

Math 3

Answer Key



Lesson 64—Perimeter

Daily Dose

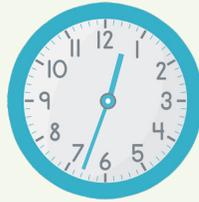
Time to the Minute: Write the time shown on the clocks.



8:47



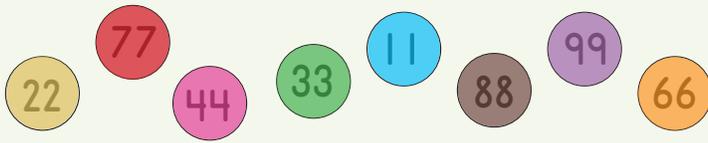
1:12



12:33

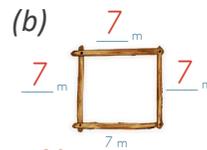
Color the Answer: Solve each multiplication problem and find the answer in the circles below. Color the corresponding circle with the same color as the multiplication problem.

7	6	2	3	1	9	4	8
$\times 11$							
<u>77</u>	<u>66</u>	<u>22</u>	<u>33</u>	<u>11</u>	<u>99</u>	<u>44</u>	<u>88</u>



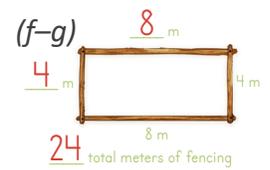
Lesson Answers:

(a) a square



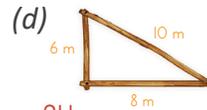
28 total meters of fencing

(e) a rectangle



24 total meters of fencing

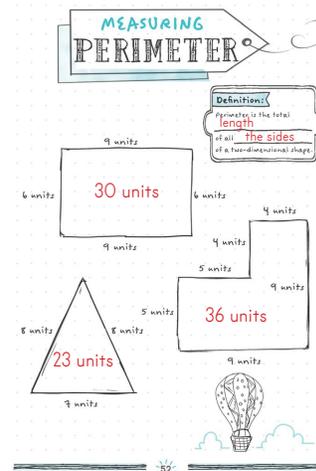
(c) a triangle



24 total meters of fencing

(h) square = 12 cm;
triangle = 18 in;
rectangle = 30 ft

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Lesson 64—Student Worksheet

In the DOGHOUSE

This dog is trying to find a new home, and there are many choices. He likes to walk around his house, so he is looking for the home with the largest perimeter. He has narrowed his choices down to the seven white shapes shown below. Each white shape shows a doghouse as seen from above. Calculate the perimeter of each white shape. Use scratch paper if needed. Circle the shape with the largest perimeter.

Shape 1: Square with side 16 in. Perimeter: 64 in.
 Shape 2: Triangle with sides 16 in, 18 in, 24 in. Perimeter: 58 in.
 Shape 3: Triangle with sides 16 in, 16 in, 22 in. Perimeter: 54 in.
 Shape 4: Rectangle with sides 16 in, 28 in. Perimeter: 88 in.
 Shape 5: Rectangle with sides 20 in, 13 in. Perimeter: 66 in.
 Shape 6: Square with side 10 in. Perimeter: 40 in.
 Shape 7: Triangle with sides 18 in, 25 in, 31 in. Perimeter: 74 in.

Lesson 65—Perimeter Continued

Daily Dose

Find the Differences:

$$\begin{array}{r} 81321001 \\ 943,112 \\ - 398,743 \\ \hline 544,369 \end{array}$$

$$\begin{array}{r} 5161 \\ 76,074 \\ - 22,569 \\ \hline 53,505 \end{array}$$

Multiplication Bingo (Multiply by 11):

Roll the ten-sided dice and place the dice in the empty square below. Then solve the problem and color in the product. Continue until you have four colored boxes in a row (across, down, or diagonally).

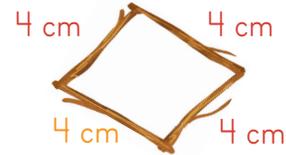
$$11 \times \square = \square$$

66	77	22	33
11	88	110	55
44	11	55	77
88	33	66	99

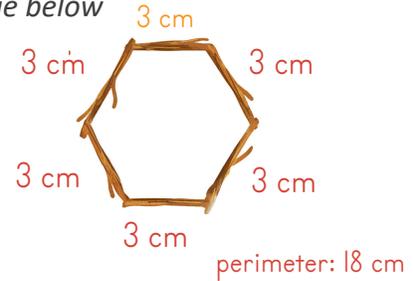
Answers may vary.

Lesson Answers:

(a) 25 (b) The total length of all the sides of a two-dimensional shape (c) rhombus (d) see image below



(e) 16 cm (f) trapezoid (g) no (h) 25 (i) parallelogram (j) opposite sides are parallel and the same length (k) 9 cm across the top; 2 cm on the side; 22 (l) quadrilaterals (m) hexagon (n) see image below



(o) Yes (p) Because it has 3 or more straight sides (q) 34 cm

Lesson 65—Student Worksheet

Perimeter of Polygons

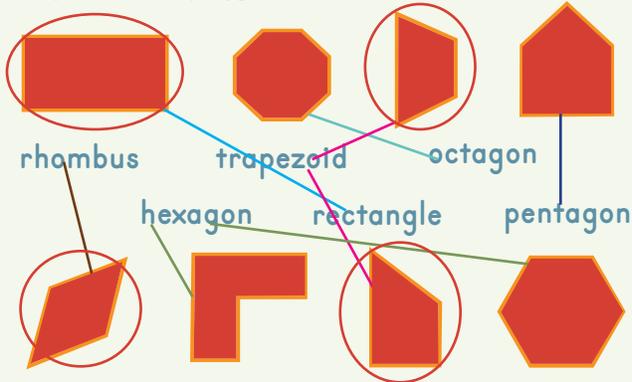
Find the perimeter of each polygon. Write your answer in the space on the chart next to the correct shape name. Remember to label your answers with the units.

Polygon	Perimeter
Pentagon	20 cm
Rectangle	20 cm
Octagon	8 cm
Heptagon	14 cm
Irregular Hexagon	24 cm
Irregular Quadrilateral	18 cm

Lesson 66—Perimeter Puzzle

Daily Dose

Shape Review: Draw a line matching each shape to its correct category. A category can be used more than once or not at all. Circle all the shapes that are quadrilaterals. Color in all the shapes that are polygons.



Multiply:

$$10 \times 11 = 110$$

$$2 \times 11 = 22$$

$$6 \times 11 = 66$$

$$9 \times 11 = 99$$

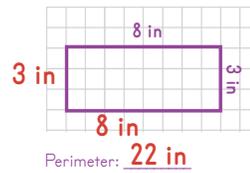
$$3 \times 11 = 33$$

$$5 \times 11 = 55$$

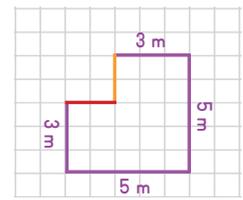
Lesson Answers:

(a) perimeter (b) 22 cm

(c)



(d)



missing measurement: 2 m

missing measurement: 2 m

(e) yes

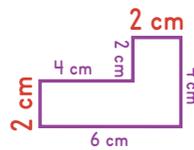
(f) 2 m

(g) yes

(h) 2 m

(i) 20 m

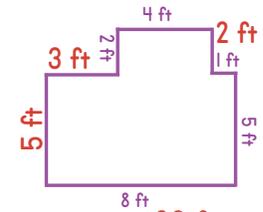
(j)



Perimeter: 20 cm

missing measurement: 2 cm

missing measurement: 2 cm



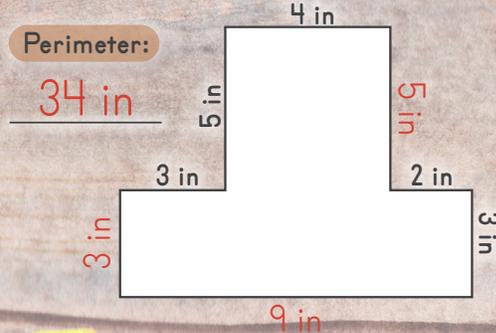
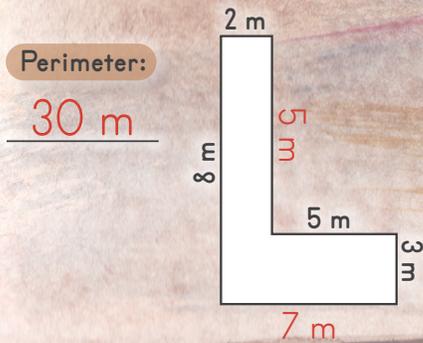
Perimeter: 30 ft

missing measurement: 3 ft

missing measurement: 2 ft

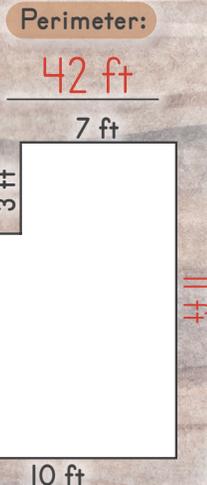
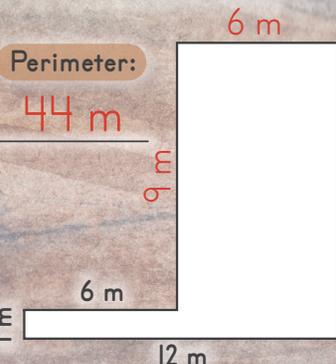
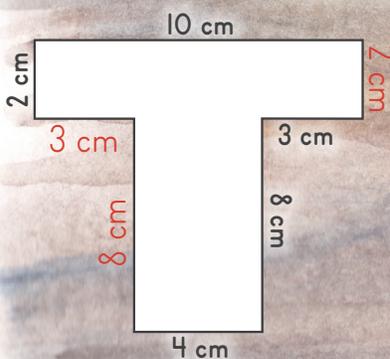
missing measurement: 5 ft

Lesson 66—Student Worksheet



Perimeter Puzzle #1

Find the perimeter of each shape. Label each answer with the correct unit.



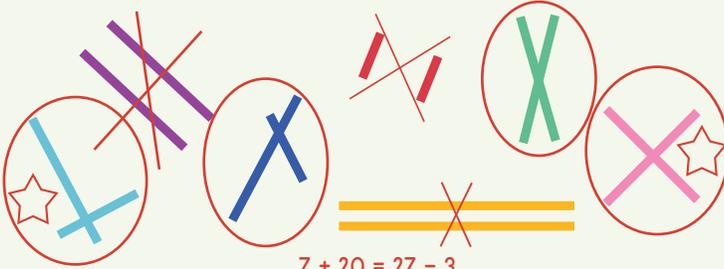
Lesson 67—Multiplication Strategies

Daily Dose

Measurement: Convert each volume measurement.

$$6 \text{ pt} = \boxed{3} \text{ qt} \quad | \quad 6 \text{ gal} = \boxed{24} \text{ qt}$$

Line Review: Circle the intersecting lines. Cross out the parallel lines. Draw a star next to lines that are perpendicular.



Solve Using the Order of Operations:

To review, see Lesson 55.

$$7 + 4 \times 5 - 3 = 24$$

$$(9 \times 3) + (6 \times 8) = 75$$

$$5 - 3 + 6 \times 2 = 14$$

Lesson Answers:

(a) 0, 0, 0 (b) 7 (c) 11 (d) 12 (e) 18 (f) 30 (g) 40 (h) 70 (i) 99 (j) 66

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Always Zero

$$4 \times 0 = 0$$

Always That Number

$$8 \times 1 = 8$$

Bonus Activity Answers:

$$5 \times 5 = 25 \quad \square = 5$$

$$5 \times 6 = 30 \quad \triangle = 6$$

$$6 \times 11 = 66 \quad \text{pentagon} = 11$$

$$11 \times 3 = 33 \quad \text{heart} = 3$$

$$(3 \times 6) + (5 \times 3) = 33$$

Lesson 68—More Multiplication Strategies

Daily Dose

Find the Sums:

$$\begin{array}{r} 763,945 \\ + 227,812 \\ \hline 991,757 \end{array}$$

$$\begin{array}{r} 144,956 \\ + 396,855 \\ \hline 541,811 \end{array}$$

Line Review: Draw the lines indicated below. (See Level 3 Transition Lesson C for review.)



Vertical



Perpendicular



Parallel



Horizontal

Solve Using the Order of Operations:

To review, see Lesson 55.

$$5 \times (2 + 6) = 40$$

$$4 \times 4 - 9 + 5 = 12$$

$$(8 + 2) \times (4 + 5) = 90$$

Lesson Answers:

(a) $9 + 9 = 18$ $18 + 9 = 27$
 $3 \times 9 = 27$

(b) 3×4 ; $4 + 4 = 8$; $8 + 4 = 12$ (c) 4×6 ; $6 + 6 = 12$; $12 + 12 = 24$

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Double

$$3 \times 2 = 6$$

$$3 + 3 = 6$$

$$6 \times 1 = 6 \quad 8 \times 1 = 8$$

$$6 \times 2 = 12 \quad 8 \times 2 = 16$$

$$6 \times 3 = 18 \quad 8 \times 3 = 24$$

$$6 \times 4 = 24 \quad 8 \times 4 = 32$$

$$6 \times 5 = 30 \quad 8 \times 5 = 40$$

$$6 \times 6 = 36 \quad 8 \times 6 = 48$$

$$6 \times 7 = 42 \quad 8 \times 7 = 56$$

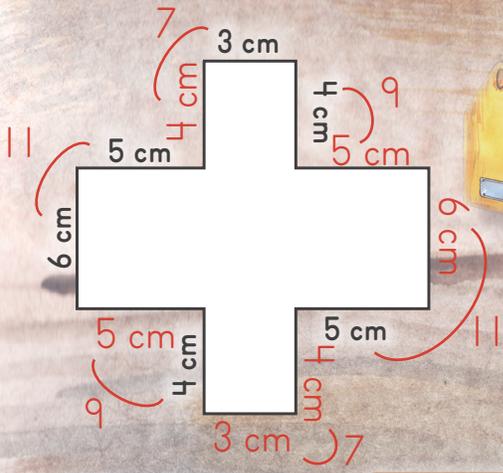
$$6 \times 8 = 48 \quad 8 \times 8 = 64$$

$$6 \times 9 = 54 \quad 8 \times 9 = 72$$

$$6 \times 10 = 60 \quad 8 \times 10 = 80$$

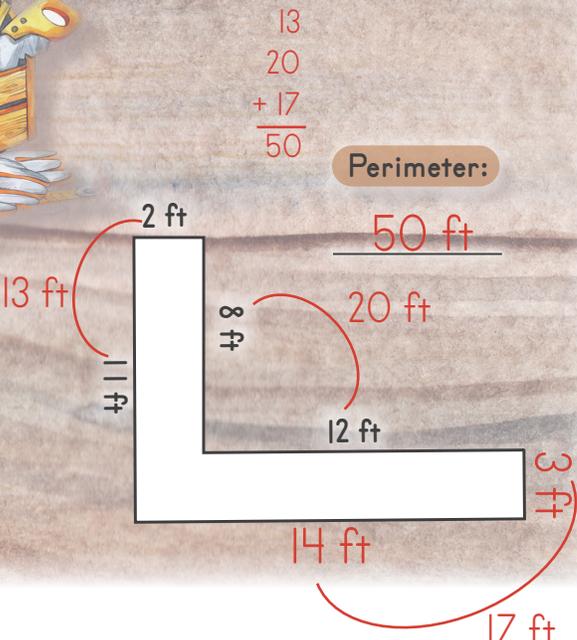
Perimeter Puzzle #2





Perimeter:
54 cm

$$\begin{array}{r} 11 \\ + 7 \\ \hline 18 \end{array} \quad \begin{array}{r} 9 \\ + 11 \\ \hline 20 \end{array} \quad \begin{array}{r} 7 \\ + 9 \\ \hline 16 \end{array} = 54$$



Perimeter:
50 ft

$$\begin{array}{r} 13 \\ 20 \\ + 17 \\ \hline 50 \end{array}$$

Lesson 68—Student Worksheet

Stars in the Sky

Multiply the following numbers. Use the strategies learned as needed.

$7 \times 3 = 21$

$6 \times 8 = 48$

$8 \times 4 = 32$

$7 \times 7 = 49$

$9 \times 4 = 36$

$3 \times 5 = 15$

$5 \times 9 = 45$

$5 \times 6 = 30$

$8 \times 3 = 24$

$6 \times 4 = 24$

$7 \times 8 = 56$

$6 \times 7 = 42$

$9 \times 3 = 27$

$3 \times 6 = 18$

$9 \times 6 = 54$

$5 \times 8 = 40$

$4 \times 7 = 28$

$7 \times 9 = 63$

"When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained; . . . O Lord our Lord, how excellent is thy name in all the earth!" —Psalm 8:3, 9

Lesson 69—Introduction to Area

Daily Dose

Measurement: Convert each volume measurement.

$$8\text{ L} = 8,000\text{ mL} \quad 10\text{ L} = 10,000\text{ mL}$$

$$12\text{ L} = 12,000\text{ mL} \quad 17\text{ L} = 17,000\text{ mL}$$

Mental Math: Choose any mental math strategy to add the numbers below.

Example strategy shown

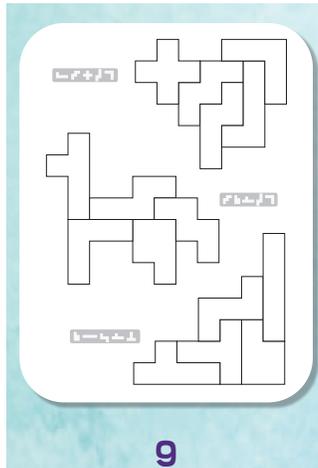
$$\begin{array}{r} 38 \\ + 67 \\ \hline 105 \end{array} \quad \begin{array}{r} 40 \\ + 65 \\ \hline 105 \end{array}$$

$$\begin{array}{r} 46 \\ + 48 \\ \hline 94 \end{array} \quad \begin{array}{r} 44 \\ + 50 \\ \hline 94 \end{array}$$

Missing Factor: Fill in the missing factors.

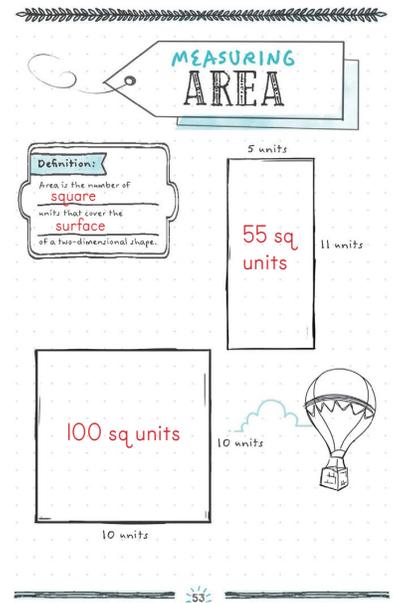
$\frac{\square}{77}$	$\frac{\square}{11}$	$\frac{\square}{66}$	$\frac{\square}{44}$	$\frac{\square}{33}$	$\frac{\square}{99}$
$\times 7$	$\times 1$	$\times 6$	$\times 4$	$\times 3$	$\times 9$

Bonus Activity Answers:



My Math Journal Answers:

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Lesson Answers:

(a) 20 units (b) The distance around the shape (c) The new one is larger (d) 8 squares larger (e) The same (f) Yes, two different shapes can have the same area inside because they cover the same number of square units

Lesson 69—Student Worksheet

Area with Animal Exhibits

Two of the exhibits have the same area. Underline the two exhibits that you think have the same area. Then find the area of each exhibit and write it in the space provided. Lastly, circle the two exhibits that have the same area. Was your guess correct?

