

	CCD Foundational Skills
<b>EMPOWER SERIES MATHEMATICS</b>	<b>2016</b>
<b>Lesson Schedule &amp; Plans</b> <i>Seeking Patterns, Building Rules - Algebraic Thinking</i> <i>Operation Sense - Even more Fractions, Decimals, and Percents</i> <i>Many Points Make a Point - Data and Graphs</i>	

## 2016 EMPOWER CALENDAR

JANUARY	*Writing Emphasis - Apostrophes	
	Day One	Day Two
Week of 01.04 - 01.08		
Week of 01.11 - 01.15		
Week of 01.18 - 01.22		
Week of 01.25 - 01.29	<a href="#"><b>OPENING THE UNIT: SEEKING PATTERNS, BUILDING RULES</b></a>	

FEBRUARY	*Writing Emphasis - Apostrophes	
	Day One	Day Two
Week of 02.01 - 02.05	<a href="#"><b>LESSON 1: GUESS MY RULE</b></a>	
Week of 02.08 - 02.12	<a href="#"><b>LESSON 2: BANQUET TABLES</b></a>	
Week of 02.15 - 02.19	<a href="#"><b>LESSON 3: BODY AT WORK -- TABLES AND RULES</b></a>	
Week of 02.22 - 02.26	<a href="#"><b>LESSON 4: BODY AT WORK -- GRAPHING THE INFORMATION</b></a>	
Week of 02.29 - 03.04	<a href="#"><b>LESSON 5: BODY AT WORK -- PUSHING IT TO THE MAX</b></a>	

MARCH	*Writing Emphasis - Apostrophes	
	Day One	Day Two
Week of 03.07 - 03.11	<a href="#"><b>LESSON 6: CIRCLE PATTERNS</b></a>	
Week of 03.14 - 03.18	<a href="#"><b>MIDPOINT ASSESSMENT: USING THE TOOLS OF ALGEBRA</b></a>	
Week of 03.21 - 03.25	<b>SPRING BREAK</b>	
Week of 03.28 - 04.01	<b>MID-POINT ASSESMENT</b>	

<b>A P R I L</b>	<i>*Writing Emphasis - Apostrophes</i>	
	<i>Day One</i>	<i>Day Two</i>
<i>Week of 04.04 - 04.08</i>	<a href="#"><b>LESSON 7: WHAT IS THE MESSAGE?</b></a>	
<i>Week of 04.11 - 04.15</i>		
<i>Week of 04.18 - 04.22</i>	<a href="#"><b>LESSON 8: JOB OFFERS</b></a>	
<i>Week of 04.25 - 04.29</i>	<a href="#"><b>LESSON 9: PHONE PLANS</b></a>	

<b>M A Y</b>	<i>*Writing Emphasis - Apostrophes</i>	
	<i>Day One</i>	<i>Day Two</i>
<i>Week of 05.02 - 05.06</i>	<a href="#"><b>LESSON 10: SIGNS OF CHANGE</b></a>	
<i>Week of 05.09 - 05.13</i>	<a href="#"><b>LESSON 11: RISING GAS PRICES</b></a>	
<i>Week of 05.16 - 05.20</i>	<a href="#"><b>LESSON 12: THE PATIO PROJECT</b></a>	
<i>Week of 05.23 - 05.27</i>	<a href="#"><b>CLOSING THE UNIT: PUTTING IT ALL TOGETHER</b></a>	
<i>Week of 05.30 - 06.03</i>	<b>MEMORIAL BREAK</b>	

<b>J U N E</b>	<i>*Writing Emphasis - Apostrophes</i>	
	<i>Day One</i>	<i>Day Two</i>
<i>Week of 06.06 - 06.10</i>		
<i>Week of 06.13 - 06.17</i>		
<i>Week of 06.20 - 06.24</i>		
<i>Week of 06.27 - 07.01</i>		

<b>J U L Y</b>	<i>*Writing Emphasis - Apostrophes</i>	
	<i>Day One</i>	<i>Day Two</i>
<i>Week of 07.04 - 07.08</i>		
<i>Week of 07.11 - 07.15</i>		
<i>Week of 07.18 - 07.22</i>		
<i>Week of 07.25 - 07.29</i>		

<b>A U G U S T</b>	<i>*Writing Emphasis - Apostrophes</i>	
	<i>Day One</i>	<i>Day Two</i>
<i>Week of 08.01 - 08.05</i>		
<i>Week of 08.08 - 08.12</i>		
<i>Week of 08.15 - 08.19</i>		
<i>Week of 08.22 - 08.26</i>		
<i>Week of 08.29 - 09.02</i>		

<b>S E P T E M B E R</b>	<i>*Writing Emphasis - Apostrophes</i>	
	<i>Day One</i>	<i>Day Two</i>
<i>Week of 09.05 - 09.09</i>		
<i>Week of 09.12 - 09.16</i>		
<i>Week of 09.19 - 09.23</i>		
<i>Week of 09.26 - 09.30</i>		

O C T O B E R	*Writing Emphasis - Apostrophes	
	Day One	Day Two
Week of 10.03 - 10.07		
Week of 10.10 - 10.14		
Week of 10.17 - 10.21		
Week of 10.24 - 10.28		
Week of 10.31 - 11.04		
N O V E M B E R	*Writing Emphasis - Apostrophes	
	Day One	Day Two
Week of 11.07 - 11.11		
Week of 11.14 - 11.18		
Week of 11.21 - 11.25		
Week of 11.28 - 12.02		
D E C E M B E R	*Writing Emphasis - Apostrophes	
	Day One	Day Two
Week of 12.05 - 12.09		
Week of 12.12 - 12.16		
Week of 12.19 - 12.23		
Week of 12.26 - 12.30		

# EMPOWER ALGEBRAIC THINKING

[LESSON 1: GUESS MY RULE](#)

[LESSON 2: BANQUET TABLES](#)

[LESSON 3: BODY AT WORK -- TABLES AND RULES](#)

[LESSON 4: BODY AT WORK -- GRAPHING THE INFORMATION](#)

[LESSON 5: BODY AT WORK -- PUSHING IT TO THE MAX](#)

[LESSON 6: CIRCLE PATTERNS](#)

