coordinate</li> </ul>	<p>What do you think of Descartes' method? Can you think of a way to improve it?</p> <p>Do you have another way altogether to identify the location of a point on a piece of paper? Use complete sentences to justify which method you believe to be the best.</p>
27	<b>8.6 Get Growing!</b> <i>Using Tables and Graphs</i> p. 255 <i>Homework</i> p. 101	<ul style="list-style-type: none"> <li>Complete a table based on a situation</li> <li>Plot a linear equation on a coordinate plane using numbers from a table</li> </ul> <p>Students build on what they learned in the previous lesson on coordinate graphs. Students will continue to work with graphs and tables throughout the unit and book.</p>		<ul style="list-style-type: none"> <li>Make a table of values.</li> <li>Create a graph of ordered pairs.</li> </ul>	<p>This lesson is about gardens, talk about different aspects of gardening.</p> <ul style="list-style-type: none"> <li>Who has a garden?</li> <li>What kind of garden is it?</li> <li>What do you grow in it?</li> <li>What do you need to do to take care of it?</li> <li>What kind of equipment and supplies do you need for a successful garden?</li> </ul> <p>When introducing this lesson, discuss different kinds of gardens, such as flower, vegetable, water, container, Japanese, rock, indoor, wildlife, organic, desert, etc. Allow students to share about their own experiences gardening.</p>	<ul style="list-style-type: none"> <li>Table</li> <li>Graph</li> </ul>	<p>Have students write a paragraph on how they could use a graph in everyday life.</p>

Day	Pages	Lesson Overview	Standards	Objectives (SWBA. )	Motivation	Key Terms	Open Ending Writing Task
28	<b>8.7 Saving Energy</b> <i>Solving Problems Using Multiple Representations p. 261</i> <i>Homework p. 103</i>	<ul style="list-style-type: none"> <li>• Write an equation based on a word problem</li> <li>• Complete a table based on a situation</li> <li>• Plot a linear equation on a coordinate plane using numbers from a table</li> </ul> Students review and practice what they learned in the previous lesson on tables and graphs.		<ul style="list-style-type: none"> <li>• Use equations, tables, and graphs to solve problems.</li> </ul>	This lesson is about energy conservation, discuss managing our resources wisely. <ul style="list-style-type: none"> <li>• Why should we turn off the faucet when we brush our teeth?</li> <li>• Why should we turn off a light when we leave a room?</li> <li>• Why are more people buying hybrid SUVs and fewer trucks?</li> <li>• What would happen to our daily lives if we ran out of gas?</li> <li>• What would happen if the world ran out of fresh water?</li> <li>• What would we do without electricity?</li> </ul> When introducing this lesson, discuss different issues facing our planet. Scientists disagree about when we will run out of resources, but they agree that if we continue to consume at the rate we are consuming energy, we will run out. Encourages students to share information they know about conservation and about new developments and innovations for finding and using natural resources.	<ul style="list-style-type: none"> <li>• Multiple representations</li> </ul>	Energy-efficient light bulbs cost more than regular light bulbs do. But remember that they last three times longer than a regular light bulb. You are still saving money in the long run. If a regular light bulb costs \$0.75 and an energy-efficient light bulb costs \$3.00, do you still use the energy-efficient ones? How many do you use? How can you figure out how much money you are saving? Use complete sentences to explain your decision and solution mathematically.
29	<i>Review</i>						
30	<i>Assessment</i>	End of Chapter Test					