<p>Bears</p> <p>15 square units</p>	<p>Birds</p> <p>6 square units</p>	<p>Giraffes</p> <p>18 square units</p>
<p>Tigers</p> <p>16 square units</p>	<p>Monkeys</p> <p>6 square units</p>	<p>Zebras</p> <p>9 square units</p>
<p>Elephants</p> <p>24 square units</p>	<p>Lions</p> <p>12 square units</p>	

Lesson 70—Area and Measurement

Daily Dose

Elapsed Time: Using the elapsed time and end time, find and draw the start time on the first clock.



Time = 3:18

25 min.
Elapsed Time



Start Time

End Time

Target Practice:

Each outer section is obtained by multiplying the number in the inner circle with the number in the adjacent section of the white circle. Fill in the blank spaces with the correct answers.



Lesson Answers:

- (a) 15 sq units (b) 15 sq units (c) inches, feet, yards (d) millimeters, centimeters, meters (e) an area of space that forms a perfect square (f) 4 sq units (g) inches (h) 18 sq units (i) centimeters (j) 18 sq cm (k) 24 sq cm (l) cm (m) button: 4 sq cm; eraser: 24 sq cm (n) in (o) calculator: 24 sq in; dollar: 21 sq in

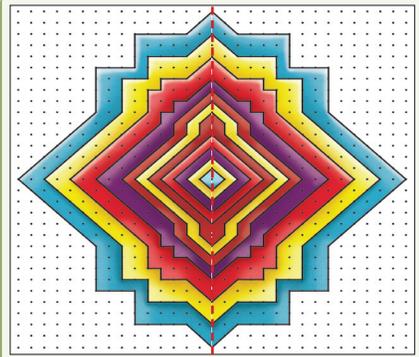
Bonus Activity Answers:

Independent Activities

Student Worksheet: Design Disarray

Bonus Activity: Dot Board Symmetry #4

How? Using the dots as your guide (and a ruler if desired), complete the other side of the image. Make sure the image shows symmetry. The red dashed line represents the line of symmetry.



Lesson 70—Student Worksheet

Look at the layout of this house. Find the area of each indicated item and write the answer in each box provided. The measurements are either in inches or centimeters. Determine which unit is best used for each item and include it with your answer.

Design Disarray

Stove	Bed #1	Bookcase	Shower	Bed #2
1 sq cm	8 sq cm	5 sq cm	4 sq cm	2 sq in
Dresser	Dining Table	Rug	Bathtub	Car
3 sq cm	1 sq in	4 sq in	2 sq cm	21 sq cm

Lesson 71—Area and Multiplication

Daily Dose

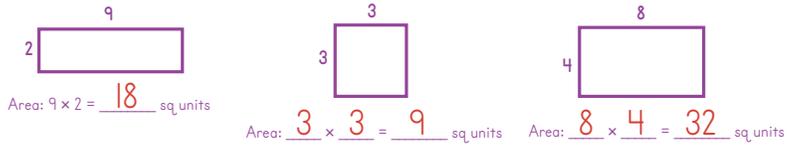
Rounding: Round to the nearest dollar.

\$56.72 **\$57** \$90.50 **\$91**

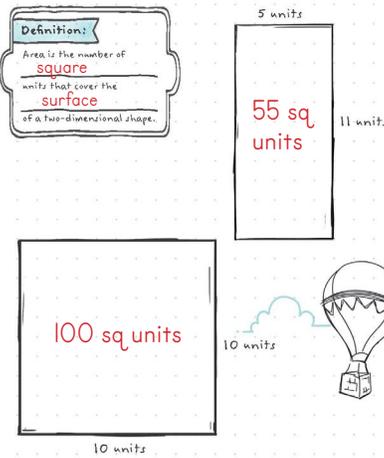
\$148.22 **\$148** \$798.47 **\$798**

Multiplication Mix-Up: Fill in the multiplication chart with the products for each multiplication problem.

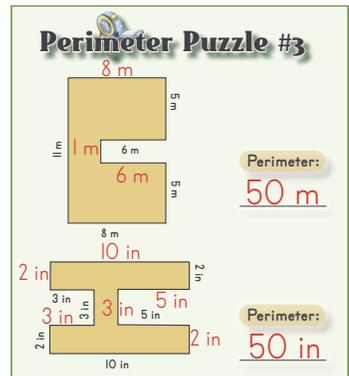
×	11	9	7	6
2	22	18	14	12
3	33	27	21	18
7	77	63	49	42
10	110	90	70	60



My Math Journal Answers: Page 53



Bonus Activity Answers:



Lesson Answers:

(a) 8 (b) 11 (c) multiplication (d) 4 (e) 7 (f) 4×7
 (g) $4 \times 7 = 28$ sq units (h) $6 \times 3 = 18$ sq units; $5 \times 5 = 25$ sq units
 (i) Area is just an array. We can multiply the number of rows by the number of squares in each row. (j) see images on the top right of the page

Lesson 71—Student Worksheet



Perimeter & Area

Calculate the area (area = length \times width) and perimeter of each shape. Remember to label each answer. Make sure to label your answers as square feet, inches, meters, or centimeters for the areas.

Shape 1: 8 m by 2 m. Perimeter: 20 m. Area: 16 sq m.
Shape 2: 7 in by 7 in. Perimeter: 28 in. Area: 49 sq in.
Shape 3: 10 cm by 8 cm. Perimeter: 36 cm. Area: 80 sq cm.
Shape 4: 11 cm by 6 cm. Perimeter: 34 cm. Area: 66 sq cm.
Shape 5: 3 in by 3 in. Perimeter: 12 in. Area: 9 sq in.
Shape 6: 9 m by 2 m. Perimeter: 22 m. Area: 18 sq m.
Shape 7: 5 ft by 5 ft. Perimeter: 20 ft. Area: 25 sq ft.

Lesson 72—Multiplication by 100, 1,000 and 10,000

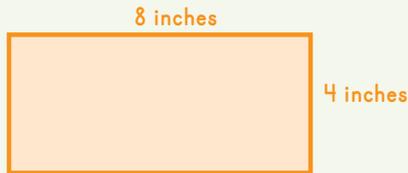
Daily Dose

Find the Perimeters:



Perimeter:

20 in



Perimeter:

24 in

Multiply:

$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$	$\begin{array}{r} 4 \\ \times 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$	$\begin{array}{r} 8 \\ \times 3 \\ \hline 24 \end{array}$	$\begin{array}{r} 11 \\ \times 5 \\ \hline 55 \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$
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Lesson Answers:

- (a) 300 (b) 300 (c) 3,000 (d) 3,000
 (e) 30,000 (f) 30,000
 (g) 500
 5,000
 50,000
 (h) 1,200
 12,000
 120,000

Lesson 72—Student Worksheet

Gumballs Galore

Use the Zero strategy learned in the lesson to multiply by 100, 1,000 and 10,000.

$6 \times 100 = 600$
 $6 \times 1,000 = 6,000$
 $6 \times 10,000 = 60,000$

$2 \times 100 = 200$
 $2 \times 1,000 = 2,000$
 $2 \times 10,000 = 20,000$

$4 \times 100 = 400$
 $4 \times 1,000 = 4,000$
 $4 \times 10,000 = 40,000$



$15 \times 100 = 1,500$
 $15 \times 1,000 = 15,000$
 $15 \times 10,000 = 150,000$

$22 \times 100 = 2,200$
 $22 \times 1,000 = 22,000$
 $22 \times 10,000 = 220,000$

$9 \times 100 = 900$
 $9 \times 1,000 = 9,000$
 $9 \times 10,000 = 90,000$

Lesson 72—Bonus Activity

What Comes Next?

Follow the pattern in each row of three shapes to find the final shape that should go in place of the question mark. Circle the shape that will complete the final sequence.

<p>Sequence #1</p> <p>a. </p> <p>b. </p> <p>c. </p>	<p>Sequence #2</p> <p>a. </p> <p>b. </p> <p>c. </p>
<p>Sequence #3</p> <p>a. </p> <p>b. </p> <p>c. </p>	<p>Sequence #4</p> <p>a. </p> <p>b. </p> <p>c. </p>

Lesson 73—Area Story Problems

Daily Dose

Find the Sums:

$$\begin{array}{r} 213,978 \\ + 35,878 \\ \hline 249,856 \end{array} \qquad \begin{array}{r} 140,932 \\ + 829,766 \\ \hline 970,698 \end{array}$$

Crisscross: Fill in the missing factor and products.

			4	×	2	=	8	
			×				×	
		7	×	8	=	56		5
		×		=			=	
3		9		32				40
×								
6	×	5	=	30				
=			63					
18								

Lesson Answers:

(a)

(b) $100\text{ m} \times 35\text{ m}$

(c) $3,500\text{ sq m}$

(d)

(e) $100\text{ m} \times 58\text{ m} = 5,800\text{ sq m}$ (f) $6,300\text{ sq m}$ (g) $98,000\text{ sq m}$ (h) $120,000\text{ sq m}$

Lesson 73—Student Worksheet

Fabulous Flooring



The town is getting new flooring for some of the buildings. The people need to find out how much of each type of flooring they need. Solve each story problem below to find the area of flooring needed for each building. Then, lining up the place values correctly, find the sum for each of the types of flooring needed by writing the areas found for each specific type. **NOTE TO PARENTS: Be sure to check the child's answers; make sure they are labeled correctly with SQUARE FEET to ensure the child is understanding the concepts taught.**

Library

The floor of the library is 25 feet wide and 100 feet long. Find the area of the library floor to find out how much carpet to order.

$$100 \text{ ft} \times 25 \text{ ft} = 2,500 \text{ sq ft}$$

Pharmacy

The floor of the pharmacy is 19 feet long and 10 feet wide. Find the area of the pharmacy floor to find out how much tile flooring to order.

$$19 \text{ ft} \times 10 \text{ ft} = 190 \text{ sq ft}$$

Post Office

The floor of the post office is 10 feet wide and 22 feet long. Find the area of the post office floor to find out how much wood flooring to order.

$$22 \text{ ft} \times 10 \text{ ft} = 220 \text{ sq ft}$$

Shop

The floor of the shop is 100 feet long and 31 feet wide. Find the area of the shop floor to find out how much carpet to order.

$$100 \text{ ft} \times 31 \text{ ft} = 3,100 \text{ sq ft}$$

Hospital

The hospital needs new flooring. The floor measures 76 feet wide and 1,000 feet long. Find the area to figure out how much tile flooring is needed.

$$1,000 \text{ ft} \times 76 \text{ ft} = 76,000 \text{ sq ft}$$

Restaurant

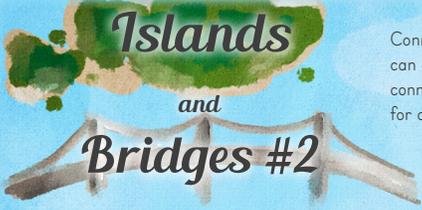
The floor of the restaurant is 54 feet wide and 100 feet long. Find the area of the restaurant floor to find out how much wood flooring to order.

$$100 \text{ ft} \times 54 \text{ ft} = 5,400 \text{ sq ft}$$

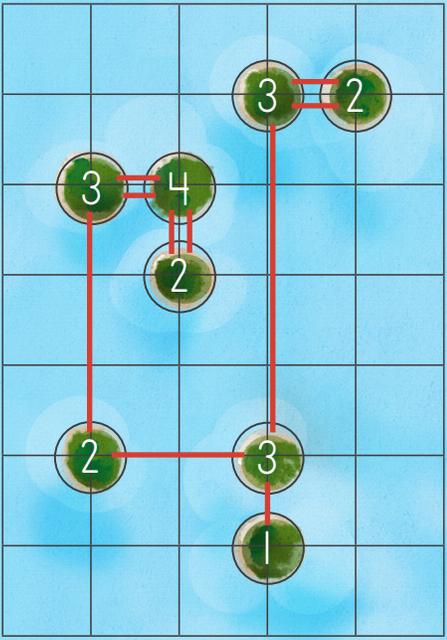
Carpet	Tile	Wood
$2,500 \text{ sq ft}$	190 sq ft	220 sq ft
$+ 3,100 \text{ sq ft}$	$+ 76,000 \text{ sq ft}$	$+ 5,400 \text{ sq ft}$
$5,600 \text{ sq ft}$	$76,190 \text{ sq ft}$	$5,620 \text{ sq ft}$

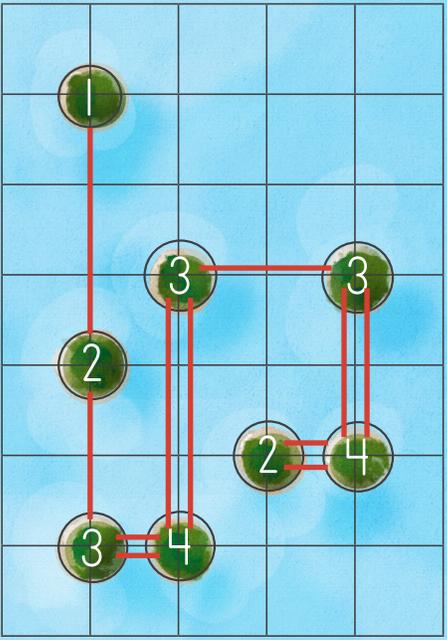
Lesson 73—Bonus Activity

Islands and Bridges #2



Connect the islands together with the number of bridges indicated on each island. Bridges can only be drawn horizontally and vertically and cannot cross. Up to two bridges can connect any two islands, and all the islands need to be connected together. See Lesson 53 for an example.





Lesson 74—Multiplying by Multiples of 10

Daily Dose

Rounding: Round each number as instructed.

	Nearest Ten	Nearest Hundred	Nearest Thousand
745,621	745,620	745,600	746,000
890,396	890,400	890,400	890,000
300,761	300,760	300,800	301,000

Missing Factor: Fill in the missing factors.

6	9	7	6	9	3
× <input type="text" value="4"/>	× <input type="text" value="8"/>	× <input type="text" value="7"/>	× <input type="text" value="8"/>	× <input type="text" value="6"/>	× <input type="text" value="11"/>
24	72	49	48	54	33

Bonus Activity Answers:

2	3	9	7	4	5	6	1	8
4	1	8	2	3	6	7	9	5
7	6	5	9	1	8	4	2	3
3	9	1	4	8	7	2	5	6
8	7	2	5	6	9	1	3	4
5	4	6	1	2	3	9	8	7
6	8	4	3	9	2	5	7	1
9	5	3	6	7	1	8	4	2
1	2	7	8	5	4	3	6	9

Lesson Answers:

(a) 3, 6, 9, 12, 15, 18, 21, 24, 27, 30 (b) 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 (c) 2×3

(d) 6; you have 6 apples total (e) 10 (f) $10 \times 3 = 30$ (g) 30 (h) 60 (i) 6, 60

(j) $40 \times 2 = 10 \times 4 \times 2 = 10 \times 8 = 80$; $30 \times 3 = 10 \times 3 \times 3 = 10 \times 9 = 90$

(k) $50 \times 5 = 10 \times 5 \times 5 = 10 \times 25 = 250$; $80 \times 6 = 10 \times 8 \times 6 = 10 \times 48 = 480$;

$90 \times 4 = 10 \times 9 \times 4 = 10 \times 36 = 360$

Lesson 74—Student Worksheet

FARMING Foundations

Farmer John is going to plant gardens and orchards. He has laid out how he wants them to look and has listed the length and width of each orchard and vegetable patch. Find the area (length \times width) for each and write the answer in the box provided. (The lengths are not drawn to scale.)

Apples 560 sq ft	Peppers 180 sq ft	Potatoes 100 sq ft	Carrots 120 sq ft
Apricots 270 sq ft	Tomatoes 180 sq ft	Pumpkins 400 sq ft	Pears 320 sq ft

Lesson 75—Area and Perimeter

Daily Dose

Measurement: Circle the volume that is reasonable for each amount.

- a bathtub full of water: 300 mL or **300 L**
- a small watering can: **60 mL** or 60 L
- a bottle of liquid medicine: **120 mL** or 120 L
- an animal watering trough: 75 mL or **75 L**

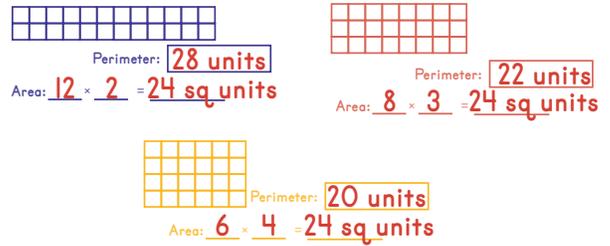
Roll the Dice: For each problem, roll the ten-sided dice twice. Write one number rolled in the first box and the other number rolled in the second box. Then solve the multiplication problem.

<input type="text"/>	×	<input type="text"/>	=	<input type="text"/>	×	<input type="text"/>	=
<input type="text"/>	×	<input type="text"/>	=	<input type="text"/>	×	<input type="text"/>	=
<input type="text"/>	×	<input type="text"/>	=	<input type="text"/>	×	<input type="text"/>	=
<input type="text"/>	×	<input type="text"/>	=	<input type="text"/>	×	<input type="text"/>	=

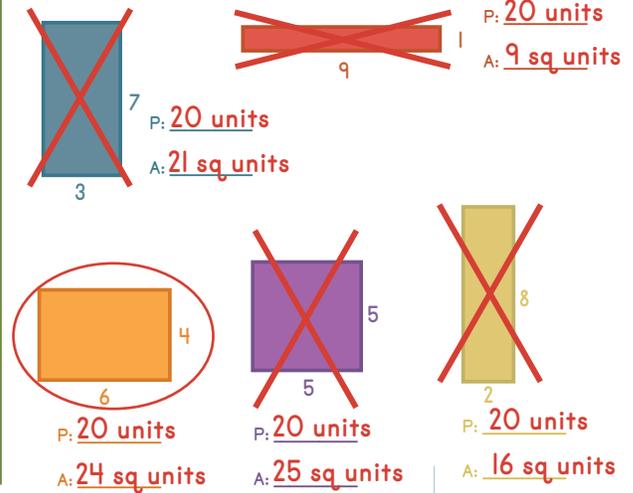
Answers may vary.

Lesson Answers:

(a) see images below (b) no (c) orange box



(d)



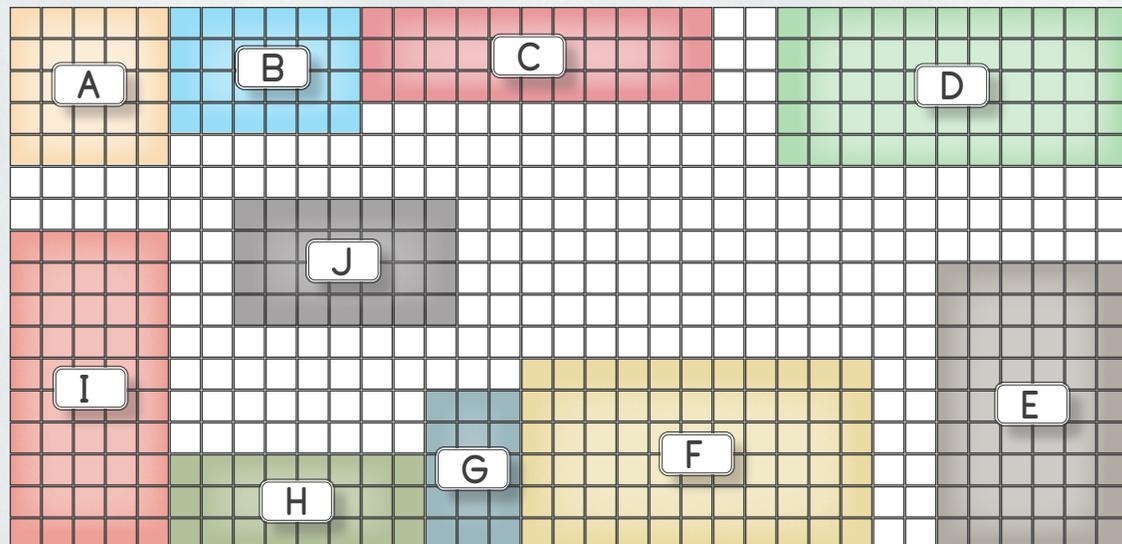
Lesson 75—Student Worksheet

Oh no! The names of the stores on this shopping center blueprint have been lost! Using the area and perimeter measurements (some are provided for you), figure out which store is which letter. Write the correct letter on the line to the left of each store type. Fill in the missing area and perimeter measurements for each store. NOTE: All measurements are shown in units and square units.