[MIDPOINT ASSESSMENT: USING THE TOOLS OF ALGEBRA](#)

[LESSON 7: WHAT IS THE MESSAGE?](#)

[LESSON 8: JOB OFFERS](#)

[LESSON 9: PHONE PLANS](#)

[LESSON 10: SIGNS OF CHANGE](#)

[LESSON 11: RISING GAS PRICES](#)

[LESSON 12: THE PATIO PROJECT](#)

[CLOSING THE UNIT: PUTTING IT ALL TOGETHER](#)

**Algebraic Thinking***MATERIALS*

- EMPower pages 1 - 6

*OBJECTIVES*

- Share past experiences with algebra and existing notions of algebra
- Begin record of vocabulary useful to the study of algebra
- Look for patterns and relationships in a variety of representations
- Identify and represent a personal pattern in words and diagrams, graphs, or equations
- Understand the scope of the unit

*VOCABULARY*

<i>Tier 2</i>	◦ Algebra ◦ Pattern
<i>Tier 3</i>	◦
<i>Test Words</i>	◦

*INTERACTIVE STRATEGY*

- 

*WRITING TOPIC*

- "What Patterns were discussed today? How do you think understanding patterns will help you in your own life?"

*WRITING PRACTICE*

- 

**Opening the Unit: Seeking Patterns, Building Rules***BEFORE LESSON**ACTIVITIES*

- Algebra Mind Map
- One of My Own Patterns
- Initial Assessment - Patterns Problems

*PRACTICE*

None

*EXTENSION*

None

*LESSON REVIEW*

Test Practice page None

## Algebraic Thinking

## Lesson 1: Guess My Rule

## MATERIALS

- EMPower pages 7 - 20

## OBJECTIVES

- Use In-Out tables as tools that show patterns and relationships between two variables
- Identify numerical patterns that involve addition, subtraction, multiplication, division, or a combination of operation, and represent them in words
- Represent patterns in equations that use algebraic notation

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>◦ Equation</li> <li>◦ In-Out Table</li> <li>◦ Table</li> <li>◦ Variable</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li>◦</li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li>◦</li> </ul>

## INTERACTIVE STRATEGY

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## WRITING TOPIC

- "In this lesson you did a lot of work with in-out table. What hints about looking for patterns in tables do you want to remember?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Guess My Rule
- Making Tables, Rules, and Equations

## PRACTICE

<i>Guess More Rules, p. 10</i>	Writing Rules
<i>Fill in the values, p. 13</i>	Complete Tables
<i>The Rule Story, p. 15</i>	A cloze exercise
<i>How Many Ways, p. 16</i>	Multiplication Notation
<i>Four Ways to Write Division, p. 17</i>	Practice with Division

## EXTENSION

<i>Building Table From Rules, p. 18</i>	Start with equation and create table
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## LESSON REVIEW

Test Practice page 19



## Algebraic Thinking

## Lesson 2: Banquet Tables

## MATERIALS

- EMPower pages 21 - 32

## OBJECTIVES

- Use objects, diagrams, tables, and rules to understand and describe a pattern in a situation
- Keep track of problem-related data in a table

## VOCABULARY

Tier 2 | ◦

Tier 3 | ◦

Test Words | ◦

## INTERACTIVE STRATEGY

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## WRITING TOPIC

- "What did you learn by working on the banquet tables problem? How did a diagram, table, rule, or equation help you predict?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Banquet Tables

## PRACTICE

Toothpick Row Houses, p. 26 | Practice with Patterns

Rules of Order, p. 28 | Evaluating Expressions

## EXTENSION

The importance of Order, p. 30 | Compare and Contrast

## LESSON REVIEW

Test Practice page 31

## Algebraic Thinking

## MATERIALS

- EMPower pages 33 - 50

## OBJECTIVES

- Describe the pattern in a situation with a verbal and symbolic rule
- Connect patterns in tables with generalized rules
- Solve problems using the patterns represented in table data and rules

## VOCABULARY

Tier 2 | ○

Tier 3 | ○

Test Words | ○

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- "What is important to remember about how to make connection between a table and a rule?"

## WRITING PRACTICE

- 

## Lesson 3: Body at Work -- Tables and Rules

## BEFORE LESSON

## ACTIVITIES

- Heart Rates at Rest
- II. How Many Calories Am I Burning

## PRACTICE

*Say It in Words and Fill in Tables, p. 41*

Translating Common Abbreviations

*Drawing at 50 mph, p. 42*

Rules with Distance and Time

*Equations → Words, p. 44*

Algebraic Expressions

*Substituting for x, p. 43*

Evaluating Expressions

## EXTENSION

*A Friendly Reunion, p. 46*

More complicated Situations

## LESSON REVIEW

Test Practice page 48

## Algebraic Thinking

## Lesson 4: Body at Work - Graphing the Information

## MATERIALS

- o EMPower pages 51 - 64

## OBJECTIVES

- o Identify and use features of graphs (origin, x-axis, y-axis, scale increments, points as **order pairs** of **coordinates**, slant of the line)
- o Use information from tables or rules to generate graphs
- o Connect tables and rules with corresponding graphs

## VOCABULARY

	<ul style="list-style-type: none"> <li>o Coordinate Graph</li> <li>o Increments</li> <li>o Inverse Operation</li> </ul>
Tier 2	<ul style="list-style-type: none"> <li>o Labeling Points</li> <li>o Origin</li> <li>o X-Axis</li> <li>o Y-Axis</li> </ul>
Tier 3	<ul style="list-style-type: none"> <li>o</li> </ul>
Test Words	<ul style="list-style-type: none"> <li>o</li> </ul>

## INTERACTIVE STRATEGY

- o

## WRITING TOPIC

- o "Make a mind map of the word 'graph' to help you remember all the terms you learned today. How does a graph connect with a table and an equation?"