		Perimeter	Area
D	Clothing Store	32	55
G	Salon	16	15
E	Sports Gear Store	30	54
J	Food Court	22	28
I	Toy Store	30	50



		Perimeter	Area
C	Electronics Store	28	33
F	Home Decor Store	34	66
H	Jewelry Store	22	24
A	Shoe Store	20	25
B	Pet Store	20	24



Lesson 75—Bonus Activity

Machu Picchu

Machu Picchu is the site of some ancient ruins located in Peru. This ancient Inca site is visited by hundreds of thousands of tourists each year. Create a line graph using the information on the table to the left. Note: You will have to use your best estimate to place each point on the graph.

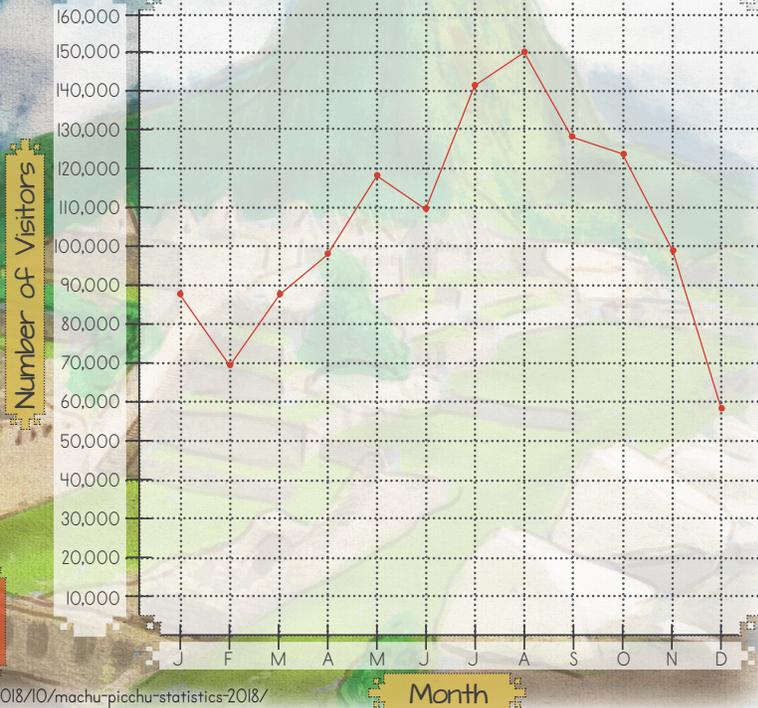
Visitors by Month in 2018¹

January	87,237
February	69,767
March	87,274
April	98,827
May	117,545
June	109,120
July	141,680
August	149,185
September	127,556
October	124,345
November	98,151
December	58,954

In Quechua, *machu* means "old" and *picchu* means "pyramid." So Machu Picchu is interpreted as "old pyramid" or "old mountain."

1. www.adiosadventuretravel.com/blog/2018/10/machu-picchu-statistics-2018/

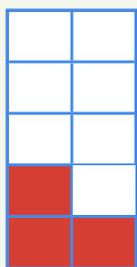
Visitors to Machu Picchu in 2018



Lesson 76—Adding Area

Daily Dose

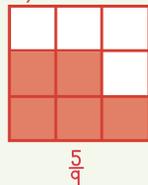
Fraction Review: Divide and color each shape to match the fraction listed.



$\frac{3}{10}$



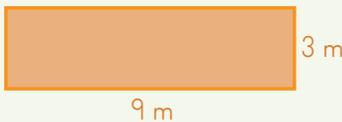
$\frac{7}{8}$



$\frac{6}{9}$

(NOTE: Fractions can be split differently than shown, as long as the pieces are equal in size.)

Perimeter: Find the perimeter for each rectangle.

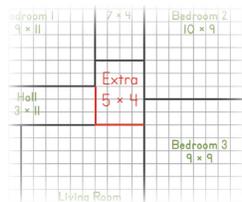


Perimeter: 24 m

Perimeter: 24 in



5 in

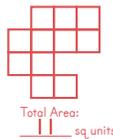


(g) see image below



Total Area: 10 sq units

Total Area: 10 sq units

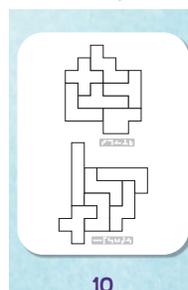


Total Area: 11 sq units



Total Area: 7 sq units

Bonus Activity Answers:



10

Carpet Area

Bedroom 1:	<u>99</u> sq ft
Bedroom 2:	<u>90</u> sq ft
Bedroom 3:	<u>81</u> sq ft
Living Room:	<u>120</u> sq ft
Hall:	<u>33</u> sq ft
Extra:	<u>20</u> sq ft
Total:	<u>443</u> sq ft

(h) For the robot and kids, the head measurement includes the neck.

Head/Neck: 10 sq units

Torso: 25 sq units

Arm: 6 sq units

Arm: 6 sq units

Leg: 12 sq units

Leg: 12 sq units

Total: 71 sq units

Lesson Answers:

(a) 99 sq ft (b) 90 sq ft (c) 81 sq ft (d) Notebook image to the side (e) 5×4 ; see image to the side (f) 443 sq ft

Area Children

Find the area for each part listed. Use multiplication in as many areas as possible or count as needed. Then add the areas together to find the total area of each block child.

Head/Neck:	17
Arms/Hands:	10
Torso:	20
Legs/Feet:	14
Total Area:	61

Head/Neck:	25
Arms/Hands:	10
Torso:	27
Legs/Feet:	4
Total Area:	66

Head/Neck:	22
Arms/Hands:	10
Torso:	18
Legs/Feet:	12
Total Area:	62

Lesson 77—Fractions

Daily Dose

Money: Write the money amounts shown and add.
 Multiply:

$\$23.59$

$\$11.76$

+

$\$35.35$

70	30	80	25	40	700
$\times 9$	$\times 5$	$\times 3$	$\times 100$	$\times 6$	$\times 6$
630	150	240	2,500	240	4,200

Lesson Answers:

- (a) $\frac{1}{2}$ (b) $\frac{1}{2}$ (c) $\frac{1}{8}$ (d) $\frac{2}{8}$ (e) $\frac{6}{8}$

My Math Journal Answers: Page 74

FRACTIONS

Fractions are a part or parts of a whole.

$\frac{3}{4}$

The numerator is the number of parts being referred to.
 Color in 3 parts of each whole item below.

1 whole pie

1 inch

1 page

1 bucket of cherries

The denominator is the total number of equal parts that makes a whole.

Lesson 77—Bonus Activity

Irregular Shapes

Shape 1 (Top Left): $1 \times 2 = 2$, $5 \times 3 = 15$, $2 \times 2 = 4$, $1 \times 2 = 2$, $1 \times 1 = 1$. Total: $10 + 10 + 1 + 2 + 2 = 25$ sq units.

Shape 2 (Top Middle): $2 \times 5 = 10$, $2 \times 5 = 10$, $2 \times 1 = 2$, $1 \times 1 = 1$. Total: $12 + 2 + 2 + 2 + 2 + 2 + 1 + 1 = 24$ sq units.

Shape 3 (Top Right): $5 \times 5 = 25$, $2 \times 2 = 4$, $2 \times 1 = 2$, $1 \times 4 = 4$, $2 \times 2 = 4$. Total: $25 + 4 + 2 + 4 + 4 = 41$ sq units.

Shape 4 (Bottom): $3 \times 4 = 12$, $2 \times 3 = 6$, $1 \times 5 = 5$, $1 \times 9 = 9$, $2 \times 1 = 2$, $4 \times 3 = 12$, $2 \times 1 = 2$, $1 \times 1 = 1$, $20 + 10 + 10 + 6 + 3 + 2 = 51$ sq units.

Lesson 78—Equivalent Fractions

Daily Dose

Mental Math Review: Choose any mental math strategy to add the numbers below.

$\begin{array}{r} 82 \\ + 19 \\ \hline 101 \end{array}$	$\begin{array}{r} 43 \\ + 68 \\ \hline 111 \end{array}$	$\begin{array}{r} 27 \\ + 78 \\ \hline 105 \end{array}$	$\begin{array}{r} 39 \\ + 42 \\ \hline 81 \end{array}$
---	---	---	--

Perimeter and Area: Find the perimeter and area for each square shown.

8 in

Perimeter: 32 in

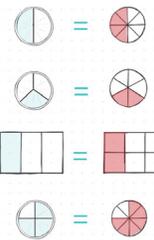
Area: 64 sq in

6 cm

Perimeter: 24 cm

Area: 36 sq cm

My Math Journal Answers: Page 78



Bonus Activity Answers:

$7 \times 7 = 49$	$7 = 7$
$7 \times 3 = 21$	$3 = 3$
$3 \times 4 = 12$	$4 = 4$
$4 \times 2 \times 2 = 16$	$2 = 2$
$2 \times 3 \times 4 = 24$	$24 = 24$

Lesson Answers:

(a) 3 (b) 6 (c) $\frac{2}{8}, \frac{3}{8}, \frac{3}{8}, \frac{6}{8}$ (d) $\frac{4}{6}, \frac{6}{9}$ (e) $\frac{4}{5}$ (f) none

Lesson 78—Student Worksheet

Using the fraction bars, solve for each equivalent fraction.

$$\frac{2}{3} = \frac{\boxed{4}}{6}$$

$$\frac{3}{5} = \frac{\boxed{6}}{10}$$

$$\frac{2}{4} = \frac{\boxed{3}}{6}$$

$$\frac{1}{5} = \frac{\boxed{2}}{10}$$

$$\frac{1}{4} = \frac{\boxed{2}}{8}$$

$$\frac{2}{3} = \frac{\boxed{6}}{9}$$

$$\frac{3}{4} = \frac{\boxed{6}}{8}$$

$$\frac{3}{6} = \frac{\boxed{4}}{8}$$



List one or more fractions that are equivalent to each of the following.

$$\frac{2}{8} = \frac{1}{4}$$

$$\frac{2}{6} = \frac{1}{3}, \frac{3}{9}$$

$$\frac{3}{4} = \frac{6}{8}$$

$$\frac{1}{2} = \frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}$$

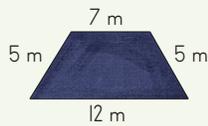
$$\frac{2}{3} = \frac{4}{6}, \frac{6}{9}$$

$$\frac{3}{5} = \frac{6}{10}$$

Lesson 79—Equivalent Fractions Continued

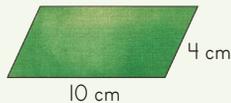
Daily Dose

Perimeter: Name each shape below, and then find each perimeter.



Shape: Trapezoid Shape: Hexagon Shape: Octagon

Perimeter: 29 m Perimeter: 42 m Perimeter: 64 in



Shape: Pentagon Shape: Parallelogram

Perimeter: 15 cm Perimeter: 28 cm

Multiply:

$\begin{array}{r} 52 \\ \times 1,000 \\ \hline 52,000 \end{array}$	$\begin{array}{r} 100 \\ \times 48 \\ \hline 4,800 \end{array}$	$\begin{array}{r} 38 \\ \times 10,000 \\ \hline 380,000 \end{array}$	$\begin{array}{r} 1,000 \\ \times 9 \\ \hline 9,000 \end{array}$
--	---	--	--

Lesson Answers:

(a) numerator, the number of parts being referred to (b) denominator, total number of equal parts that make the whole (c) fourths (d) eighths (e) 8 (f) $\frac{2}{8}$ (g) see images below

$$\frac{1 \times 2}{5 \times 2} = \frac{\boxed{2}}{10}$$

$$\frac{2 \times 2}{4 \times 2} = \frac{\boxed{4}}{8}$$

$$\frac{4 \times 2}{5 \times 2} = \frac{\boxed{8}}{10}$$

$$\frac{1 \times 3}{3 \times 3} = \frac{\boxed{3}}{9}$$

$$\frac{1 \times 4}{2 \times 4} = \frac{\boxed{4}}{8}$$

Lesson 79—Student Worksheet

Wildflower Fractions

Find the equivalent fractions. Begin on the left side of the page. Determine what number the denominator has to be multiplied by to equal the answer's denominator. Write the multiplication symbol and that number next to both the denominator and numerator. Multiply the numerators by that number and write the product in the space provided. Next, divide each piece of the fraction picture into the number of pieces that you multiplied by. The first one is done for you in gray. Then use multiplication to find the remaining equivalent fractions on the page.



$$\frac{2}{4} \times 2 = \frac{4}{8}$$

$$\frac{1}{5} \times 3 = \frac{3}{15}$$

$$\frac{2}{3} \times 7 = \frac{14}{21}$$



$$\frac{2}{6} \times 2 = \frac{4}{12}$$

$$\frac{3}{4} \times 3 = \frac{9}{12}$$

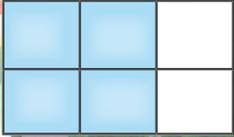
$$\frac{2}{7} \times 2 = \frac{4}{14}$$



$$\frac{1}{2} \times 3 = \frac{3}{6}$$

$$\frac{3}{8} \times 4 = \frac{12}{32}$$

$$\frac{1}{2} \times 8 = \frac{8}{16}$$



$$\frac{4}{6} \times 4 = \frac{16}{24}$$

$$\frac{5}{6} \times 3 = \frac{15}{18}$$

$$\frac{4}{9} \times 2 = \frac{8}{18}$$

Lesson 80—Fractions on a Number Line

Daily Dose

Find the Differences:

$\begin{array}{r} 09110 \\ \$142.12 \\ -\$58.97 \\ \hline \$83.15 \end{array}$	$\begin{array}{r} 41171 \\ \$523.80 \\ -\$296.64 \\ \hline \$227.16 \end{array}$
--	--

Pinwheel Problems:

Some of the pinwheel numbers are missing. Fill in the blank areas of the pinwheel so the outer numbers are factors and the inner numbers are the product of the two adjacent outer petals (e.g., the red 8 and adjacent black 6 are factors of 48; $8 \times 6 = 48$).



Lesson Answers:

- (a) $\frac{1}{2}$ (b) 1 whole (c) $\frac{1}{2} < \frac{2}{3}$
 (d) $\frac{3}{4} > \frac{1}{3}$; $\frac{1}{4} < \frac{3}{8}$ (e) see images below

Fifths and Eighths

Thirds and Sixths

$\frac{2}{5} < \frac{7}{8}$	$\frac{1}{3} < \frac{3}{6}$
$\frac{4}{5} > \frac{1}{8}$	$\frac{3}{3} > \frac{4}{6}$

Bonus Activity Answers:

Area #1:	Area #2:	Area #3:	Area #4:	Area #5:
60 sq units	44 sq units	36 sq units	49 sq units	60 sq units



My Math Journal Answers: Page 76

0	$\frac{1}{4}$	$\frac{2}{4}$	$\frac{3}{4}$	$\frac{4}{4}$
0	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$	

Lesson 80—Student Worksheet

More or Less?

Fill in the missing fractions on the number lines. Use the number lines to correctly compare the fractions. Either draw a vertical line from one number line to another or lay your pencil down to see where one fraction would be located on another number line.

$\frac{0}{6}$

$\frac{1}{6}$

$\frac{2}{6}$

$\frac{3}{6}$

$\frac{4}{6}$

$\frac{5}{6}$

$\frac{6}{6}$

$\frac{0}{7}$

$\frac{1}{7}$

$\frac{2}{7}$

$\frac{3}{7}$

$\frac{4}{7}$

$\frac{5}{7}$

$\frac{6}{7}$

$\frac{7}{7}$

$\frac{0}{8}$

$\frac{1}{8}$

$\frac{2}{8}$

$\frac{3}{8}$

$\frac{4}{8}$

$\frac{5}{8}$

$\frac{6}{8}$

$\frac{7}{8}$

$\frac{8}{8}$

$\frac{3}{7} < \frac{5}{8}$

$\frac{8}{8} > \frac{2}{6}$

$\frac{3}{6} < \frac{7}{7}$

$\frac{1}{8} < \frac{6}{7}$

$\frac{1}{6} > \frac{1}{7}$

$\frac{4}{7} < \frac{5}{6}$

$\frac{7}{8} > \frac{2}{6}$

$\frac{3}{7} > \frac{2}{8}$

Lesson 81—Comparing Fractions

Daily Dose

Fractions: Find the equivalent fractions. The fraction bars may be used as needed.

$\frac{4}{8} = \frac{1}{2}$

$\frac{2}{3} = \frac{4}{6}$

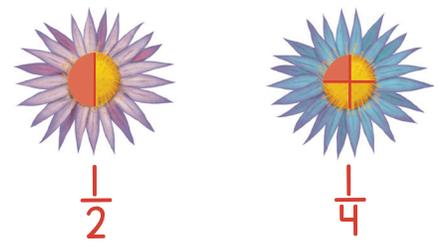
$\frac{1}{2} = \frac{5}{10}$

Mixed-Up Multiplication:

Find and circle the 10 multiplication equations hidden in the number search. The equations are listed across (from left to right), down, and diagonally (from left to right). One has already been found for you.

4	2	9	5 × 5 = 2	5		
8	1	7 × 3 = 2	1	6		
6 × 9 = 5	4	2	3	3		
4	3	3	7	9	0	
8	7	5	2	8	0	6
2	6	8	1	7	3	4
5	9	7 × 4 = 2	8	5		

Lesson Answers:
 (a) they are the same (b) $\frac{3}{4}$ (c) 4 (d) $\frac{1}{4}$
 (e) orange: $\frac{2}{3}$ (f) blue: $\frac{1}{3}$ (g) $\frac{2}{3}$ is greater
 (h) $\frac{2}{5} < \frac{4}{5}$; $\frac{7}{8} > \frac{1}{8}$ (i) see images below (j) $\frac{1}{2}$ (k) $\frac{3}{3} > \frac{3}{6}$; $\frac{2}{4} > \frac{2}{5}$



Lesson 81—Student Worksheet

Comparing Fractions

Same Numerator & Same Denominator

Fill in the fractions to describe each group of butterflies. Then fill in the circle with the correct comparison symbol: <, >, or =.

purple $\frac{3}{4}$ > $\frac{1}{4}$ blue

Shade the pollen area according to the fraction shown to the side of each flower pair. Then fill in the circle with the correct comparison symbol: <, >, or =.

$\frac{1}{2}$ > $\frac{1}{4}$

pink $\frac{2}{5}$ < $\frac{3}{5}$ orange

$\frac{2}{5}$ < $\frac{2}{3}$

yellow $\frac{3}{7}$ < $\frac{4}{7}$ green

$\frac{1}{2}$ > $\frac{1}{5}$

Lesson 82—Mixed Numbers: Measurement and Fractions

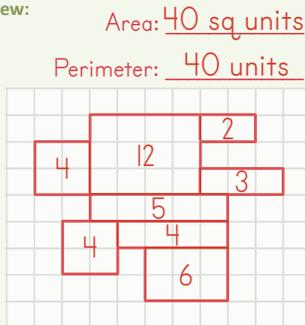
Daily Dose

Elapsed Time: Using the start time and elapsed time, find and draw the end time on the second clock.

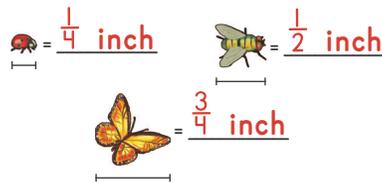


Area/Perimeter Review:

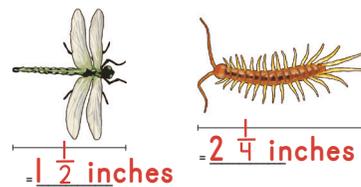
Find the area and perimeter of the irregular shape shown. To find the area, first draw lines to divide the shape into rectangles. Then find the area of each small rectangle and add all the areas together.



(d)



(e)



(f)

= 1 3/4 inches

= 2 3/4 inches

= 4 1/4 inches

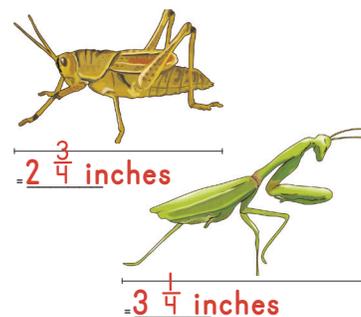
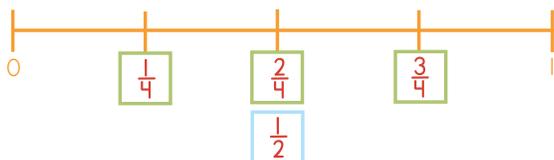
= 3 1/2 inches

= 3 1/4 inches

= 1 1/2 inches

Lesson Answers:

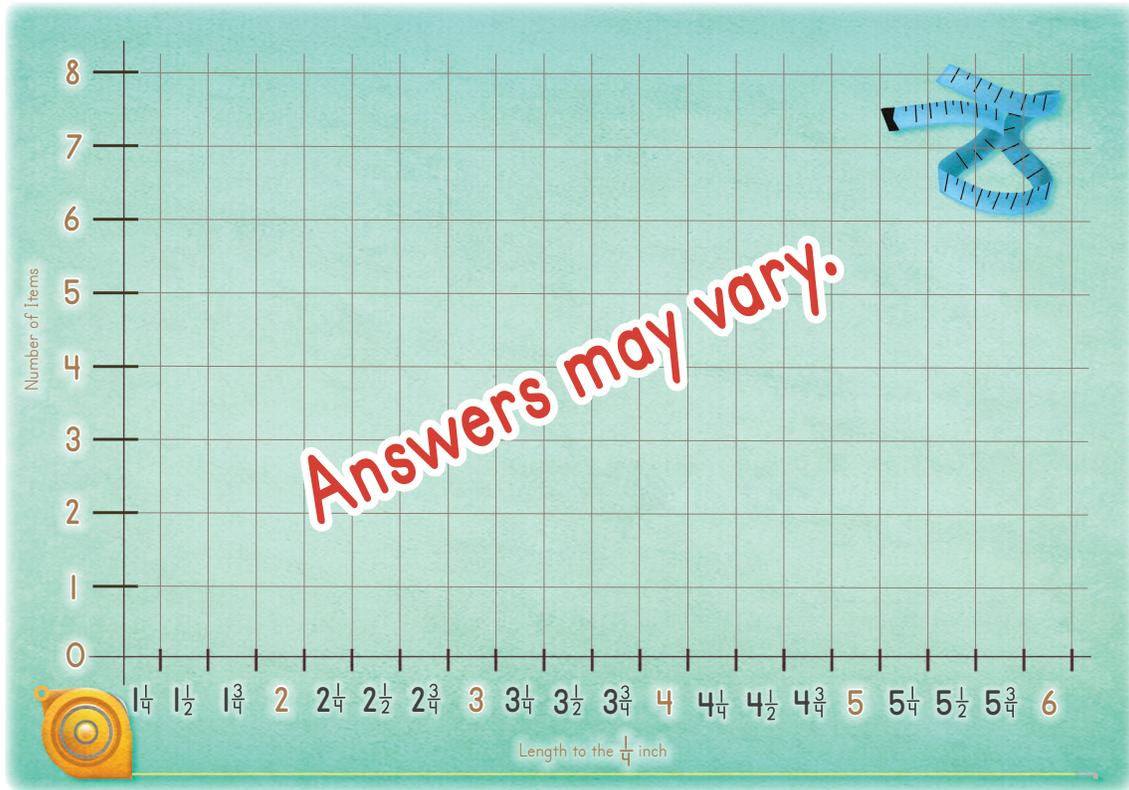
(a) 4 (b) see image below (c) $\frac{1}{2}$



Lesson 82—Student Worksheet

Mixed Number Measurements

Gather 20 things from around your house that are longer than the length of your thumb up to your knuckle but no longer than the length of your hand from your wrist to the tip of your middle finger. Using your ruler, measure each item to the nearest $\frac{1}{4}$ inch. Create a bar graph below by coloring in a box at the correct length to count each item found. What was the most common measurement that you made?



Lesson 82—Bonus Activity

Crack the Code

What is one of Peru's most endangered wildcats?¹

Solve each of the multiplication problems and use the letters above each product to discover the name of this endangered wildcat.

$12 \times 10 =$ 120	$3 \times 400 =$ 1,200	$7 \times 500 =$ 3,500
$50 \times 50 =$ 2,500	$10 \times 90 =$ 900	$15 \times 10 =$ 150
$11 \times 80 =$ 880	$6 \times 400 =$ 2,400	$2 \times 700 =$ 1,400
	$9 \times 60 =$ 540	

A	N	D	E	A	N
1,200	540	120	2,500	1,200	540
M	O	U	N	T	A
900	150	2,400	540	1,400	1,200
880	540	1,400	1,200	880	540
C	A	T			
3,500	1,200	1,400			

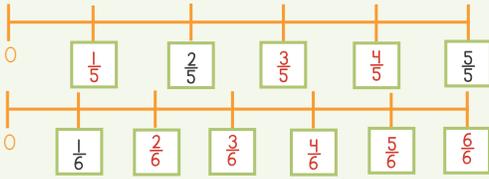
This wildcat is one of the world's most endangered felids, or cats. Scientists estimate the population to be fewer than 1,400 cats. These wildcats are found in the rocky areas above the tree line of the Andes Mountains in Peru. They can also be found in the mountains of Argentina, Bolivia, and Chile.

1. wildcatconservation.org/wild-cats/south-america/andean-cat/

Lesson 83—Multiplication Practice Day

Daily Dose

Fractions on a Number Line: Fill in the missing fractions on the number lines below. Then use the number lines to compare the fractions listed.



$\frac{3}{5} > \frac{2}{6}$ $\frac{1}{5} > \frac{1}{6}$ $\frac{5}{6} > \frac{3}{5}$

Missing Factor: Fill in the missing factors.

5	11	9	8	7	6
× 7	× 6	× 7	× 8	× 8	× 7
35	66	63	64	56	42

Bonus Activity Answers:

SHIKAKU PUZZLE #3

			4				
			3				8
				2			
9							
	6						
			6				12
		4					4
					6		

Lesson 83—Student Worksheet



Pet Shop Planning

Congratulations! You own a pet shop! Each animal needs its own area in the pet shop. Use the measurements given of area or perimeter to create a space for each animal on the grid. Use a pencil to draw the space before coloring in the shape with the designated colors. Once an animal space is drawn, determine the missing perimeter or area and write it in the blank box. The puppies' area is done for you.

Answers may vary.

<div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto; background-color: #ADD8E6; display: flex; align-items: center; justify-content: center;"> Puppies </div>	<table style="width: 100%;"> <tr> <td style="border: 1px solid black; padding: 5px;"> Puppies Perimeter: 28 Units Area: 24 Square Units </td> <td style="border: 1px solid black; padding: 5px;"> Kittens Perimeter: <input type="text"/> Area: 30 Square Units </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> Birds Perimeter: <input type="text"/> Area: 24 Square Units </td> <td style="border: 1px solid black; padding: 5px;"> Fish Perimeter: 30 Units Area: <input type="text"/> Square Units </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> Hamsters Perimeter: <input type="text"/> Area: 15 Square Units </td> <td style="border: 1px solid black; padding: 5px;"> Rabbits Perimeter: 20 Units Area: <input type="text"/> Square Units </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> Frogs Perimeter: <input type="text"/> Area: 12 Square Units </td> <td style="border: 1px solid black; padding: 5px;"> Lizards & Snakes Perimeter: 18 Units Area: <input type="text"/> Square Units </td> </tr> </table>	Puppies Perimeter: 28 Units Area: 24 Square Units	Kittens Perimeter: <input type="text"/> Area: 30 Square Units	Birds Perimeter: <input type="text"/> Area: 24 Square Units	Fish Perimeter: 30 Units Area: <input type="text"/> Square Units	Hamsters Perimeter: <input type="text"/> Area: 15 Square Units	Rabbits Perimeter: 20 Units Area: <input type="text"/> Square Units	Frogs Perimeter: <input type="text"/> Area: 12 Square Units	Lizards & Snakes Perimeter: 18 Units Area: <input type="text"/> Square Units
Puppies Perimeter: 28 Units Area: 24 Square Units	Kittens Perimeter: <input type="text"/> Area: 30 Square Units								
Birds Perimeter: <input type="text"/> Area: 24 Square Units	Fish Perimeter: 30 Units Area: <input type="text"/> Square Units								
Hamsters Perimeter: <input type="text"/> Area: 15 Square Units	Rabbits Perimeter: 20 Units Area: <input type="text"/> Square Units								
Frogs Perimeter: <input type="text"/> Area: 12 Square Units	Lizards & Snakes Perimeter: 18 Units Area: <input type="text"/> Square Units								

Lesson 84—Area Bar Graphs

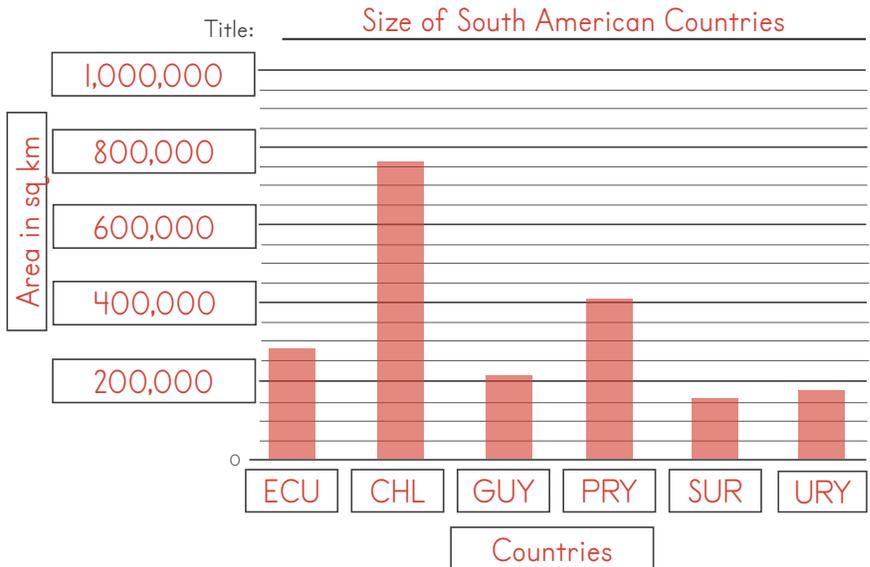
Daily Dose

Fractions on a Number Line: Fill in the missing fractions on the number lines below. Then use the number lines to compare the fractions listed.

$\frac{1}{3} > \frac{2}{8}$ $\frac{2}{3} > \frac{5}{8}$ $\frac{7}{8} > \frac{2}{3}$

Multiply: Find the products.

5	9	7	11	3	7
$\times 6$	$\times 8$	$\times 2$	$\times 4$	$\times 8$	$\times 9$
30	72	14	44	24	63



Lesson Answers:

- (a) Size of South American Countries (b) Countries (c) Area of each country; sq km (d) 1 million (e) 1 (f) 2,800,000 sq km or a similar answer (g) Brazil: 8,500,000 sq km (h) Venezuela: 900,000 sq km (i) 1,300,000 sq km (j) Bolivia and Colombia (k) Chile (l) Suriname (m) Suriname and Uruguay

Lesson 84—Student Worksheet

REGIONS OF THE UNITED STATES

The bar graph below is incomplete. Use the data provided in the table to plot the rest of the data on the bar graph. Use the colors displayed with each region on the table for the colors of the bars on the graph. Then write the approximate population in the blank spaces of the table according to the region. Finally, use the bar graph to answer the questions and write your answers in the boxes provided.

TITLE: Size of Regions in US

Regions	Square Miles
Northeast	180,000
Southeast	580,000
Midwest	821,734
Southwest	574,066
West	1,635,555

What is the title of the data table? Write it on the line labeled "TITLE" on the graph.

What are the categories for the graph (listed along the bottom)?

Regions

What do the numbers on the left side of the graph tell us?

Area in square miles

What are the numbers on the left side of the graph skip counting by?

500,000

Which region is the largest? **West** Which region is the smallest? **Northeast**

Which two regions are similar in size? **Southeast** and **Southwest**

© www.nationalgeographic.org/maps/usa/regions

Lesson 84—Bonus Activity

Create a Crisscross

Answers may vary.

In each red box, write the common factor for the multiplication facts on which you are currently working. In each green box, list the skip-counting numbers that go with that factor, skipping the first number (the number times 1). For example, if you were reviewing multiplication facts for 5s, you would write a 5 in every red box. Then you would list the numbers 10, 15, 20, 25, 30, 35, 40, 45, 50, and 55 randomly in the green boxes. Finally, solve each multiplication problem to fill in all the empty boxes.

Lesson 85—Line Graphs

Daily Dose

Rounding: Round each number as instructed.

	Nearest Hundred	Nearest Thousand	Nearest Ten Thousand
934,129	934,100	934,000	930,000
45,335	45,300	45,000	50,000
413,718	413,700	414,000	410,000

Multiplication Mix-Up: Fill in the multiplication chart with the products for each multiplication problem.

×	8	3	9	11
5	40	15	45	55
8	64	24	72	88
10	80	30	90	110
4	32	12	36	44

Lesson Answers:

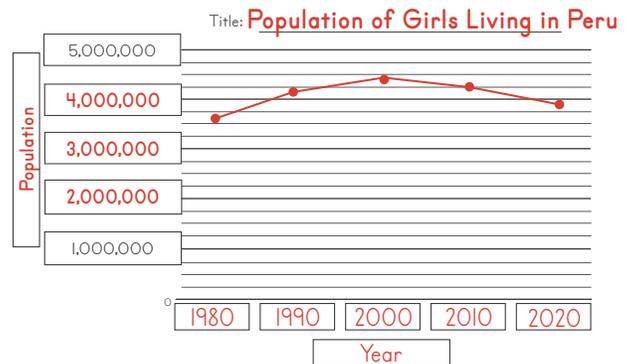
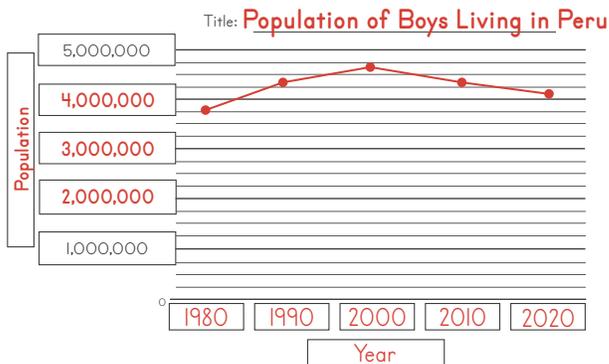
- (a) A line graph shows how a set of data changes based on the changes of another set of data. (b) Population of Peru (c) 10 years (d) Population (e) 5,000,000 (f) 4 (g) 8,000,000 (h) 2020: 33,000,000; 1950; increase (i) Population of boys ages 0–14 who live in Peru (j) Population of girls ages 0–14 who live in Peru (k) 2000 (l) 1980 (m) 1980–2000 (n) 2000–2020

Population of Boys
(Ages 0–14) Living in Peru?

Year	Population
1980	3,773,063
1990	4,380,107
2000	4,649,825
2010	4,454,572
2020	4,131,985

Population of Girls
(Ages 0–14) Living in Peru?

Year	Population
1980	3,655,416
1990	4,230,366
2000	4,462,833
2010	4,281,344
2020	3,984,546

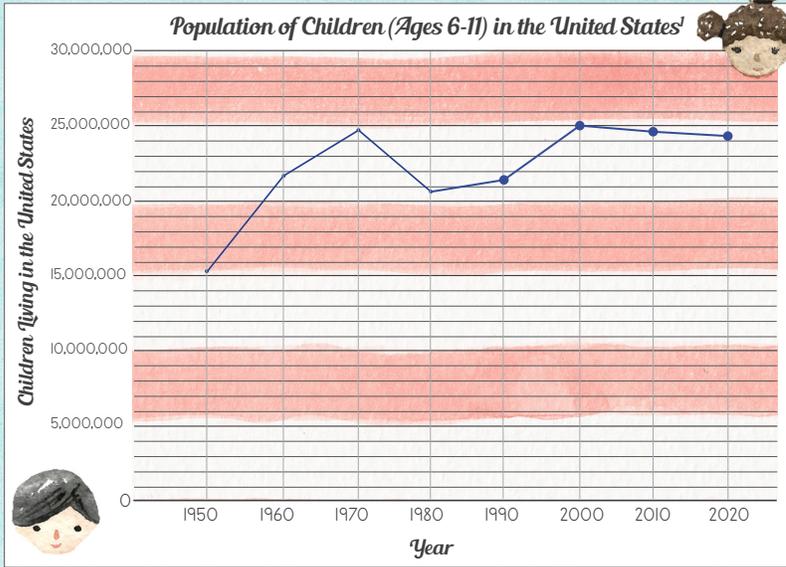


Lesson 85—Student Worksheet

Children of the United States



The line graph below is incomplete. Use the data provided in the table to plot the rest of the data on the line graph. Then write the approximate population in the blank spaces of the table according to the year. Finally, use the line graph to answer the questions and write your answers in the spaces provided.



1. www.childstats.gov/americaschildren/tables/pop1.asp

Children in the USA

Year	Population
1950	15,500,000
1960	21,800,000
1970	24,800,000
1980	20,700,000
1990	21,600,000
2000	25,000,000
2010	24,600,000
2020	24,300,000

What is the title of this graph?

Population of children in US

How many years are there between each point on the graph?

10 years

What do the numbers on the left side of the graph tell us?

Children living in US

What are the numbers on the left side of the graph skip counting by?

5,000,000

Which year had the highest population?

2000

Which year had the lowest population?

1950

Between which years did the population increase (get larger)? (List one range.)

First

1950

Last

1970

1980 or 2000

Between which years did the population decrease (get smaller)? (List one range.)

First

1970

Last

1980

2000 or 2020

Lesson 86—Fractions and Area

Daily Dose

Find the Sums:

$$\begin{array}{r} 245,961 \\ + 578,139 \\ \hline 824,100 \end{array}$$

$$\begin{array}{r} 664,167 \\ + 157,825 \\ \hline 821,992 \end{array}$$

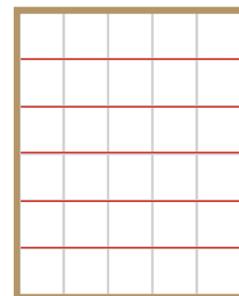
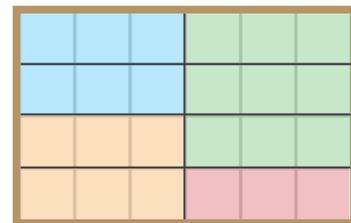
Crisscross: Fill in the missing products and factors.