## WRITING PRACTICE

- o

## BEFORE LESSON

## ACTIVITIES

- Four Graphs for Calories Burned

## PRACTICE

<i>Setting Up Coordinate Graph, p. 56</i>	Vocabulary Review
<i>Graphing Guess My Rule, p. 57</i>	Draw and Compare Graphs
<i>Graphing Banquet Tables p. 60</i>	Represent Pattern from Lesson 2
<i>Relating Multiplication and Division, p. 61</i>	Equation Relationships

## EXTENSION

None

## LESSON REVIEW

Test Practice page 63

## Algebraic Thinking

## Lesson 5: Body at Work -- Pushing It to the Max

## MATERIALS

- EMPower pages 65 - 76

## OBJECTIVES

- Make graphs from tables
- Articulate how graphs, tables and rules relate to one another
- Compare representations of a situation in which y-values decrease as x-values increase with another in which both values increase together

## VOCABULARY

Tier 2 | ○

Tier 3 | ○

Test Words | ○

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- "For different situation, the graph slants in different directions. What two ways have you seen line graphs slant? What caused them to slant in different ways?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Average Maximum Heart Rates
- Comparing and Contrasting Situations

## PRACTICE

*Brick Piles, p. 70* | Linear Relationships*Matching Equations, p. 72* | Inverse operations + -

## EXTENSION

*Aerobic Target Heart Rate, p. 73* | Work with Percents

## LESSON REVIEW

Test Practice page 74

## Algebraic Thinking

## Lesson 6: Circle Patterns

## MATERIALS

- EMPower pages 77 - 90

## OBJECTIVES

- Diagram and model physical | quantitative situations
- Describe the approximate relationship between the diameter and circumference of circles
- Apply rules and formulas to solve a problem
- Understand the meaning of  $\pi$

## KEY CONCEPT

- 

## VOCABULARY

Tier 2	o Circumference
	o Diameter
	o Formula
	o Pi
Tier 3	o
Test Words	o

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- "Reflect on you experiences in class today. What seemed easy and what seemed difficult?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Journey Through the Center of the Earth
- Measure, Calculate, and compare

## PRACTICE

<i>Graphing Circle Data, p. 83</i>	Graph Circumference vs. Diameter
<i>How Much More Rubber? p. 84</i>	Compare Circumferences
<i>= or <math>\approx</math> or &lt; or &gt; or <math>\neq</math> ?</i>	Relationship Notation

## EXTENSION

<i>Investigating Another Pattern in Geometry, p. 86</i>	Relationships between # of angles and sum of measures
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## LESSON REVIEW

Test Practice page 88

## Algebraic Thinking

## Midpoint Assessment: using the Tools of Algebra

## MATERIALS

- EMPower Teacher pages 183 - 189

## OBJECTIVES

- Produce other representations of a linear pattern, given a graph, table, or equation
- Interpret linear graphs, tables, and equations, connecting them to the situations
- Interpret and use algebraic symbols

## KEY CONCEPT

- 

## VOCABULARY

Tier 2	◦
Tier 3	◦
Test Words	◦

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- 

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Assessment Tasks

## PRACTICE

*Review Previous Lesson Pages* | Review

## EXTENSION

None

## LESSON REVIEW

Test Practice page

## Algebraic Thinking

## Lesson 7: What is the Message?

## MATERIALS

- o EMPower pages 91 - 101

## OBJECTIVES

- o Translate equations in two variable into words and words into equations
- o Generate a corresponding table, graph, diagram, and contextual situation, given an equation in two variable

## VOCABULARY

Tier 2 | o

Tier 3 | o

Test Words | o

## INTERACTIVE STRATEGY

o

## WRITING TOPIC

- o "Math equations communicate information. What information do the two equations  $y = x + 5$  and  $y = 5x$  tell you?"

## WRITING PRACTICE

o

## BEFORE LESSON

## ACTIVITIES

- Pass the Message
- What is the Message?

## PRACTICE

<i>Geometry Formulations, p. 95</i>	Translating Equations into Words
<i>Evaluating Geometric Formulas, p. 96</i>	Substitution and Evaluation with Geometry Formulas

## EXTENSION

None

## LESSON REVIEW

Test Practice page 98

## Algebraic Thinking

## Lesson 8: Job Offers

## MATERIALS

- EMPower pages 101 - 112

## OBJECTIVES

- Compare patterns in tables, equations,, and graphs in order to make decisions
- Connect the features of a graph with the features of an equation, particularly the point of intersection, the y-intercept, the distance between the lines, and the rate at which change occurs

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Point of Intersection</li> <li>Y-Intercept</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

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## WRITING TOPIC

- "One of the job-offer line graphs started at the origin, and on started high on the y-axis. Why?"
- "Both line graphs intersected at one point. Why?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Job Offers

## PRACTICE

<i>The Race, p 104</i>	New Contexts
<i>Armand's Weeks, Not Pay, p. 105</i>	Multiplication vs. Division
<i>Solve One-Step Equations, p. 107</i>	Form $ax = b$ , $x + a = b$ , $x - a = b$ , $\frac{x}{a} = b$

## EXTENSION

<i>What If? p. 109</i>	Several Scenarios using Graphs
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## LESSON REVIEW

Test Practice page 110

CCA, page 89 question 5:

A local gym has a special promotion offering new members three free months if they sign a one-year contract. After the first three months, the gym membership will cost \$20 per month. A new gym has just opened and is offering one-month free membership and \$18 per month thereafter. Compare the cost of both gyms after one year of membership. Which is more expensive?



## Algebraic Thinking

## Lesson 9: Phone Plans

## MATERIALS

- EMPower pages 113 - 124

## OBJECTIVES

- Match graphs, tables, equations, and verbal rules by identifying the related features in each representation
- Connect the flatness of a horizontal line on a graph to a situation in which there is no change over time
- Use information from tables, graphs, rules, and equations to support consumer decisions

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Flat-Line Graph</li> <li>Line Steepness</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- "You examined tables, graphs, and equations for various phone plans today, and then you matched them. List the parts of the tables, graphs, and equations you used to match the phone plans."