			4	×	2	=	8
			×				×
		5	7				8
	9	×	9	=	81		=
3		3			28		64
6	×	8	=	48			
3		15					
=							
9	×	2	=	18			

Lesson Answers:

(a) a part or parts of a whole (b) 16 sq units (c) 8 sq units (d) $\frac{1}{4}$ (e) 4 sq units (f) 12 sq units (g) 24 sq units (h) 3 sq units (i) 6 sq units (j) 9 sq units (k) 3 sq units (l) 6 sq units (m) $\frac{2}{8}$ (n) 30 sq units; 5 sq units; 10 sq units; 25 sq units. Also see images below.

Andrés' House



Lesson 86—Student Worksheet

Barn
 Area of the barn = 15
 Hay: $\frac{1}{3}$ of the barn = 5
 Horse: $\frac{2}{3}$ of the barn = 10

Pig Pen
 Area of the pen = 12
 Trough: $\frac{1}{4}$ of the pen = 3
 Pigs: $\frac{3}{4}$ of the pen = 9

Pond
 Area of the pond = 20
 Fish: $\frac{3}{5}$ of the pond = 12
 Turtles: $\frac{2}{5}$ of the pond = 8

Crops
 Area of the crops = 32
 Potatoes: $\frac{2}{8}$ of the crops = 8
 Wheat: $\frac{1}{8}$ of the crops = 4
 Corn: $\frac{5}{8}$ of the crops = 20

Pasture
 Area of the pasture = 24
 Cow: $\frac{4}{6}$ of the pasture = 16
 Sheep: $\frac{2}{6}$ of the pasture = 8

Fractions on the Farm
 Use each section of the farm to fill in the blanks.

Lesson 87—Fractions and Numbers

Daily Dose

Find the Differences:

$$\begin{array}{r} 990,002 \\ - 61,733 \\ \hline 928,269 \end{array}$$

$$\begin{array}{r} 548,130 \\ - 290,475 \\ \hline 257,655 \end{array}$$

Missing Factor: Fill in the missing factors.

7	8	7	3	6	9
× <input type="text" value="5"/>	× <input type="text" value="11"/>	× <input type="text" value="8"/>	× <input type="text" value="4"/>	× <input type="text" value="6"/>	× <input type="text" value="4"/>
35	88	56	12	36	36

Lesson Answers:

(a) 10 apples (b) 2 apples (c) 2 apples (d) 4 apples

(e)

$\frac{2}{5}$ of 10 = $\frac{3}{5}$ of 10 =

$\frac{4}{5}$ of 10 = $\frac{5}{5}$ of 10 =

(f)

$\frac{1}{4}$ of 12 =

$\frac{3}{4}$ of 12 =

$\frac{1}{6}$ of 12 =

$\frac{5}{6}$ of 12 =

$\frac{3}{6}$ of 12 =

Fruity Fractions



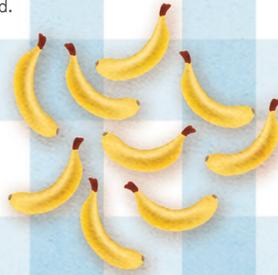
Divide into 8 groups.
 $\frac{1}{8} = 2$ limes



Divide into 5 groups.
 $\frac{2}{5} = 4$ strawberries



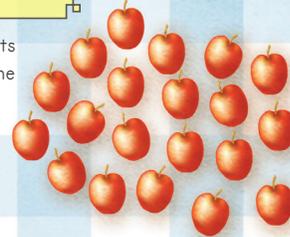
Divide into 2 groups.
 $\frac{1}{2} = 3$ pineapples



Divide into 3 groups.
 $\frac{2}{3} = 6$ bananas



Divide into 6 groups.
 $\frac{5}{6} = 15$ oranges



Divide into 10 groups.
 $\frac{3}{10} = 6$ apples



Divide into 9 groups.
 $\frac{7}{9} = 7$ blueberries

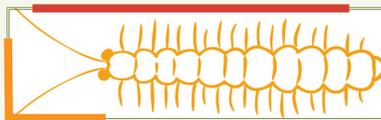


Divide into 4 groups.
 $\frac{3}{4} = 9$ pears

Lesson 88—Order of Operations Review

Daily Dose

Measurement: Measure the length of each insect below to the nearest fourth inch and record your measurements.



$1\frac{1}{4}$ inch

$\frac{1}{2}$ inch

$2\frac{1}{4}$ inch

Line Review: Examples shown: Answers may vary.

- Find 2 vertical lines on this page and trace over them with a blue pencil or crayon.
- Find 2 horizontal lines on this page and trace over them with a red pencil or crayon.
- Find 2 intersecting lines on this page and trace over them with a yellow pencil or crayon.

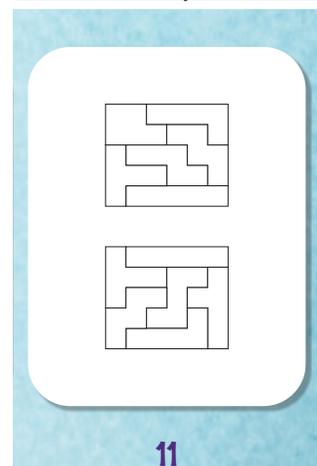
Multiply: Find the products.

9	7	6	11	10	4
$\times 8$	$\times 6$	$\times 5$	$\times 5$	$\times 8$	$\times 8$
<u>72</u>	<u>42</u>	<u>30</u>	<u>55</u>	<u>80</u>	<u>32</u>

Lesson Answers:

- (a) Perry Exercises My Dogs And Squirrels
 (b) Order of Operations: parentheses, exponents, multiply/divide, add/subtract
 (c) To know in what order we should perform mathematical operations
 (d) $3 \times (2 + 4) = 18$; $6 + 5 - 7 = 4$; $(10 - 2) \times 5 = 40$
 (e) 35 sq m (f) 10 sq m (g) 45 sq m (h) 45 sq m
 (i) yes (j) $(8 \times 4) + (2 \times 4) = 40$ sq m (k) yes

Bonus Activity Answers:



Lesson 88—Student Worksheet

Neighborhood Operations

Each home has measurements listed for the house and the garage. Solve for the total area by finding the area of the house first and then adding it to the area of the garage.



$$\begin{array}{l} \text{House} \qquad \qquad \text{Garage} \\ (6 \times 9) + (6 \times 6) \\ (54) + (36) = \\ \text{Answer } \underline{90} \end{array}$$

$$\begin{array}{l} \text{House} \qquad \qquad \text{Garage} \\ (8 \times 10) + (8 \times 6) \\ (80) + (48) = \\ \text{Answer } \underline{128} \end{array}$$

$$\begin{array}{l} \text{House} \qquad \qquad \text{Garage} \\ (7 \times 7) + (7 \times 3) \\ (49) + (21) = \\ \text{Answer } \underline{70} \end{array}$$

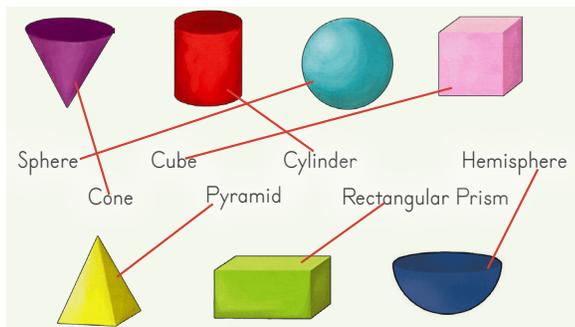
$$\begin{array}{l} \text{House} \qquad \qquad \text{Garage} \\ (6 \times 7) + (6 \times 3) \\ (42) + (18) = \\ \text{Answer } \underline{60} \end{array}$$

$$\begin{array}{l} \text{House} \qquad \qquad \text{Garage} \\ (8 \times 7) + (8 \times 3) \\ (56) + (24) = \\ \text{Answer } \underline{80} \end{array}$$

$$\begin{array}{l} \text{House} \qquad \qquad \text{Garage} \\ (7 \times 11) + (7 \times 7) \\ (77) + (49) = \\ \text{Answer } \underline{126} \end{array}$$

Lesson 89—Mathematician: Plato

Student Worksheet Answers:



Lesson Answers:

(a) hexahedron (b)

Name	(Pyramid) Tetrahedron	(Cube) Hexahedron	Octahedron	Dodecahedron	Icosahedron
Image					
Faces	4 triangles	6 squares	8 triangles	12 pentagons	20 triangles

Bonus Activity Answers:

Perimeter: 74 units Area: 80 sq units

My Math Journal Answers: Pages 68–69

3D SHAPES

Three-Dimensional (3D) shapes are shapes that take up space. They have length, width, and height.

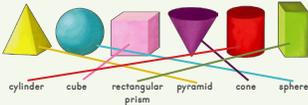
Definitions

- Sphere:** NAME: sphere; FACES: 0; EDGES: 0; VERTICES: 0
- Cube:** NAME: cube; FACES: 6; EDGES: 12; VERTICES: 8
- Cylinder:** NAME: cylinder; FACES: 2; EDGES: 0; VERTICES: 0
- Rectangular Prism:** NAME: rectangular prism; FACES: 6; EDGES: 12; VERTICES: 8
- Pyramid:** NAME: square pyramid; FACES: 5; EDGES: 8; VERTICES: 5
- Triangular Pyramid:** NAME: triangular pyramid; FACES: 4; EDGES: 6; VERTICES: 4
- Hemisphere:** NAME: hemisphere; FACES: 1; EDGES: 0; VERTICES: 0
- Hexagonal Prism:** NAME: hexagonal prism; FACES: 8; EDGES: 18; VERTICES: 12
- Triangular Prism:** NAME: triangular prism; FACES: 5; EDGES: 9; VERTICES: 6

Lesson 90—Section Review

Daily Dose

Shapes: Match each 3D shape with its name.



Target Practice: Each outer circle is obtained by multiplying the number in the inner circle with the number in the adjacent part of the white circle. Fill in the blank spaces with the correct answers.

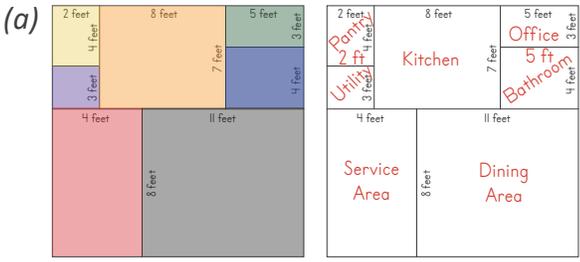


(c) 2 (d) $\frac{1}{2}$ (e) 3 (f) $\frac{1}{3}$ (g) 4 (h) $\frac{1}{4}$ (i) $\frac{1}{2}$ (j) $\frac{2}{3}$ (k) $\frac{3}{4}$ (l) 4 (m) $\frac{1}{4}$ (n) $\frac{2}{4}$ (o) apple pie: 6 pieces, each piece is $\frac{1}{6}$, $\frac{4}{6}$ pieces are left; banana bread: 8 pieces, each piece is $\frac{1}{8}$, $\frac{6}{8}$ pieces are left (p) Number of Baked Goods Sold This Year (q) months (r) Number of Baked Goods Sold (s) 10 (t) December; 80 (u) June; 0 (v) June through December (w) January through June

(c-k): (l-o):

$\frac{1}{2} = \frac{1}{2}$, $\frac{1}{2} = \frac{2}{4}$
 $\frac{2}{3} = \frac{2}{3}$, $\frac{2}{3} = \frac{4}{6}$
 $\frac{3}{4} = \frac{3}{4}$, $\frac{3}{4} = \frac{6}{8}$

Lesson Answers:



- (b) Kitchen (orange): 56 sq ft Bathroom (blue): 20 sq ft
 Pantry (yellow): 8 sq ft Service Area (red): 32 sq ft
 Utility (purple): 6 sq ft Dining Area (gray): 88 sq ft
 Office (green): 15 sq ft

Bonus Activity Answers:

2	6	8	4	1	9	5	3	7
7	4	1	3	5	2	6	9	8
5	9	3	6	7	8	2	4	1
1	2	7	9	4	6	8	5	3
9	8	6	2	3	5	1	7	4
3	5	4	7	8	1	9	2	6
4	1	9	8	2	3	7	6	5
6	7	5	1	9	4	3	8	2
8	3	2	5	6	7	4	1	9

Lesson 90—Student Worksheet

City Calculations

Find the product for each problem listed below.

$23 \times 10 = 230$

$51 \times 100 = 5,100$

$1,000 \times 74 = 74,000$

$10,000 \times 37 = 370,000$

$98 \times 10,000 = 980,000$

$66 \times 1,000 = 66,000$

$100 \times 42 = 4,200$

$10 \times 85 = 850$

Solve each problem listed below following the order of operations.

$(10 \times 4) - 3 = 37$

$6 + (15 - 4) = 17$

$(5 \times 2) + 7 = 17$

$4 + 7 \times 8 = 60$

$(5 \times 10) - (3 \times 2) = 44$

$8 + (9 \times 5) = 53$

Lesson 91—Section Assessment

Daily Dose

Fraction Review:
Color $\frac{1}{10}$ of this rectangle green, $\frac{2}{10}$ purple, $\frac{1}{10}$ blue, and $\frac{6}{10}$ orange. Then add the colored sections to find the missing numerators.

$$\frac{2}{10} + \frac{2}{10} = \frac{4}{10}$$

$$\frac{2}{10} + \frac{4}{10} = \frac{6}{10}$$

Pinwheel Problems:
Some of the pinwheel numbers are missing. Fill in the blank areas of the pinwheel so the outer numbers are factors and the inner numbers are the product of the two adjacent outer petals.

Lesson Answers:

Guided Assessment:

1)

2)

$$\begin{array}{r} 3 \\ \overline{) 8} \end{array}$$

← Numerator
← Denominator

3) parentheses, division, addition, multiplication, subtraction

Independent Assessment:

1. Solve using the order of operations. 6 points possible (2 each)

$$7 - 3 + 5 \times 4 = 24$$

$$(9 - 6) \times (12 - 7) = 15$$

$$15 - 4 \times 3 = 3$$

2. Solve. 8 points possible

$$\begin{array}{r} 7 \\ \times 10 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 19 \\ \times 100 \\ \hline 1,900 \end{array}$$

$$\begin{array}{r} 3 \\ \times 1,000 \\ \hline 3,000 \end{array}$$

$$\begin{array}{r} 42 \\ \times 10,000 \\ \hline 420,000 \end{array}$$

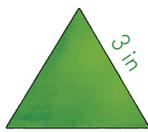
$$\begin{array}{r} 51 \\ \times 10 \\ \hline 510 \end{array}$$

$$\begin{array}{r} 6 \\ \times 100 \\ \hline 600 \end{array}$$

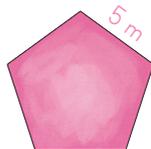
$$\begin{array}{r} 23 \\ \times 1,000 \\ \hline 23,000 \end{array}$$

$$\begin{array}{r} 4 \\ \times 10,000 \\ \hline 40,000 \end{array}$$

3. Find the perimeter of each regular shape below. *Note: The measurements shown are not drawn to scale.* 3 points possible (1 for each measurement, $\frac{1}{2}$ for each label)



Perimeter: 9 in



Perimeter: 25 m

4. Find the area and perimeter for each shape. *Note: The measurements shown are not drawn to scale.* 6 points possible (1 for each measurement, $\frac{1}{2}$ for each label)



Perimeter: 24 ft

Area: 32 sq ft



Perimeter: 20 cm

Area: 25 sq cm

5. Look at the line graph and answer the questions. 5 points possible



- How many months are included on this graph? 12
- In which month were the most shoes sold? July
- In which month were the fewest shoes sold? February
- About how many shoes were sold in March? 225
- About how many shoes were sold in September? 290

6. Use <, >, or = to compare these fractions. 4 points possible

$$\frac{1}{3} < \frac{2}{3}$$

$$\frac{2}{4} = \frac{1}{2}$$

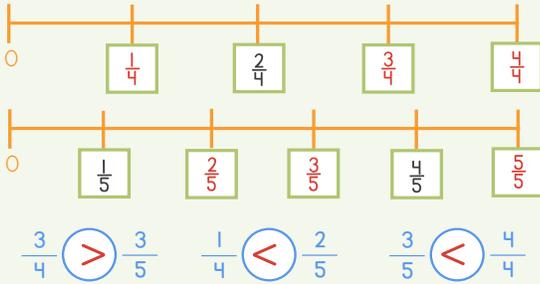
$$\frac{3}{8} < \frac{5}{8}$$

$$\frac{5}{6} > \frac{1}{6}$$

Lesson 92—Introduction to Division

Daily Dose

Fractions on a Number Line: Fill in the missing fractions on the number lines below. Then use the number lines to compare the fractions listed.

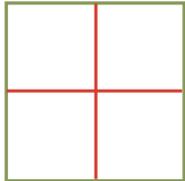


Multiply:

11	8	7	10	4	7
$\times 9$	$\times 8$	$\times 3$	$\times 7$	$\times 5$	$\times 9$
99	64	21	70	20	63

Lesson Answers:

a)



b)



Lesson 92—Student Worksheet

(c) addition, subtraction, and multiplication (d) 5 apples (e) see images below

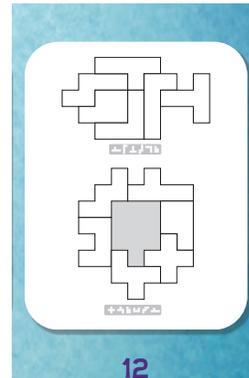
Using 18 apple manipulatives, solve these problems:

$$18 \div 2 = 9 \quad \begin{array}{r} 9 \\ 2 \overline{)18} \end{array} \quad 18 \div 6 = 3 \quad \begin{array}{r} 3 \\ 6 \overline{)18} \end{array}$$

Using 12 apple manipulatives, solve these problems:

$$12 \div 3 = 4 \quad \begin{array}{r} 4 \\ 3 \overline{)12} \end{array} \quad 12 \div 6 = 2 \quad \begin{array}{r} 2 \\ 6 \overline{)12} \end{array}$$

Bonus Activity Answers:



My Math Journal Answers:

Page 36

Division is separating into equal groups

$$21 \div 3 = 7$$

dividend divisor quotient

7 quotient
divisor 3 21 dividend

Divide and Conquer

$18 \div 3$ $5 \overline{)25}$ 7
 $25 \div 5$ $2 \overline{)14}$ 3
 $15 \div 5$ $10 \overline{)20}$ 6
 $20 \div 10$ $6 \overline{)24}$ 9
 $16 \div 2$ $3 \overline{)18}$ 8
 $14 \div 2$ $5 \overline{)15}$ 5
 $24 \div 6$ $3 \overline{)27}$ 2
 $27 \div 3$ $2 \overline{)16}$ 4

The knight has lost his shield! Connect the matching division problems and answers to find the correct shield. His shield is the one that matches with the starred answer. Use the apple manipulatives to complete each division problem. The first one is done for you. Then, optionally, draw the correct shield next to the knight.



Lesson 93—Fact Families

Daily Dose

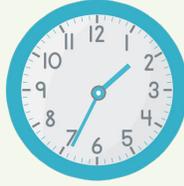
Elapsed Time: Using the end time and elapsed time, find and draw the start time on the first clock.



Start Time

Elapsed Time

19 min.



End Time

Mixed-Up Multiplication:

Find and circle the nine multiplication equations hidden in the number search. The equations are listed across (from left to right), down, and diagonally (from left to right). One has already been done for you.

3	5 × 8 = 40	9	3
6	4	6	2
7	2	6	7
1	0	3	6
9	7	6	0
7 × 8 = 56	2	1	5
0	8 × 6 = 48	2	5

Lesson Answers:

(a) 12 baskets of corn (b) 3, 4, 12 (c) 12 baskets of corn (d) yes (e) 4 baskets (f) 3 baskets (g) $12 \div 4 = 3$ (h) $4 \times 5 = 20$, $5 \times 4 = 20$, $20 \div 5 = 4$, $20 \div 4 = 5$ (i) subtraction

Bonus Activity Answers:

SHIKAKU PUZZLE #4

			B		
4		B			16
2					
			B		
					12
					B

My Math Journal

Answers: Page 28

$7 \cdot 8 = 15$
$8 \cdot 7 = 15$
$15 \div 8 = 7$
$15 \div 7 = 8$

Inverse operations are operations that are opposite from each other. Each operation undoes the other.

My Math Journal

Answers: Page 40

$6 \times 7 = 42$
$7 \times 6 = 42$
$42 \div 7 = 6$
$42 \div 6 = 7$

The inverse operation of multiplication is division. The inverse operation of division is multiplication.

Lesson 93—Student Worksheet

Fact Family Avenue

Use the numbers shown in the top windows of each house to create the multiplication and division equations for each fact family.

4 12 3

$4 \times 3 = 12$
 $3 \times 4 = 12$

$12 \div 4 = 3$
 $12 \div 3 = 4$

3 27 9

$3 \times 9 = 27$
 $9 \times 3 = 27$

$27 \div 3 = 9$
 $27 \div 9 = 3$

5 35 7

$5 \times 7 = 35$
 $7 \times 5 = 35$

$35 \div 5 = 7$
 $35 \div 7 = 5$

7 63 9

$7 \times 9 = 63$
 $9 \times 7 = 63$

$63 \div 7 = 9$
 $63 \div 9 = 7$

11 44 4

$11 \times 4 = 44$
 $4 \times 11 = 44$

$44 \div 11 = 4$
 $44 \div 4 = 11$

7 56 8

$7 \times 8 = 56$
 $8 \times 7 = 56$

$56 \div 7 = 8$
 $56 \div 8 = 7$

Lesson 94—Dividing by 1 and 0

Daily Dose

Rounding: Round each number as instructed.

	Nearest Hundred	Nearest Thousand	Nearest Ten Thousand
794,537	794,500	795,000	790,000
113,652	113,700	114,000	110,000
72,495	72,500	72,000	70,000

Multiplying Snowflakes:

Each outer layer is obtained by multiplying the number in the center with the numbers in the next section. Fill in the blank spaces with the correct answers.



(d) $2 \times 6 = 12$
 $6 \times 2 = 12$
 $12 \div 2 = 6$
 $12 \div 6 = 2$

(e) $6 \times 2 = 12$

(f) to put everything into one group (g) 12 jewels

$12 \div 1 = 12$ $12 \div 12 = 1$

(h) $12 \times 1 = 12$

(i) see image below

$8 \div 1 = 8$ $3 \div 3 = 1$ $10 \div 10 = 1$
 $1 \div 1 = 1$ $10 \div 3 = 3 \text{ R } 1$ $10 \div 10 = 1$

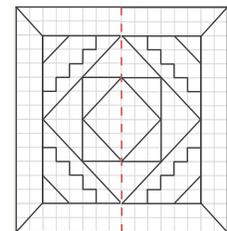
(j) to put everything into zero groups (k) none/not possible

(l) there is no solution

(m) see image below

$5 \div 0 = \text{undef.}$ $0 \div 7 = \text{undef.}$ $0 \div 9 = \text{undef.}$

Bonus Activity Answers:



Lesson Answers:

(a) to separate into equal groups

(b) 6

$12 \div 2 = 6$ $2 \overline{)12}$

(c) set of related operations

Lesson 94—Student Worksheet

Dazzling Division

Find each quotient. If an answer is undefined, write "undef."

$15 \div 1 = 15$ $33 \div 1 = 33$ $6 \div 1 = 6$ $10 \div 0 = \text{undef.}$
 $0 \overline{)72}$ $0 \overline{)29}$ $1 \overline{)11}$ $1 \overline{)4}$

Write a fact family for the numbers and operations shown.

Addition & Subtraction	Multiplication & Division
2, 4, 6 $2 + 4 = 6$	3, 6, 18 $3 \times 6 = 18$
$4 + 2 = 6$	$6 \times 3 = 18$
$6 - 2 = 4$	$18 \div 3 = 6$
$6 - 4 = 2$	$18 \div 6 = 3$

Lesson 95—Dividing by 2

Daily Dose

Conversions: Convert each length measurement.

10 mm = cm 90 mm = cm
 60 mm = cm 20 mm = cm

7 cm = mm 3 cm = mm
 8 cm = mm 5 cm = mm

Divide:

$10 \div 1 = 10$	$3 \div 1 = 3$	$8 \div 1 = 8$
$5 \div 1 = 5$	$6 \div 1 = 6$	$12 \div 1 = 12$

(b)

$1 + 1 = 2$
$2 + 2 = 4$
$3 + 3 = 6$
$4 + 4 = 8$
$5 + 5 = 10$
$6 + 6 = 12$
$7 + 7 = 14$
$8 + 8 = 16$
$9 + 9 = 18$
$10 + 10 = 20$

(c)

$14 \div 2 = 7$

$$\begin{array}{r} 7 \\ 2 \overline{)14} \end{array}$$

(d)

$20 \div 2 = 10$

$$\begin{array}{r} 10 \\ 2 \overline{)20} \end{array}$$

$8 \div 2 = 4$

Lesson Answers:

(a)

$16 \div 2 = 8$

$$\begin{array}{r} 8 \\ 2 \overline{)16} \end{array}$$

$12 \div 2 = 6$

$$\begin{array}{r} 6 \\ 2 \overline{)12} \end{array}$$

(e) $2 \times 5 = 10$; $5 \times 2 = 10$; $10 \div 5 = 2$; $10 \div 2 = 5$
 $2 \times 9 = 18$; $9 \times 2 = 18$; $18 \div 2 = 9$; $18 \div 9 = 2$

Lesson 95—Student Worksheet

Arctic Division Adventure

Complete each multiplication problem. Then write and solve a division problem for each story problem.

$6 \times 7 = 42$ $5 \times 5 = 25$ $8 \times 9 = 72$ $4 \times 2 = 8$ $6 \times 3 = 18$ $9 \times 7 = 63$

Let's suppose you went on an arctic adventure. You saw 20 walrus. There was an equal number of males and females. How many were in each group?

$20 \div 2 = 10$

Next you saw 14 reindeer. There was an equal number of males and females. How many were in each group?

$14 \div 2 = 7$

After that you saw 8 seals. Half of them were male, and half of them were female. How many were in each group?

$8 \div 2 = 4$

Later on you saw 16 arctic foxes. Half of them were male, and half of them were female. How many were in each group?

$16 \div 2 = 8$

On your arctic adventure, there were 18 people. Half of them were girls, and half of them were boys. How many were in each group?

$18 \div 2 = 9$

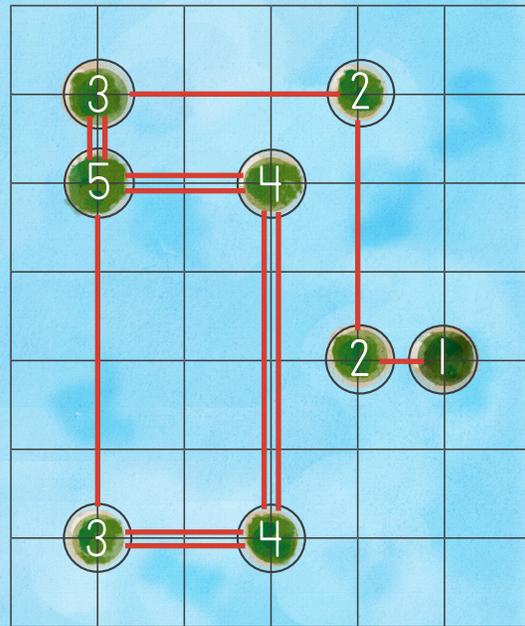
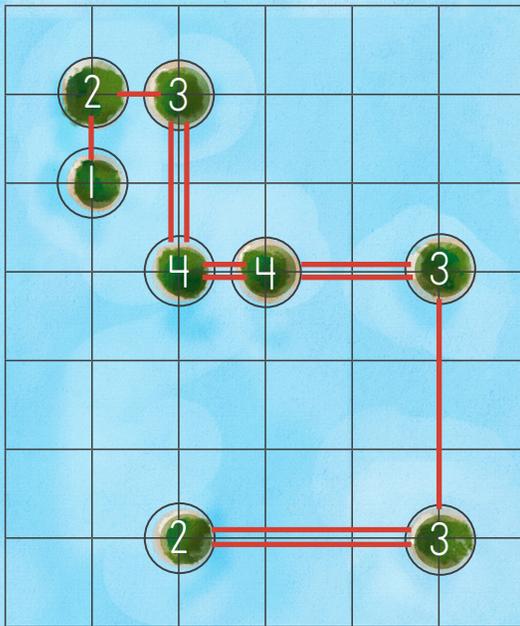
The last animal you saw on your arctic adventure was a snowy owl. You saw 6 owls total. Half of them were male, and half of them were female. How many were in each group?

$6 \div 2 = 3$

Lesson 95—Bonus Activity

Islands and Bridges #3

Connect the islands together with the number of bridges indicated on each island. Bridges can only be drawn horizontally and vertically and cannot cross. Up to two bridges can connect any two islands, and all the islands need to be connected together.



Lesson 96—Dividing by 10

Daily Dose

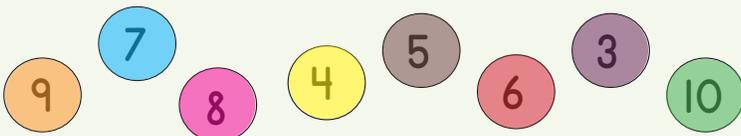
Mental Math Review: Choose any mental math strategy to add the numbers below.

$$\begin{array}{r} 75 \\ + 23 \\ \hline 98 \end{array} \quad \begin{array}{r} 48 \\ + 42 \\ \hline 90 \end{array} \quad \begin{array}{r} 54 \\ + 67 \\ \hline 121 \end{array} \quad \begin{array}{r} 31 \\ + 25 \\ \hline 56 \end{array}$$

Color the Answer: Solve each division problem and find the answer in the circles below. Color the corresponding circle with the same color as the division problem.

$$\begin{array}{r} 6 \\ 2 \overline{)12} \end{array} \quad \begin{array}{r} 4 \\ 2 \overline{)8} \end{array} \quad \begin{array}{r} 7 \\ 2 \overline{)14} \end{array} \quad \begin{array}{r} 3 \\ 2 \overline{)6} \end{array}$$

$$\begin{array}{r} 9 \\ 2 \overline{)18} \end{array} \quad \begin{array}{r} 10 \\ 2 \overline{)20} \end{array} \quad \begin{array}{r} 8 \\ 2 \overline{)16} \end{array} \quad \begin{array}{r} 5 \\ 2 \overline{)10} \end{array}$$



Lesson Answers:

(a) 70 legs (b) 50, 90, 20 (c) 3 groups (d) 3 crabs (e) $10 \times 3 = 30$, $3 \times 10 = 30$, $30 \div 10 = 3$ (f) 1 crab (g) 7 crabs (h) $80 \div 10 = 8$; $60 \div 10 = 6$; $100 \div 10 = 10$; $20 \div 10 = 2$; $40 \div 10 = 4$; $50 \div 10 = 5$

(i) Fact Family Houses:

$$\begin{array}{ll} 5 \times 10 = 50 & 9 \times 10 = 90 \\ 10 \times 5 = 50 & 10 \times 9 = 90 \\ 50 \div 10 = 5 & 90 \div 10 = 9 \\ 50 \div 5 = 10 & 90 \div 9 = 10 \end{array}$$

Bonus Activity Answers:

You have 73¢ using 7 coins. Which coins do you have?

You have 27¢ using 7 coins. Which coins do you have?

You have 56¢ using the fewest coins possible. Which coins do you have?

Division with Decapods

Find each quotient by using the Division by Ten strategy. Then solve the problems at the bottom of the page.

$70 \div 10 = 7$ $30 \div 10 = 3$ $10 \div 10 = 1$
 $50 \div 10 = 5$ $20 \div 10 = 2$ $40 \div 10 = 4$
 $60 \div 10 = 6$ $80 \div 10 = 8$ $100 \div 10 = 10$

If you count 90 crab legs along the shore, how many crabs are there walking on the shore? 9

Review: $18 \div 2 = 9$ $12 \div 2 = 6$ $7 \div 1 = 7$ $6 \div 2 = 3$ $14 \div 2 = 7$ $9 \div 1 = 9$ $16 \div 2 = 8$

Lesson 97—Dividing by 3

Daily Dose

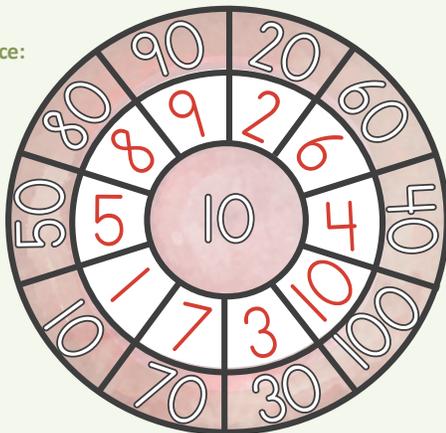
Find the Sums:

$$\begin{array}{r} 833,129 \\ + 121,467 \\ \hline 954,596 \end{array}$$

$$\begin{array}{r} 413,993 \\ + 358,268 \\ \hline 772,261 \end{array}$$

Target Practice:

Each middle section is obtained by dividing the outer section by the center circle. Fill in the blank spaces with the correct answers.



Lesson Answers:

- (a) 18, 15, 21 (b) 8 (c) 8 (d) 8, 8 (e) 30 barrels (f) 10 barrels

(g)



$$9 \div 3 = 3$$

(h)



$$12 \div 3 = 4$$

(i) 9, 5, 6

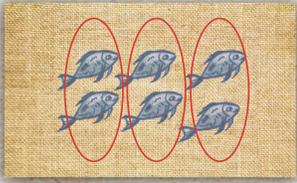
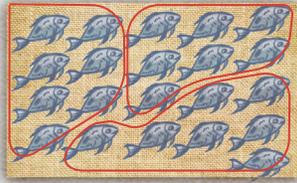
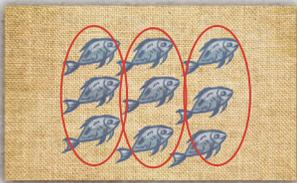
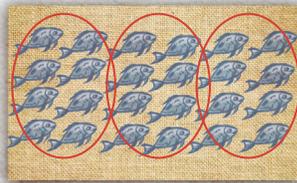
Bonus Activity Answers:

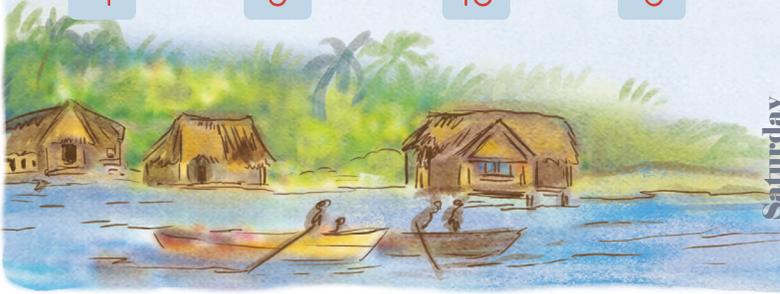
$80 \div 10 = 8$ $10 = 10$
 $10 \div 2 = 5$ $2 = 2$
 $2 \times 4 \times 10 = 80$ $4 = 4$
 $4 \times 8 = 32$ $8 = 8$
 $8 \div 2 \times 10 + 4 = 44$

Lesson 97—Student Worksheet

Sharing Supper

Jessa and Papa caught more fish than they needed. They decided to divide the extra fish among three families in the village. Each blanket shows the extra fish they caught. Divide each group by 3 to see how many fish each family will receive each day. Fill in the boxes provided to complete each division problem.

Sunday		$6 \div 3 = 2$
Monday		$21 \div 3 = 7$
Tuesday		$18 \div 3 = 6$
Wednesday		$9 \div 3 = 3$
Thursday		$15 \div 3 = 5$
Friday		$24 \div 3 = 8$
Saturday		$12 \div 3 = 4$



Lesson 98—Introduction to Mass

Daily Dose

Time: Write the time shown on each clock.


10:48


7:09


6:33

Multiplication Mix-Up: Fill in the multiplication chart with the products for each multiplication fact.

×	7	8	2	10
10	70	80	20	100
2	14	16	4	20
1	7	8	2	10
3	21	24	6	30

My Math Journal

Answers: Page 45

Volume: The amount of space an object or liquid takes up.

Weight: The amount of force or work needed to lift or move an object.

Mass: The amount of matter in an object.

My Math Journal

Answers: Page 48

Mass


1 ounce


1 pound

16 oz = 1 lb

48

Student Worksheet Answers:

Name of Object:	Estimated Weight:	Actual Weight:
	More than 1 pound Less than 1 pound	
	More than 1 pound Less than 1 pound	
	More than 1 pound Less than 1 pound	
	More than 1 pound Less than 1 pound	
	More than 1 pound Less than 1 pound	
	More than 1 pound Less than 1 pound	
	More than 1 pound Less than 1 pound	

Answers may vary.

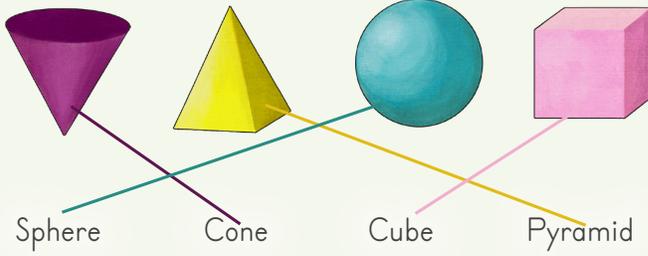
Lesson Answers:

(a) The United States (b) 16 slices (c) 16 oz (d) a pound (e) an ounce (f) 16 oz (g) 8 oz (h) 3 lbs (i) 1 lb 4 oz (j) 18 oz

Lesson 99—Converting Measurements

Daily Dose

3D Shape Review: Draw a line matching the 3D shape to its name.



Divide:

$$27 \div 3 = 9 \quad 12 \div 3 = 4 \quad 3 \div 3 = 1$$

$$18 \div 3 = 6 \quad 21 \div 3 = 7 \quad 30 \div 3 = 10$$

Lesson Answers:

(a) 16 oz (b) 18 oz (c) 2 oz

(d)

$$\begin{array}{r} 28 \\ -16 \\ \hline 12 \end{array}$$

1 lb 12 oz

$$\begin{array}{r} 18 \\ -16 \\ \hline 2 \end{array}$$

1 lb 2 oz

(e)

Lesson 99—Student Worksheet

Ducks on the Pond



$$8 \times 3 \text{ oz} = 24 \text{ oz}$$



$$7 \times 3 \text{ oz} = 21 \text{ oz}$$



$$10 \times 3 \text{ oz} = 30 \text{ oz}$$

$$\begin{array}{r} 28 \\ -16 \\ \hline 12 \end{array}$$

$$1 \text{ lb } 12 \text{ oz}$$

$$\begin{array}{r} 114 \\ 24 \\ -16 \\ \hline 8 \end{array}$$

$$1 \text{ lb } 8 \text{ oz}$$

$$\begin{array}{r} 211 \\ 31 \\ -16 \\ \hline 15 \end{array}$$

$$1 \text{ lb } 15 \text{ oz}$$

$$\begin{array}{r} 29 \\ -16 \\ \hline 13 \end{array}$$

$$1 \text{ lb } 13 \text{ oz}$$

$$\begin{array}{r} 115 \\ 25 \\ -16 \\ \hline 9 \end{array}$$

$$1 \text{ lb } 9 \text{ oz}$$

$$\begin{array}{r} 112 \\ 22 \\ -16 \\ \hline 6 \end{array}$$

$$1 \text{ lb } 6 \text{ oz}$$

Lesson 99—Bonus Activity

Coordinate Multiplication

Find the missing factor in each multiplication problem. Use the two factors as coordinates to color in the grid and discover the mystery picture. When plotting coordinates, the first number is the number listed across the bottom of the grid, and the second number is the number running vertically on the left-hand side of the grid. The first one is done for you.