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Phone Plans
- It Would Depend on the Person

## PRACTICE

<i>I am Changing the Rules!, p. 117</i>	Adjust One of the Plans Rules
<i>Greater Than, Less Than, p. 119</i>	Inequality Notation
<i>Solving Two-Step Equations, p. 120</i>	Form $ax \pm b = c$

## EXTENSION

<i>Looking at Four Graphs, p. 122</i>	Reasoning Based on Graphs
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## LESSON REVIEW

Test Practice page 123

## Algebraic Thinking

## Lesson 10: Signs of Change

## MATERIALS

- EMPower pages 125 - 134

## OBJECTIVES

- Locate indicators of a constant rate of change in graphs, tables, and equations of linear relationships
- Compare rates of change in a variety of linear representations

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Constant Rate of Change</li> <li>Linear Relationship</li> <li>Slope</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- "How can you tell which pattern has a faster rate of change when looking at two tables, two graphs, or two equations?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Seeing the Constant Rate of Change
- Ranking Rates of change

## PRACTICE

<i>Watching Money Grow in a Table, p 129</i>	Investigate Three Rates for Investments
<i>Who's Total Earnings Change the Fastest?, p. 130</i>	Examine and Compare Rates using Graphs
<i>Solving More Two-Step Equations, p. 132</i>	Form $ax \pm b = c$ , $\frac{x}{a} \pm b = c$

## EXTENSION

None

## LESSON REVIEW

Test Practice page 133

## Algebraic Thinking

## Lesson 11: Rising Gas Prices

## MATERIALS

- EMPower pages 135 - 146

## OBJECTIVES

- Produce and examine tables for linear and nonlinear patterns to answer the question: Are values changing at a constant rate?
- Produce and examine graphs for linear and nonlinear patterns to answer the question: Does this depict a constant rate of change?
- Predict for specific cases, using derived rules

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Exponent</li> <li>Exponential Relationship</li> <li>Nonlinear Rate of Change</li> <li>Nonlinear Pattern</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- "Linear and nonlinear patterns look different when you see them in a table or graph them. Explain why, using diagrams and words?"

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Patterns of Change
- Sky-High Gas Prices

## PRACTICE

<i>More Patterns of Change, p. 140</i>	Check for linearity and nonlinearity
<i>Investigation A - Expanding Squares, p. 141</i>	Compare Rates at which Perimeter and Area Grow
<i>Investigation B - What is Behind the Door?, p. 142</i>	Choose the Better Deal on Game Show
<i>Investigation C - What Size is That Copy?, p. 143</i>	Examine Effect of Enlarging and Reducing a Dollar Bill
<i>Squaring Numbers, p. 144</i>	
<i>Using Exponents, p. 145</i>	

## EXTENSION

None

## LESSON REVIEW

Test Practice page 146

## Algebraic Thinking

## Lesson 12: The Patio Project

*MATERIALS*

- EMPower pages 147 - 150
- Black Master 8, 9

*OBJECTIVES*

- Apply algebraic tools (diagrams, tables, graphs, rules, and equations) to solve a problem

*VOCABULARY*

Tier 2 | ◦

Tier 3 | ◦

Test Words | ◦

*INTERACTIVE STRATEGY*

◦

*WRITING TOPIC*

- "Think about how you and your partner solved the patio projects problem today. What worked well; what did not work well? Faced with a similar problem, what would you do the same and what would you do differently?"

*WRITING PRACTICE*

◦

## BEFORE LESSON

## ACTIVITIES

- The Patio Project

## PRACTICE

None

## EXTENSION

None

## LESSON REVIEW

Test Practice page None

Algebraic Thinking	Closing the Unit: Putting It All Together	
<div>MATERIALS</div> <div>◦</div> <div>OBJECTIVES</div> <div>◦</div> <div>VOCABULARY</div> <div><div>Tier 2</div><div>◦</div></div> <div><div>Tier 3</div><div>◦</div></div> <div><div>Test Words</div><div>◦</div></div> <div>INTERACTIVE STRATEGY</div> <div>◦</div> <div>WRITING TOPIC</div> <div>◦</div> <div>WRITING PRACTICE</div> <div>◦</div>	BEFORE LESSON	
	ACTIVITIES	
	I.	
	PRACTICE	
	EXTENSION	
	LESSON REVIEW	
	Test Practice page	

EMPOWER OPERATION SENSE

	<a href="#"><u>OPENING THE UNIT: OPERATION SENSE</u></a>
	<a href="#"><u>OPENING THE UNIT: OPERATION SENSE</u></a>
	<a href="#"><u>LESSON 1: EQUIVALENTS</u></a>
	<a href="#"><u>LESSON 1: EQUIVALENTS</u></a>
	<a href="#"><u>LESSON 2: ADDITION - COMBINING</u></a>
	<a href="#"><u>LESSON 2: ADDITION - COMBINING</u></a>
	<a href="#"><u>LESSON 3: SUBTRACTION - TAKE AWAY, COMPARISON, AND DIFFERENCE</u></a>
	<a href="#"><u>LESSON 3: SUBTRACTION - TAKE AWAY, COMPARISON, AND DIFFERENCE</u></a>
	<a href="#"><u>LESSON 4: MULTIPLICATION - REPEATED ADDITION AND PORTIONS OF AMOUNTS</u></a>
	<a href="#"><u>LESSON 5: DIVISION - SPLITTING AND SHARING</u></a>
	<a href="#"><u>LESSON 6: DIVISION - HOW MANY     IN     ?</u></a>
	<a href="#"><u>LESSON 7: MIXING IT UP</u></a>
	<a href="#"><u>CLOSING THE UNIT: PUTTING IT ALL TOGETHER</u></a>

**Operation Sense***MATERIALS*

- EMPower pages 1 - 6
- Initial Assessment

*OBJECTIVES*

- Identify fractions, decimals, and percents in print materials
- Demonstrate ability to solve problems involving benchmark numbers  $\frac{1}{2}$ ,  $\frac{1}{10}$
- Demonstrate current conceptual understanding of operations involving fractions or decimals

*VOCABULARY*

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>◦ Benchmark</li> <li>◦ Decimal</li> <li>◦ Fraction</li> <li>◦ Percent</li> </ul>
<i>Tier 3</i>	◦
<i>Test Words</i>	◦

*INTERACTIVE STRATEGY*

◦

*WRITING TOPIC*

- What problems did you know how to solve?  
What challenged you?