11										
10										
9										
8										
7										
6										
5										
4										
3										
2										
1										
	1	2	3	4	5	6	7	8	9	10

Blue

$1 \times 4 = 4$ $2 \times 6 = 12$ $9 \times 5 = 45$ $10 \times 5 = 50$

$1 \times 5 = 5$ $3 \times 5 = 15$ $9 \times 6 = 54$ $10 \times 6 = 60$

$2 \times 4 = 8$ $3 \times 6 = 18$ $9 \times 7 = 63$ $11 \times 4 = 44$

$2 \times 5 = 10$ $3 \times 7 = 21$ $10 \times 4 = 40$ $11 \times 5 = 55$

Yellow

$4 \times 3 = 12$ $5 \times 4 = 20$ $6 \times 7 = 42$ $7 \times 8 = 56$

$4 \times 4 = 16$ $5 \times 7 = 35$ $6 \times 8 = 48$ $8 \times 3 = 24$

$4 \times 7 = 28$ $5 \times 8 = 40$ $7 \times 3 = 21$ $8 \times 4 = 32$

$4 \times 8 = 32$ $6 \times 3 = 18$ $7 \times 4 = 28$ $8 \times 7 = 56$

Black

$5 \times 3 = 15$ $6 \times 4 = 24$ $7 \times 7 = 49$ $8 \times 8 = 64$

$4 \times 5 = 20$ $5 \times 5 = 25$ $5 \times 11 = 55$ $6 \times 6 = 36$ $7 \times 5 = 35$ $7 \times 11 = 77$

$4 \times 6 = 24$ $5 \times 6 = 30$ $6 \times 1 = 6$ $6 \times 9 = 54$ $7 \times 6 = 42$ $8 \times 5 = 40$

$4 \times 9 = 36$ $5 \times 9 = 45$ $6 \times 2 = 12$ $6 \times 10 = 60$ $7 \times 9 = 63$ $8 \times 6 = 48$

$5 \times 2 = 10$ $5 \times 10 = 50$ $6 \times 5 = 30$ $7 \times 2 = 14$ $7 \times 10 = 70$ $8 \times 9 = 72$

Lesson 100—Measurement and Division

Daily Dose

Money: Write the money amounts shown and subtract.

\$80.03

\$25.56

\$54.47

Missing Factors: Find the missing factors.

$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$	$\begin{array}{r} 10 \\ \times 6 \\ \hline 60 \end{array}$	$\begin{array}{r} 2 \\ \times 8 \\ \hline 16 \end{array}$	$\begin{array}{r} 3 \\ \times 9 \\ \hline 27 \end{array}$	$\begin{array}{r} 10 \\ \times 8 \\ \hline 80 \end{array}$	$\begin{array}{r} 2 \\ \times 7 \\ \hline 14 \end{array}$
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(e) Swimmer A (2nd and 3rd Distances)

$21 \div 3 = 7$ $30 \div 3 = 10$

feet feet in each yard yards feet feet in each yard yards

(f) Swimmer B (2nd and 3rd Distances)

$24 \div 3 = 8$ $15 \div 3 = 5$

feet feet in each yard yards feet feet in each yard yards

(g) Swimmer C (2nd and 3rd Distances)

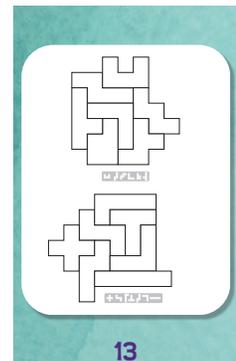
$27 \div 3 = 9$ $33 \div 3 = 11$

feet feet in each yard yards feet feet in each yard yards

(h) Swimmer A Swimmer B Swimmer C

1 st distance	4	1 st distance	6	1 st distance	5
2 nd distance	7	2 nd distance	8	2 nd distance	9
3 rd distance	10	3 rd distance	5	3 rd distance	11
+ 10		+ 5		+ 11	
21 yards		19 yards		25 yards	

Bonus Activity Answers:



13

Lesson Answers:

(a) 12 inches = 1 foot, 3 feet = 1 yard

(b) 12 feet

(c)

Swimmer A (1st Distance)

$12 \div 3 = 4$

feet feet in each yard yards

(d) Swimmer B (1st Distance)

$18 \div 3 = 6$

feet feet in each yard yards

Swimmer C (1st Distance)

$15 \div 3 = 5$

feet feet in each yard yards

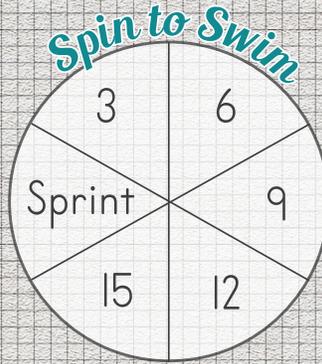
Swimmer C swam the most yards.

Lesson 100—Student Worksheet

Place a paper clip around the tip of a pencil and put the tip of the pencil on the center of this circle. Flick the paper clip with your finger and divide the number that the paper clip lands on by 3. If the paper clip lands on the word "Sprint," select one of the numbers in the Sprint Box to divide by 3. (Cross out the number you selected so it can no longer be used.)

Color in lane #1 until you reach the section of the pool that matches your answer. For example, if you spin a 15, you would divide 15 by 3, which equals 5. Then you would color 5 sections of lane #1 to show how far the swimmer in that lane traveled.

Flick the paper clip again and divide the number by 3. Then use that answer to color how far the swimmer in lane #2 traveled. Continue flicking the paper clip, dividing the number by 3, and coloring the next swimmer's lane until one swimmer reaches the other side of the pool and wins.



Sprint Box	
18	27
21	30
24	33

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



Lesson 101—Dividing by 4

Daily Dose

Measurement: Measure the length of each word below to the nearest fourth of an inch and record your measurements.

The Good and THE Beautiful
 $\frac{1}{2}$ $\frac{3}{4}$ $\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{4}$
 Mathematics Three

$2\frac{3}{4}$

Crisscross: Fill in the missing product and factors.

5	×	2	=	10	3	×	3	=	9
×		×		×	×		×		×
1		7		4	×	8	=	32	3
=		×		=		=		=	
5	×	8	=	40	24				27
=									
		56							

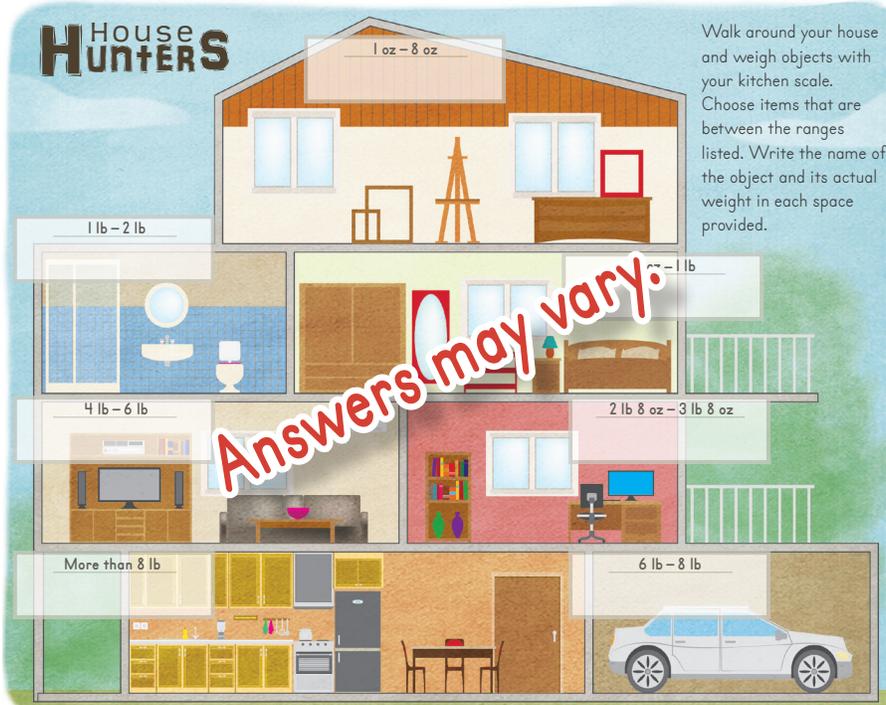
Lesson Answers:

(a) 8 (b) see image below

- $4 \div 4 = 1$
- $8 \div 4 = 2$
- $12 \div 4 = 3$
- $16 \div 4 = 4$
- $20 \div 4 = 5$
- $24 \div 4 = 6$
- $28 \div 4 = 7$
- $32 \div 4 = 8$
- $36 \div 4 = 9$
- $40 \div 4 = 10$



Bonus Activity Answers:



Walk around your house and weigh objects with your kitchen scale. Choose items that are between the ranges listed. Write the name of the object and its actual weight in each space provided.

Lesson 101—Student Worksheet

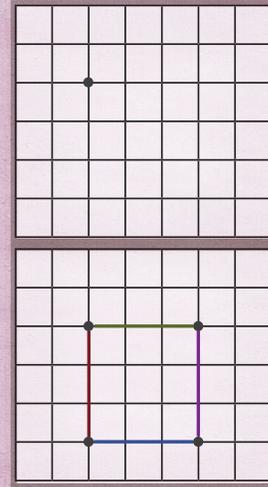
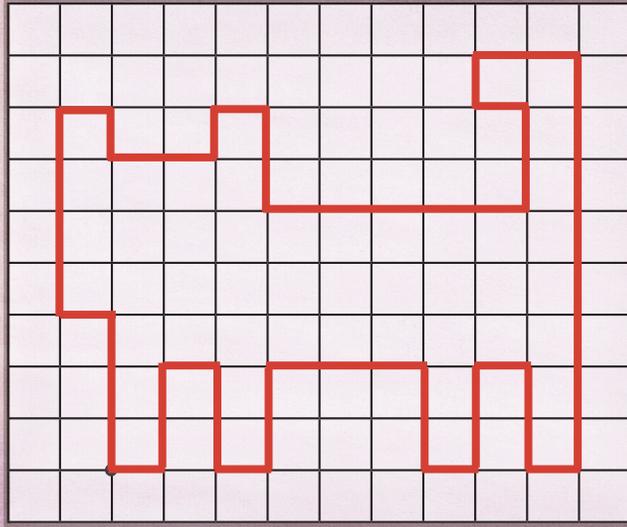
Graphic Dictation #1

First, solve each division problem below. Then use the answer and its arrow to draw a hidden image on the grid. Start on the dot and draw lines that go the number of spaces and the direction indicated. See the example shown on the right.

$12 \div 4 = 3 \uparrow$ $4 \div 4 = 1 \leftarrow$ $16 \div 4 = 4 \uparrow$ $1 \rightarrow$ $1 \downarrow$ $8 \div 4 = 2 \rightarrow$ $1 \uparrow$ $1 \rightarrow$
 $2 \downarrow$ $20 \div 4 = 5 \rightarrow$ $2 \uparrow$ $1 \leftarrow$ $1 \uparrow$ $2 \rightarrow$ $32 \div 4 = 8 \downarrow$ $1 \leftarrow$ $2 \uparrow$ $1 \leftarrow$ $2 \downarrow$ $1 \leftarrow$
 $8 \div 4 = 2 \uparrow$ $12 \div 4 = 3 \leftarrow$ $2 \downarrow$ $4 \div 4 = 1 \leftarrow$ $2 \uparrow$ $1 \leftarrow$ $2 \downarrow$ $1 \leftarrow$

Example:

$3 \downarrow$ $3 \rightarrow$ $3 \uparrow$ $3 \leftarrow$



Lesson 102—Mathematician: Mary Fairfax Somerville

Lesson Answers:

- (a) 2 (b) $A = 7, C = 2$
- (c) division
- (d) addition
- (e) multiplication
- (f) $8 \times b = 48, b = 6$
 $6 + h = 15, h = 9$
 $28 \div g = 4, g = 7$
 $20 - m = 9, m = 11$

Student Worksheet Answers:

Crack the Code:

Mary Somerville

Using inverse operations, solve for each unknown to crack the code.

$H + 3 = 19$ H = 16	$20 - C = 3$ C = 17	$Y \times 4 = 32$ Y = 8	$N \times 3 = 18$ N = 6	$15 - T = 2$ T = 13
$20 - L = 1$ L = 19	$S \times 4 = 40$ S = 10	$18 \div P = 9$ P = 2	$28 \div G = 4$ G = 7	$33 \div M = 3$ M = 11
$B \times 5 = 15$ B = 3	$20 \div A = 5$ A = 4	$O + 8 = 20$ O = 12	$I + 4 = 18$ I = 14	$E + 1 = 16$ E = 15
				$15 - R = 10$ R = 5

Mary Somerville became a well-known and highly regarded woman in the science world. She studied many different types of science. Five of the sciences she studied were

$\frac{A}{4} \frac{s}{10} \frac{t}{13} \frac{r}{5} \frac{o}{12} \frac{n}{6} \frac{o}{12} \frac{m}{11} \frac{y}{8},$
 $\frac{G}{7} \frac{e}{15} \frac{o}{12} \frac{l}{19} \frac{o}{12} \frac{g}{7} \frac{y}{8},$ $\frac{B}{3} \frac{o}{12} \frac{t}{13} \frac{a}{4} \frac{n}{6} \frac{y}{8},$
 $\frac{M}{11} \frac{e}{15} \frac{t}{13} \frac{e}{15} \frac{o}{12} \frac{l}{5} \frac{o}{12} \frac{r}{19} \frac{o}{12} \frac{g}{7} \frac{y}{8},$ $\frac{P}{2} \frac{h}{16} \frac{y}{8} \frac{s}{10} \frac{i}{14} \frac{c}{17} \frac{s}{10}.$

Lesson 103—Order of Operations Practice

Daily Dose

Mass: Write the correct equivalent amount for each mass.

16 oz = lb oz

20 oz = lb oz

25 oz = lb oz

31 oz = lb oz

17 oz = lb oz

33 oz = lb oz

Missing Divisor: Fill in the missing divisor for each problem.

$12 \div \boxed{3} = 4$ $8 \div \boxed{2} = 4$ $10 \div \boxed{2} = 5$

$24 \div \boxed{4} = 6$ $21 \div \boxed{3} = 7$ $18 \div \boxed{3} = 6$

(c) $5 + 6 \times 3 = \boxed{23}$

$(9 - 6) \times (4 + 3) = \boxed{21}$

(d) $24 \div 4 \times 6 = \boxed{36}$

$(4 + 2) \times 5 \div 10 = \boxed{3}$

(e)

- $(7 - 2) \times 4 \div 10 = 2$
- $4 \times (3 + 3) \div 3 = 8$
- $8 \div 4 \times 10 - 12 = 8$
- $(24 \div 4) \div 2 = 3$
- $5 \times 6 \div (12 \div 4) = 10$
- $6 + 2 \times 4 - 7 = 7$
- $(15 + 6) \div 3 = 7$
- $70 \div 10 + 3 = 10$
- $12 \div 4 \times 2 = 6$
- $8 \times 2 \div (10 - 6) = 4$
- $32 \div 4 + (14 - 11) = 11$
- $24 \div 4 + 15 \div 3 = 11$

From the Math Activity Box, take out a twelve-sided dice, the cherry manipulatives, and 10 of the apple manipulatives. Each player receives one type of fruit manipulative. Each player takes a turn rolling the dice, solving the problem next to that number, and covering the matching answer with a fruit. If an answer is already covered with the other player's fruit, it is removed and the new fruit is added in its place. If the answer is already covered with one of the player's own fruits, he or she adds a second fruit on top of it, and it becomes a fruit salad. Fruit salads cannot have their fruits removed by another player. The first player to have all of his or her fruits placed on the cherries wins. (Alternately, play can end when all problems have been solved once.)

Filipino Fruit Salad

- 2 cups chopped fruit, fresh or canned
- $\frac{1}{2}$ cup sweetened condensed milk
- $\frac{1}{4}$ cup heavy whipping cream

Lightly whip together the milk & cream. Pour over the chopped fruit and mix. Chill and serve.

Lesson Answers:

- (a) Perry Exercises My Dogs And Squirrels
 (b) Parentheses, Exponents, Multiplication/Division, Addition/Subtraction

Lesson 103 —Student Worksheet and Bonus Activity

Student Worksheet Answers:

$(6-9) \times 5 = 14$
 35
 36
 $6 \times 01 \div 0h$
 36
 $(7+3) \times 6 - 5 = 55$
 55
 99
 $(4 \times 2) \times (12 \div 2) = 48$
 48
 $32 = 4 \times 8$
 56
 18
 12
 $h + 8 \div h \times 9 = 12$
 12
 $24 \div 4 \times 2 - 12 = 0$
 0

Bonus Activity Answers:

7	2	5	6	1	8	4	9	3
6	1	3	9	5	4	8	2	7
4	9	8	3	7	2	1	5	6
9	8	4	7	2	5	6	3	1
5	6	7	1	3	9	2	4	8
1	3	2	4	8	6	9	7	5
8	7	6	2	9	3	5	1	4
3	4	9	5	6	1	7	8	2
2	5	1	8	4	7	3	6	9

Lesson 104—Dividing by 5

Daily Dose

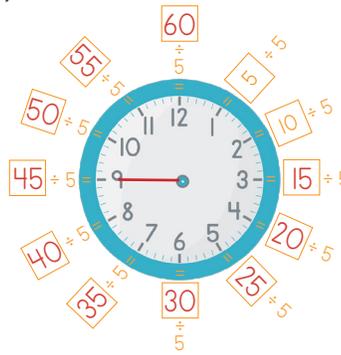
Find Each Difference:

$\begin{array}{r} 1,000,000 \\ - 959,949 \\ \hline 40,051 \end{array}$	$\begin{array}{r} 210141612 \\ 315,702 \\ - 225,935 \\ \hline 89,767 \end{array}$
--	---

Divide:

$2 \overline{)18}$	$10 \overline{)60}$	$4 \overline{)36}$
$4 \overline{)12}$	$3 \overline{)27}$	$3 \overline{)15}$

(c)

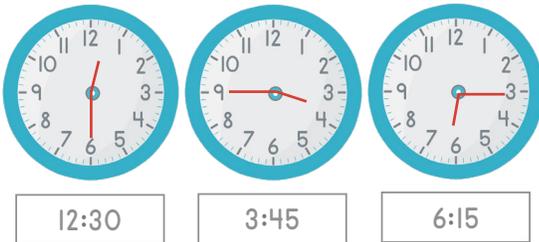


(d) $45 \div 5 = 9$ nickels

(e) $25 \div 5 = 5$ tally marks

Lesson Answers:

(a) see images below (b) 6



(f) Fact Family Houses:

$5 \times 11 = 55$

$4 \times 5 = 20$

$5 \times 8 = 40$

$11 \times 5 = 55$

$5 \times 4 = 20$

$8 \times 5 = 40$

$55 \div 11 = 5$

$20 \div 5 = 4$

$40 \div 8 = 5$

$55 \div 5 = 11$

$20 \div 4 = 5$

$40 \div 5 = 8$

Lesson 104 —Student Worksheet

Roll the twelve-sided dice and find the numbered box that matches the number rolled. Write the number of nickels that match the amount of money listed. Continue rolling the dice until all the boxes are filled. Whenever you roll a repeat number, solve a review problem on the right.