*WRITING PRACTICE*

◦

**Opening the Unit: Operation Sense***BEFORE LESSON**ACTIVITIES*

- Newspaper and Magazine Search
- Four Problems
- Initial Assessment

*PRACTICE*


*EXTENSION*

--	--

*LESSON REVIEW*

Test Practice page

## Operation Sense

## Lesson 1: Equivalents

## MATERIALS

- o EMPower pages 7 - 24
- o Blackline Master 1, 2

## OBJECTIVES

- o Reason about the equivalence of fractions, decimals, and percents
- o Compare and order fractions, decimal, and percents
- o Know that  $a/b$  can be interpreted either as a fraction (part/whole) or as a division problem ( $a/b$ )

## VOCABULARY

Tier 2	o Conversion
	o Denominator
	o Digit
	o Equivalent
	o Numerator
Tier 3	o
Test Words	o

## INTERACTIVE STRATEGY

o

## WRITING TOPIC

- o Explain the strategies you use to compare the values of any two fractions or decimals. Give some examples.

## WRITING PRACTICE

o

## BEFORE LESSON

## ACTIVITIES

- I. Watch Out!
- II. Those Zeros and Points
- III. Two Ways to See It
- IV. Target 1

## PRACTICE

<i>Percent Names, p. 16</i>	Changing fractions or decimals to percents
<i>When Can I Ignore Zero, p. 17</i>	Deciding when a zero can or cannot be ignored
<i>Fraction-Decimal-Percent Conversion, p. 20</i>	Calculator

## EXTENSION

<i>Just How Many Drugs... p. 21</i>	Reading graphs and using fractions and percents to describe information
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## LESSON REVIEW

Test Practice page 23



## Operation Sense

## MATERIALS

- o EMPower pages 25 - 42
- o Blackline Master 3, 4

## OBJECTIVES

- o Judge the reasonableness of answers to addition problems involving fractions, decimals, and percents
- o Connect addition of fractions, decimals, or percents to combining quantities
- o Connect a picture or situation with the math symbols
- o Pay attention to place value in addition of fractions and decimals

## VOCABULARY

	<ul style="list-style-type: none"> <li>o Equation</li> <li>o Hexagon</li> <li>o Parallelogram</li> <li>o Trapezoid</li> <li>o Triangle</li> </ul>
Tier 2	
Tier 3	o
Test Words	o

## INTERACTIVE STRATEGY

o

## WRITING TOPIC

- o How did pattern blocks or drawing help you to see fraction addition?
- o Describe your strategy for adding fractions.
- o Describe your strategy for adding decimals.

## WRITING PRACTICE

o

## Lesson 2: Addition - Combining

## BEFORE LESSON

## ACTIVITIES

- Watch Out!
- How Many More is that?
- Target 10
- Combining Pattern Blocks

## PRACTICE

<i>Where is the point, p. 36</i>	Decimal addition
<i>Right or Wrong? p. 37</i>	Whether or not addition strategies are correct
<i>Are We There Yet? p. 38</i>	Addition of fraction and decimals in context of time
<i>Adding Fraction and Decimals, p. 39</i>	Calculator

## EXTENSION

<i>Measurement Conversions, p. 40</i>	Measurement conversion
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## LESSON REVIEW

Test Practice page 41

## Operation Sense

## Lesson 3: Subtraction

## MATERIALS

- EMPower pages 43 - 60
- Blackline Master 3, 6

## OBJECTIVES

- Interpret a subtraction problem in three ways: as a take-away situation, as a distance between two numbers, and as an absolute comparison of two amounts
- Use a number line to demonstrate the distance between two numbers and absolute comparisons

## VOCABULARY

<i>Tier 2</i>	◦ Common Denominator ◦ Number Line
<i>Tier 3</i>	◦
<i>Test Words</i>	◦

## INTERACTIVE STRATEGY

◦

## WRITING TOPIC

- Write two things you learned about subtraction of fractions and two things you learned about subtractions of decimals.
- How are subtraction and addition related?

## WRITING PRACTICE

◦

## BEFORE LESSON

## ACTIVITIES

- Show me...
- Watch Out!
- Fractions and Decimals on the Line
- Target 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and 0

## PRACTICE

<i>Where is the Point? p. 53</i>	Reasoning about place value
<i>Where on the Line? p. 54</i>	Locating points
<i>Subtracting Fractions and Decimals, p.57</i>	Calculator

## EXTENSION

<i>How Much More? p. 58</i>	
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## LESSON REVIEW

Test Practice page 60

## Operation Sense

## MATERIALS

- EMPower pages 61 - 80

## OBJECTIVES

- Demonstrate understanding of multiplication using pictures and stories
- Connect whole number multiplication as repeated addition to fraction and decimal multiplication
- Distinguish among multiplication by 1, by numbers less than 1, and by numbers greater than 1

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Factor</li> <li>Multiple</li> <li>Product</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- Multiplication can sometimes be seen as repeated addition. Give an example, using fractions or decimals.
- Multiplication can sometimes be seen as finding a portion of an amount. Give an example, using fraction or decimals.

## WRITING PRACTICE

- 

## Lesson 4: Multiplication

## BEFORE LESSON

## ACTIVITIES

- Show Me...
- Headbands
- Paycheck Multiplication
- Target 1, 10, 100

## PRACTICE

<i>Seeing Patterns, p. 71</i>	Patterns when multiplying
<i>Compare... p. 73</i>	Fraction multiplication in story problems
<i>What Does It Mean? p. 75</i>	Decimal multiplication
<i>How Much More or Less? p. 76</i>	Fraction multiplication and finding how much more or less than a given number
<i>Decimals, Decimals, p. 77</i>	Calculator

## EXTENSION

<i>Guess My Number, p. 78</i>	Given the product to find factors
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## LESSON REVIEW

Test Practice page 79

## Operation Sense

## Lesson 5: Division

## MATERIALS

- EMPower pages 81 - 98

## OBJECTIVES

- Extend understanding of the model for integer division as an act of splitting or dealing out an amount, to include fraction and decimal amounts
- Match verbal language and symbolic notation for division as splitting to a concrete model
- Compare and contrast  $a/b$  with  $b/a$

## VOCABULARY

Tier 2 | ◦

Tier 3 | ◦

Test Words | ◦

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- Describe an example of what you understand division by sharing or splitting to mean.
- Explain why  $5 \div 2$  is the same as  $5 \times \frac{1}{2}$

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Weekly Expenses
- What is the Message?
- Target Practice 0.1

## PRACTICE

<i>Four Ways to Write Division, p. 88</i>	Writing division
<i>Which is Not the Same? p. 89</i>	Division notation
<i>Show Me... p. 91</i>	Connecting pictures or a situation to division
<i>Where's the Point? p. 92</i>	Estimating division
<i>Multiplication and Division Patterns, p. 93</i>	Seeing the connection between multiplication by $1/a$ and division by $a$
<i>Division Patterns, p. 94</i>	Computational patterns
<i>Fraction and Decimal Division, p. 96</i>	Calculator

## EXTENSION

<i>Mirror Frames, p. 97</i>	Multiplication and division perimeter
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## LESSON REVIEW

Test Practice page 98

## Operation Sense

## MATERIALS

- EMPower pages 99 - 114
- Blackline Master 4

## OBJECTIVES

- Extend understanding of the quotitive model of division to the domain of fractions and decimals
- Use mathematical symbols and diagrams to express and visualize the action of division
- Relate division to multiplication

## VOCABULARY

Tier 2	◦ Circle
	◦ Circumference
	◦ Diameter
	◦ Rectangle
Tier 3	◦
Test Words	◦

## INTERACTIVE STRATEGY

◦

## WRITING TOPIC

- Write about the difference between division as splitting or dealing or dealing out and division as how many --- in --- ?

## WRITING PRACTICE

◦

## Lesson 6: Division - How Many \_\_\_ in \_\_\_?

## BEFORE LESSON

## ACTIVITIES

- Show Me...
- Pattern Block Division
- Making Do
- Target 100

## PRACTICE

<i>On a diet, p. 109</i>	Challenging problems fractions
<i>Can You See It? p. 110</i>	Visualizing division
<i>Thin Metric, p. 111</i>	Metric conversion
<i>A Mixed Bag, p. 112</i>	Calculator

## EXTENSION

<i>Geometric Formulas, p. 113</i>	Geometric formulas
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## LESSON REVIEW

Test Practice page 114

## Operation Sense

## MATERIALS

- o EMPower pages 115 - 128

## OBJECTIVES

- o Compare the four operations with fractions, decimals, and percents
- o Relate the operations to one another

## VOCABULARY

Tier 2	o Area
	o Exponent
	o Perimeter
	o Volume
Tier 3	o
Test Words	o

## INTERACTIVE STRATEGY

- o

## WRITING TOPIC

- o What did you learn when you used a broken calculator?
- o How are multiplication and division related?

## WRITING PRACTICE

- o

## Lesson 7: Mixing it Up

## BEFORE LESSON

## ACTIVITIES

- I. Going Places with the Four Operations
- II. Broken Calculators
- III. Number of the Day, 0.1

## PRACTICE

<i>Room Measurements, p. 123</i>	Formulas: perimeter and area
<i>Running Track Measures, p. 125</i>	Formulas: circumference
<i>Squaring Fractions and Decimals, p. 127</i>	Fraction and decimal multiplication

## EXTENSION

## LESSON REVIEW

Test Practice page 128

Operation Sense	Closing the Unit: Putting It All Together																
<p><i>MATERIALS</i></p> <ul style="list-style-type: none"> <li>o EMPower pages 129 - 134</li> <li>o Blackline Master 8</li> <li>o Final Assessment 107 - 110</li> </ul> <p><i>OBJECTIVES</i></p> <ul style="list-style-type: none"> <li>o Review the unit</li> <li>o Complete an assessment</li> </ul> <p><i>VOCABULARY</i></p> <table> <tr> <td><i>Tier 2</i></td><td>o</td></tr> <tr> <td><i>Tier 3</i></td><td>o</td></tr> <tr> <td><i>Test Words</i></td><td>o</td></tr> </table> <p><i>INTERACTIVE STRATEGY</i></p> <ul style="list-style-type: none"> <li>o</li> </ul> <p><i>WRITING TOPIC</i></p> <ul style="list-style-type: none"> <li>o What are the most important ideas and skills you have learned in the unit?</li> <li>o What are you best at?</li> <li>o Where would you like to improve?</li> </ul> <p><i>WRITING PRACTICE</i></p> <ul style="list-style-type: none"> <li>o</li> </ul>	<i>Tier 2</i>	o	<i>Tier 3</i>	o	<i>Test Words</i>	o	<p>BEFORE LESSON</p> <hr/> <p>ACTIVITIES</p> <hr/> <ul style="list-style-type: none"> <li>I. Mind Map</li> <li>II. The Cereal Box Math Project</li> </ul> <p>PRACTICE</p> <hr/> <table> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table> <p>EXTENSION</p> <hr/> <table> <tr><td></td><td></td></tr> </table> <p>LESSON REVIEW</p> <hr/> <p>Test Practice page</p>										
<i>Tier 2</i>	o																
<i>Tier 3</i>	o																
<i>Test Words</i>	o																

EMPOWER DATA AND GRAPHS

	<a href="#"><u>OPENING THE UNIT: MANY POINTS MAKE A POINT</u></a>
	<a href="#"><u>LESSON 1: COUNTRIES IN OUR CLOSETS</u></a>
	<a href="#"><u>LESSON 1: COUNTRIES IN OUR CLOSETS</u></a>   <a href="#"><u>LESSON 2: MOST OF US EAT</u></a>
	<a href="#"><u>LESSON 2: MOST OF US EAT</u></a>
	<a href="#"><u>LESSON 3: DISPLAYING DATA IN A NEW WAY</u></a>
	<a href="#"><u>LESSON 4: A CLOSER LOOK AT CIRCLE GRAPHS</u></a>
	MIDPOINT ASSESSMENT
	<a href="#"><u>LESSON 5: SKETCH THIS</u></a>
	<a href="#"><u>LESSON 6: ROLLER-COASTER RIDES</u></a>
	<a href="#"><u>LESSON 7: A MEAN IDEA</u></a>
	<a href="#"><u>LESSON 8: MYSTERY CITIES</u></a>
	<a href="#"><u>LESSON 9: MEDIAN</u></a>
	<a href="#"><u>LESSON 10: STOCK PRICES</u></a>
	<a href="#"><u>CLOSING THE UNIT: STOCK PICKS</u></a>



Data and Graphs	Opening the Unit: Many Points Make a Point	
<div>MATERIALS</div> <div>◦ EMPower pages</div> <div>OBJECTIVES</div> <div>◦</div> <div>VOCABULARY</div> <div><div>Tier 2</div><div>◦</div></div> <div><div>Tier 3</div><div>◦</div></div> <div><div>Test Words</div><div>◦</div></div> <div>INTERACTIVE STRATEGY</div> <div>◦</div> <div>WRITING TOPIC</div> <div>◦</div> <div>WRITING PRACTICE</div> <div>◦</div>	BEFORE LESSON	
	ACTIVITIES	
	PRACTICE	
	EXTENSION	
	LESSON REVIEW	
Test Practice page		

## Data and Graphs

## MATERIALS

- o EMPower pages 7 -18

## OBJECTIVES

- o Use a frequency graph to organize data
- o Identify the story that the data tell
- o Compare data from various samples
- o Change the categories and articulate the change in the story

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>o Data</li> <li>o Frequency graph</li> <li>o Mode</li> <li>o Category</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li>o</li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li>o</li> </ul>

## INTERACTIVE STRATEGY

- o

## WRITING TOPIC

- o What does a person need to pay attention to when organizing data?
- o A student once said, "When we change the categories, we keep losing information." Five an example of that she meant.
- o What are the three components of a frequency graph?

## WRITING PRACTICE

- o

## Lesson 1: Countries in Our Closets

## BEFORE LESSON

## ACTIVITIES

- Organizing the Data
- Statements about Data
- Changing the Categories

## PRACTICE

<i>Clothes by Continent</i>	Practice sorting data
<i>Reporting Data 1 and 2</i>	Practice seeing what effect collapsing data has on the story
<i>Categorically Speaking</i>	Practice analyzing how things in our life are organized

## EXTENSION

<i>Taking Inventory</i>	Practice collecting new data, then sorting, categorizing, and reorganizing
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## LESSON REVIEW

Test Practice page 17

## Data and Graphs

## Lesson 2: Most of Us Eat

## MATERIALS

- o EMPower pages 19 - 34

## OBJECTIVES

- o Organize data into consistent categories
- o Organize data into categories to suit a purpose
- o Make numerical statements about data

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>o Sample</li> <li>o Audience</li> <li>o Benchmark</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li>o</li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li>o</li> </ul>

## INTERACTIVE STRATEGY

- o

## WRITING TOPIC

- o What does a person need to pay attention to when organizing data?
- o Which skills do you want to improve (for example, organizing, categorizing, or making statements about data)?

## WRITING PRACTICE

- o

## BEFORE LESSON

## ACTIVITIES

- I. Frequently eaten foods
- II. Consistent Categories
- III. Describing the Data
- IV. Who to Ask?

## PRACTICE

<i>Take a sample</i>	Practice choosing a representative sample
<i>Thirsty and Ouch!</i>	Practice organizing information and making statements

## EXTENSION

<i>Friends and Family Drink Too</i>	
<i>Data Collection</i>	<b>Students begin recording data for later projects</b>

## LESSON REVIEW

Test Practice page 32

## Data and Graphs

## MATERIALS

- EMPower pages 35 - 46

## OBJECTIVES

- Create bar graphs
- Determine vertical axis intervals for bar graphs
- Construct a circle graph from a bar graph
- Compare and construct bar graph and circle graph formats

## VOCABULARY

Tier 2	◦ Bar Graph
	◦ Circle Graph
	◦ Vertical Axis
	◦ Horizontal Axis
	◦ Y-Axis
Tier 3	◦ X-Axis
	◦
Test Words	◦

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- List what you know about bar graphs and circle graphs.
- What do you still wonder about?

## WRITING PRACTICE

- 

## Lesson 3: Displaying Data in New Ways

## BEFORE LESSON

## ACTIVITIES

- Constructing a bar graph
- Constructing a circle graph

## PRACTICE

<i>Label that y-axis</i>	Practice determining the y-axis
<i>Bar-graph details</i>	Practice labeling the y-axis using appropriate scales
<i>Bar graph to Circle Graph</i>	Practice creating circle graphs from bar graphs

## EXTENSION

<i>Foods You Eat in a week</i>	Walk students through the steps to report data
<i>Net Gains and Losses</i>	Practice exploring negative values

## LESSON REVIEW

Test Practice page 45

## Data and Graphs

## MATERIALS

- o EMPower pages 47 - 62

## OBJECTIVES

- o Construct circle graphs to show how parts of the data set relate to the total
- o Apply an understanding of benchmark percents to estimate the size of "slices of pie"
- o Interpret circle graphs

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>o Benchmark Percents</li> <li>o Benchmark Fractions</li> <li>o 100%</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li>o</li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li>o</li> </ul>

## INTERACTIVE STRATEGY

- o

## WRITING TOPIC

- o What do you know now about circle graphs that you did not know before?
- o What are important questions to ask when looking at circle graphs?

## WRITING PRACTICE

- o

## Lesson 4: A Closer Look at Circle Graphs

## BEFORE LESSON

## ACTIVITIES

- I. How Many of Each?
- II. Cheat Sheet
- III. Three Possible Answers

## PRACTICE

<i>Estimating Percents and Parts of the Whole</i>	
<i>Serve Up the Pie</i>	Practice creating circle graphs
<i>Making Predictions</i>	

## EXTENSION

<i>The Computer Make the Graph</i>	Using Excel
<i>Search for Circle Graphs</i>	Find and Interpret circle graphs

## LESSON REVIEW

Test Practice page 61

## Data and Graphs

## Lesson 5: Sketch This

## MATERIALS

- EMPower pages 63 - 74

## OBJECTIVES

- Sketch a line graph based on a narrative
- Demonstrate an Understanding of how the shape of a line provides information about what is happening over time
- Improve precision in describing change over time by adding words to students' working vocabulary

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Line Graph</li> <li>Increase</li> <li>Decrease</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- What do you want to remember about how line graphs tell a story?

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Sketch This
- Label This

## PRACTICE

<i>Candy Bars</i>	Practice arranging graphs
<i>How Does It Go?</i>	Practice sketching graphs
<i>Looking at the Entire Graph</i>	Practice telling a story
<i>Labeling Graphs</i>	
<i>Telling a Story</i>	Practice inventing a story

## EXTENSION

<i>The Shape of a Line from Your Life</i>	
<i>Elevator Traffic</i>	

## LESSON REVIEW

Test Practice page 72

## Data and Graphs

## MATERIALS

- EMPower pages 75 - 88

## OBJECTIVES

- Use new terms to describe graphs that show change over time
- Isolate and describe pivotal points in a graph of change over time
- Refine ability to sketch line graphs based on oral information
- Distinguish between true and false statements about a line graph

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>Change Over Time</li> <li>Trends</li> <li>Scale</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li></li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- Make a list titled, "What I practiced today."
- When are some time you might see and use information from a line graph? Who do you know who could talk to you about line graphs?

## WRITING PRACTICE

- 

## Lesson 6: Roller-Coaster Rides

## BEFORE LESSON

## ACTIVITIES

- Amusement Park Attendance
- Stations

## PRACTICE

<i>National Park Visitors</i>	Practice reading and analyzing graphs
<i>Salary History</i>	Practice graphing a line and answering questions
<i>More Practice with Intervals</i>	Practice changing scale

## EXTENSION

<i>Dropping Below Zero</i>	
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## LESSON REVIEW

Test Practice page 87

## Data and Graphs

## MATERIALS

- o EMPower pages 89 - 98

## OBJECTIVES

- o Use at least two strategies to determine the mean
- o Define the word “average” as mean

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>o Average</li> <li>o Mean</li> <li>o Outlier</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li>o</li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li>o</li> </ul>

## INTERACTIVE STRATEGY

- o

## WRITING TOPIC

- o List some ways to find the mean.
- o What words will help you remember the idea of mean?
- o When would you use a mean?

## WRITING PRACTICE

- o

## Lesson 7: A Mean Idea

## BEFORE LESSON

## ACTIVITIES

- The TV is On
- A Mean Score

## PRACTICE

<i>Mental Mean</i>	Practice finding the mean without pen and paper
<i>Among Friends</i>	Practice finding the mean and using it for comparisons
<i>Data Collection</i>	<b>Preparation for Lesson 8</b>

## EXTENSION

<i>The Nurse's Mean</i>	Practice using mean to communicate a point
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## LESSON REVIEW

Test Practice page 97



## Data and Graphs

## MATERIALS

- EMPower pages 99 - 110

## OBJECTIVES

- Read and interpret two sets of data on one graph
- Match text describing trends over time with graphs of the same phenomena
- Compare data across graphs of different scales

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>◦ Climate Graph</li> <li>◦ Precipitation</li> </ul>
<i>Tier 3</i>	<ul style="list-style-type: none"> <li>◦</li> </ul>
<i>Test Words</i>	<ul style="list-style-type: none"> <li>◦</li> </ul>

## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- What do you want to remember about graphs that show two learned in math class that helped you read climate graphs?

## WRITING PRACTICE

- 

## Lesson 8: Mystery Cities

## BEFORE LESSON

## ACTIVITIES

- I. Reading Climate Graphs
- II. Mystery Cities

## PRACTICE

<i>Incomplete Climate Graphs</i>	Practice completing graphs

## EXTENSION

<i>Quality of Life 1 and Quality of Life 2</i>	Practice creating a graph with two kinds of information
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## LESSON REVIEW

Test Practice page 109

## Data and Graphs

## Lesson 9: Median

## MATERIALS

- EMPower pages 111 - 120

## OBJECTIVES

- Find the median for a data set with an odd number of data points
- Find the median for a data set with an even number of data points
- Present a possible data set given the median

## VOCABULARY

Tier 2	o Median
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Tier 3	o
--------	---

Test Words	o
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## INTERACTIVE STRATEGY

- 

## WRITING TOPIC

- What are three main points to remember about the median?
- How is the median different from the mean?
- How is the median different from the mode?

## WRITING PRACTICE

- 

## BEFORE LESSON

## ACTIVITIES

- Line Up
- At the Party

## PRACTICE

Finding the Median	

## EXTENSION

The Average Wage	Practice contrasting the mean and median wages

## LESSON REVIEW

Test Practice page 118

## Data and Graphs

## MATERIALS

- o EMPower pages 121 - 132

## OBJECTIVES

- o Use tables and graphs to understand complex information
- o Apply an understanding of scale to compare information about different companies
- o Use information from graphs to create tables

## VOCABULARY

<i>Tier 2</i>	<ul style="list-style-type: none"> <li>o Stocks</li> <li>o Shares</li> <li>o Stock Market</li> <li>o Approximate</li> <li>o Table</li> </ul>
<i>Tier 3</i>	o
<i>Test Words</i>	o

## INTERACTIVE STRATEGY

o

## WRITING TOPIC

- o What new information did you learn about the stock market?
- o What are you curious about?

## WRITING PRACTICE

o

## Lesson 10: Stock Prices

## BEFORE LESSON

## ACTIVITIES

- Three Companies
- Altering Scale

## PRACTICE

<i>More Stocks</i>	From graphs to table
<i>From Graphs to Stories</i>	Stock prices

## EXTENSION

<i>What Is New with the Stock Market?</i>	Practice doing research
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## LESSON REVIEW

Test Practice page 131

## Data and Graphs

*MATERIALS*

- EMPower pages 133 - 140

*OBJECTIVES*

- Evaluate information and make recommendations
- Make an oral presentation demonstrating an understanding of change over time and the usefulness of tables and graphs, text, and scale to analyze data
- Read and solve problems involving data and graphs

*VOCABULARY*

<i>Tier 2</i>	◦
<i>Tier 3</i>	◦
<i>Test Words</i>	◦

*INTERACTIVE STRATEGY*

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*WRITING TOPIC*

- 

*WRITING PRACTICE*

- 

## Closing the Unit: Stock Picks

## BEFORE LESSON

## ACTIVITIES

- Stock Picks
- Review Session
- Final Assessment

## PRACTICE

## EXTENSION

## LESSON REVIEW

Test Practice page

MATERIALS ○	BEFORE LESSON	
OBJECTIVES ○	ACTIVITIES	
VOCABULARY	PRACTICE	
Tier 2   ○		
Tier 3   ○		
Test Words   ○		
INTERACTIVE STRATEGY ○	EXTENSION	
WRITING TOPIC ○		
WRITING PRACTICE ○	LESSON REVIEW	
	Test Practice page	