Money Division Blackout

50¢ ¹ = <u>10</u> nickels	15¢ ² = <u>3</u> nickels	45¢ ³ = <u>9</u> nickels	40¢ ⁴ = <u>8</u> nickels
35¢ ⁵ = <u>7</u> nickels	10¢ ⁶ = <u>2</u> nickels	25¢ ⁷ = <u>5</u> nickels	30¢ ⁸ = <u>6</u> nickels
25¢ ⁹ = <u>5</u> nickels	5¢ ¹⁰ = <u>1</u> nickels	45¢ ¹¹ = <u>9</u> nickels	20¢ ¹² = <u>4</u> nickels

Review

$12 \div 3 = \underline{4}$

$20 \div 4 = \underline{5}$

$60 \div 10 = \underline{6}$

$18 \div 3 = \underline{6}$

$7 \div 1 = \underline{7}$

$24 \div 4 = \underline{6}$

$80 \div 10 = \underline{8}$

$16 \div 4 = \underline{4}$

$10 \div 2 = \underline{5}$

$14 \div 2 = \underline{7}$

Lesson 104—Bonus Activity

A Bountiful Harvest

The picture graph below shows the number of baskets of produce collected in Jessa's village from April to November. Write the number represented by the pictures in the box at the end of each row. Then find the total number of baskets collected. Look at the key in the upper right corner to find out what each basket image below represents.



Month	Number of Baskets Collected
April	 500
May	 450
June	 800
July	 750
August	 500
September	 550
October	 700
November	 350

Total number of baskets of produce collected from April to November

500
450
800
750
500
550
700
+ 350
4,600

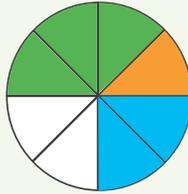
Lesson 105—Mass and the Metric System

Daily Dose

Fraction Review:

Color $\frac{3}{8}$ of this circle green, $\frac{1}{8}$ orange, and $\frac{2}{8}$ blue.

$$\begin{aligned} \text{Green} + \text{Orange} &= \frac{4}{8} & \text{Blue} + \text{Green} &= \frac{5}{8} \\ \text{Orange} + \text{Blue} &= \frac{3}{8} & \text{Orange} + \text{Blue} + \text{Green} &= \frac{6}{8} \end{aligned}$$



Target Practice:

Each middle section is obtained by dividing the outer section by the center circle. Fill in the blank spaces with the correct answers.



Lesson Answers:

(a) see images below



(b) yes (c) No, it requires more work on Earth. (d) globe: 16 kg; canning jar: 8 kg; lamp: 11 kg

mass mission

Your mission is to find five objects in your house that have a mass less than 1 kg and five objects that have a mass greater than 1 kg. Use your kitchen scale to weigh each item or compare its mass with the book used earlier in this lesson. List each object in the correct column.

Answers may vary.

METRIC SYSTEM CONVERSIONS

Length/Distance

1 centimeter
10 mm = 1 cm 100 cm = 1 meter

Volume

1 milliliter 1 liter 1,000 mL = 1 L

Mass

1 gram 1 kilogram 1,000 g = 1 kg

Lesson 105—Bonus Activity

- 1 $(5 \times 4) - 8 = 12$
- 2 $6 + 3 \times 4 - 3 = 15$
- 3 $(7 + 8) - (40 \div 10) = 11$
- 4 $4 \times (18 \div 3) = 24$
- 5 $(25 \div 5) \times 6 = 30$
- 6 $2 + 3 \times (10 - 4) = 20$
- 7 $3 + 5 \times 6 \div 2 = 18$
- 8 $(10 \times 4) - 3 = 37$
- 9 $4 + 7 \times 8 = 60$
- 10 $6 + (15 - 4) = 17$
- 11 $(9 - 3) \times 8 = 48$
- 12 $12 \div 2 \times (4 + 5) = 54$
- 13 $3 \times (5 + 6) = 33$
- 14 $(5 \times 10) - (24 \div 4) = 44$
- 15 $24 \div 4 + 2 \times 5 = 16$

Island Number Search

Use the order of operations to solve each of the problems listed to the left. Then find and circle the answer in the number search. Numbers are arranged horizontally, vertically, and diagonally. *Note: Numbers will not be listed backward or in reverse order.*

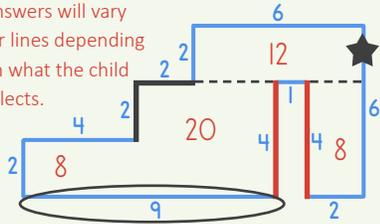
1	8	7	5	4	9	8	5
4	0	3	1	4	0	3	1
2	1	7	0	6	7	9	3
9	1	3	9	2	5	8	0
7	3	5	0	2	4	2	2
8	5	0	5	0	9	8	5
1	0	9	1	0	7	1	2
6	0	3	4	3	4	3	9

Lesson 106—Mass Continued

Daily Dose

Area and Perimeter Review: Find the area and perimeter of the shape below. Label answers in square units and units.

Answers will vary for lines depending on what the child selects.



Area: 48 sq units Perimeter: 44 units

Line Review: On the shape above

1. Find a set of parallel line segments; trace them with a red pencil.
2. Trace a set of intersecting line segments with a black pencil.
3. Put a star next to a vertical line segment.
4. Circle a horizontal line segment.

Lesson Answers:

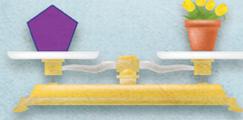
(a) 1,000 g (b) 3,000 g (c) 5,000 g
(d) 9,000 g (e) 6 kg (f) 2 kg (g) 7 kg
(h) 9 kg (i) 9,000 g (j) 7 kg (k) 7,000 g

Student Worksheet Answers:

Balancing Conversions

Kilograms to Grams

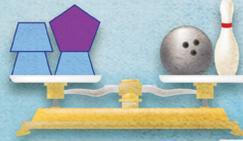
Use the key to find the total mass of each object. Then convert from kilograms to grams.



The mass of the flower pot is **5,000 g**.



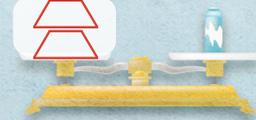
The mass of the guitar is **4,000 g**.



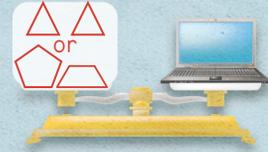
The mass of the bowling ball and pin is **8,000 g**.

Grams to Kilograms

Use the key to draw the correct weights on each scale to represent the correct mass of each object.



The mass of the bottle of milk is 2,000 g.



The mass of the laptop is 6,000 g.



The mass of the tire is 9,000 g.

Lesson 107—Dividing by 6

Daily Dose

Fraction Review: List the fractions in order from least to greatest.



Order of Operations Practice:

$$40 \div (8 - 3) \times 3 = 24$$

$$(27 \div 3) \times (30 \div 5) = 54$$

$$(14 + 6) \div 4 + 10 = 15$$

(d) multiplication (e) $18 \div 6 = 3$ (f) $54 \div 6 = 9$ (g) $54 \div 6 = 9$; $48 \div 6 = 8$; $36 \div 6 = 6$ (h) see Fact Family Houses below

$4 \times 6 = 24$

$6 \times 11 = 66$

$6 \times 8 = 48$

$6 \times 4 = 24$

$11 \times 6 = 66$

$8 \times 6 = 48$

$24 \div 4 = 6$

$66 \div 6 = 11$

$48 \div 8 = 6$

$24 \div 6 = 4$

$66 \div 11 = 6$

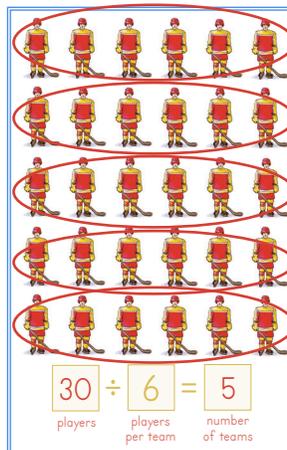
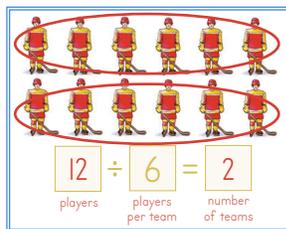
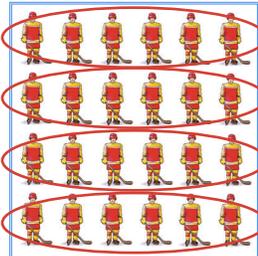
$48 \div 6 = 8$

Lesson Answers:

(a) 24 players

(b) 4 teams

(c) see next 2 images



Bonus Activity Answers:

You have 18¢ using 6 coins. Which coins do you have?



You have 25¢ using 7 coins. Which coins do you have?



You have 31¢ using 4 coins. Which coins do you have?



Lesson 108—Dividing Groups

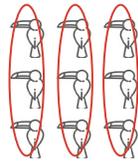
Daily Dose

3D Shapes: Match each 3D shape with its name.

Triangular Pyramid Rectangular Prism
Hexagonal Prism Square Pyramid Triangular Prism

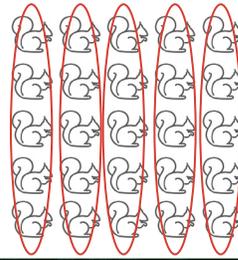
Pinwheel Problems: Some of the pinwheel numbers are missing. Fill in the blank areas of the pinwheel so the outer numbers are factors and the inner numbers are the product of the two adjacent outer petals. (See the Lesson 80 Daily Dose if needed.)

(j)



What is $\frac{1}{3}$ of 9? 3

What is $\frac{2}{3}$ of 9? 6



What is $\frac{1}{5}$ of 25? 5

What is $\frac{3}{5}$ of 25? 15

Bonus Activity Answers:

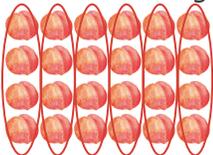
#2 Graphic Dictation

First, solve each division problem below. Then use the answer and its arrow to draw a hidden image on the grid. Start on the green dot and draw lines that go the number of spaces and the direction indicated.

$18 \div 6 = 3 \rightarrow$ $24 \div 4 = 6 \downarrow$ $8 \div 4 = 2 \rightarrow$ $16 \div 4 = 4 \uparrow$ $20 \div 5 = 4 \rightarrow$ $4 \downarrow$
 $2 \rightarrow$ $2 \uparrow$ $24 \div 6 = 4 \rightarrow$ $12 \div 6 = 2 \downarrow$ $4 \div 4 = 1 \rightarrow$ $1 \downarrow$ $2 \leftarrow$ $2 \uparrow$ $2 \leftarrow$
 $10 \div 5 = 2 \downarrow$ $4 \leftarrow$ $4 \uparrow$ $2 \leftarrow$ $4 \downarrow$ $12 \div 3 = 4 \leftarrow$ $30 \div 6 = 5 \uparrow$ $2 \leftarrow$ $6 \div 3 = 2 \uparrow$

Lesson Answers:

(a) 5 (b) 4 (c) 4 (d) 2 (e) 2 (f) 4—
see below image



(g) 4 (h) The bottom number of a fraction (i) 8 peaches

Lesson 108—Student Worksheet

Animal Groups

For each group of animals, circle equal groups to match the denominator and write the number of animals in each group in the box. Then find the values for the fractions by counting the animals in the correct number of groups.

<p>$12 \div 3 = 4$</p> <p>What is $\frac{1}{3}$ of 12? <u>4</u></p> <p>What is $\frac{2}{3}$ of 12? <u>8</u></p>	<p>$18 \div 6 = 3$</p> <p>What is $\frac{1}{6}$ of 18? <u>3</u></p> <p>What is $\frac{3}{6}$ of 18? <u>9</u></p>
<p>$16 \div 4 = 4$</p> <p>What is $\frac{1}{4}$ of 16? <u>4</u></p> <p>What is $\frac{3}{4}$ of 16? <u>12</u></p>	<p>$14 \div 2 = 7$</p> <p>What is $\frac{1}{2}$ of 14? <u>7</u></p> <p>What is $\frac{2}{2}$ of 14? <u>14</u></p>
<p>$20 \div 5 = 4$</p> <p>What is $\frac{1}{5}$ of 20? <u>4</u></p> <p>What is $\frac{3}{5}$ of 20? <u>12</u></p>	<p>$15 \div 5 = 3$</p> <p>What is $\frac{1}{5}$ of 15? <u>3</u></p> <p>What is $\frac{4}{5}$ of 15? <u>12</u></p>

Lesson 109—Problem-Solving Stories

Daily Dose

Elapsed Time: Using the start time and elapsed time, find and draw the end time on the second clock.

Start Time Elapsed Time End Time

24 min.

Mixed-Up Division: Find and circle the nine division equations hidden in the number search. The equations are listed across (from left to right), down, and diagonally (from left to right). One has already been found for you.

Student Worksheet Answers:

Solve each division problem. Use the colors for the quotients in the boxes to color in the quilt squares that have the same quotient.

$36 \div 6 = 6$
 $15 \div 3 = 5$
 $20 \div 5 = 4$
 $18 \div 6 = 3$

$6 \overline{)24}$	$4 \overline{)24}$	$3 \overline{)16}$	$5 \overline{)25}$
$3 \overline{)12}$	$5 \overline{)10}$	$6 \overline{)30}$	$4 \overline{)16}$
$4 \overline{)20}$	$3 \overline{)18}$	$5 \overline{)15}$	$10 \overline{)30}$
$5 \overline{)10}$	$4 \overline{)12}$	$4 \overline{)16}$	$3 \overline{)18}$

Lesson Answers:

(a) volume (b) no (c) no (d)

4 quarts (e) first group = 10

gallons, second group = 28 quarts (or 7 gallons), first group had more, altogether they had 17

gallons of milk (f) first group = 40 oz of berries, second group = 4 lbs (or 64 oz) of berries, second

group had more (g) 104 oz (h) first group = 16 ft of fabric, second group = 10 yd or 30 ft of fabric,

second group had more (i) 46 ft (j) first group = 18,000 g of apples, second group = 18 kg or 18,000 g of apples, both groups have the same amount of apples (k) 36,000 g or 36 kg

Lesson 110—Dividing by 7

Daily Dose

Round Each Number as Instructed:

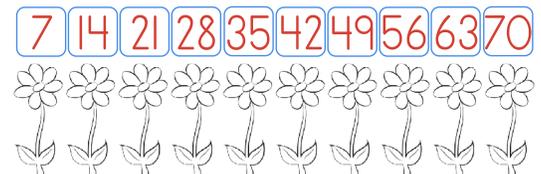
	Nearest Hundred	Nearest Thousand	Nearest Ten Thousand
378,092	378,100	378,000	380,000
669,543	669,500	670,000	670,000
382,248	382,200	382,000	380,000

Multiplying Snowflakes:

Each outer layer is obtained by multiplying the number in the center with an unknown factor. Fill in the blank spaces with the correct answers.

Lesson Answers:

(a)



(b) 6 flowers (c) 10 flowers (d) 3 flowers

(e)

$14 \div 7 = 2$	$7 \div 7 = 1$
$63 \div 7 = 9$	$35 \div 7 = 5$
$56 \div 7 = 8$	$49 \div 7 = 7$
$28 \div 7 = 4$	

Lesson 110—Student Worksheet

DIVISION PRECISION

Accurately guide each division arrow to the correct target by finding the quotient and drawing a line to show its path to the bullseye.

Lesson 110—Bonus Activity

Disappearing Digits

Fill in the boxes for each subtraction problem with numbers that will make the equation accurate.

$$\begin{array}{r} 9 \boxed{3} 9 \boxed{3} 8 2 \\ - 2 1 \boxed{1} 2 \boxed{7} 0 \\ \hline 7 2 8 1 1 \boxed{2} \end{array}$$

$$\begin{array}{r} 8 \boxed{8} 2 \boxed{5} \\ - \boxed{1} 7 1 4 \\ \hline 7 1 \boxed{1} 1 \end{array}$$

$$\begin{array}{r} 5 6 \boxed{9} 5 \\ - 3 \boxed{3} 2 1 \\ \hline 2 3 7 \boxed{4} \end{array}$$

$$\begin{array}{r} 8 5 \boxed{5} 3 8 \\ - 4 \boxed{1} 2 2 \boxed{0} \\ \hline 4 4 3 1 8 \end{array}$$

$$\begin{array}{r} 5 4 \boxed{8} 4 \boxed{8} \\ - 4 \boxed{1} 2 \boxed{1} 5 \\ \hline 1 \boxed{3} 6 3 3 \end{array}$$

$$\begin{array}{r} 7 5 2 \boxed{9} 7 5 \\ - 4 \boxed{1} 1 6 5 \boxed{2} \\ \hline 3 4 \boxed{1} 3 \boxed{2} 3 \end{array}$$

$$\begin{array}{r} 5 3 4 2 \\ - 2 \boxed{1} 2 \boxed{1} \\ \hline 3 2 \boxed{2} 1 \end{array}$$

Lesson 111—Perimeter and Division

Daily Dose

Mental Math Review: Choose any mental math strategy to add the numbers below.

$\begin{array}{r} 84 \\ + 37 \\ \hline 121 \end{array}$	$\begin{array}{r} 29 \\ + 45 \\ \hline 74 \end{array}$	$\begin{array}{r} 66 \\ + 35 \\ \hline 101 \end{array}$	$\begin{array}{r} 78 \\ + 23 \\ \hline 101 \end{array}$
---	--	---	---

Target Practice:

Each middle section is obtained by dividing the outer section by the center circle. Fill in the blank spaces with the correct answers.



Lesson Answers:

(a) Perimeter is the total length of all the sides of a two-dimensional shape. (b) 28 in, 15 m (c) $24 \text{ in} \div 3 = 8 \text{ in}$, $49 \text{ ft} \div 7 = 7 \text{ ft}$, $16 \text{ mm} \div 4 = 4 \text{ mm}$ (d) $42 \text{ cm} \div 6 = 7 \text{ cm}$, $10 \text{ cm} \div 5 = 2 \text{ cm}$, $18 \text{ in} \div 3 = 6 \text{ in}$, $35 \text{ ft} \div 7 = 5 \text{ ft}$, $28 \text{ m} \div 4 = 7 \text{ m}$

Lesson 111—Student Worksheet

Puzzling
Perimeter

Write and solve division problems to find the length of each side of these regular polygons. Don't forget to include the units.

 $30 \div 3 = 10 \text{ mm}$	 $12 \div 4 = 3 \text{ m}$	 $35 \div 5 = 7 \text{ cm}$	 $48 \div 6 = 8 \text{ in}$	 $56 \div 7 = 8 \text{ m}$
 $20 \div 5 = 4 \text{ in}$	 $32 \div 4 = 8 \text{ ft}$	 $36 \div 6 = 6 \text{ in}$	 $21 \div 3 = 7 \text{ m}$	 $63 \div 7 = 9 \text{ cm}$

Review:

$\begin{array}{r} 7 \\ 1 \overline{) 7} \end{array}$	$\begin{array}{r} 7 \\ 2 \overline{) 14} \end{array}$	$\begin{array}{r} 5 \\ 3 \overline{) 15} \end{array}$	$\begin{array}{r} 5 \\ 4 \overline{) 20} \end{array}$	$\begin{array}{r} 9 \\ 5 \overline{) 45} \end{array}$	$\begin{array}{r} 4 \\ 6 \overline{) 24} \end{array}$	$\begin{array}{r} 4 \\ 7 \overline{) 28} \end{array}$
--	---	---	---	---	---	---

Lesson 111—Bonus Activity

Rotating Shapes

Choose the shape that finishes the sequence if the shape continues to rotate the same amount each time.

Lesson 112—Weight and Mass Review

Daily Dose

Measurement Review: Fill in the missing measurements on the ruler.

Color the Answer:
Solve each division problem and find the answer in the circles below. Color the corresponding circle with the same color as the division problem.

$\begin{array}{r} 6 \\ 7 \overline{)42} \end{array}$	$\begin{array}{r} 1 \\ 7 \overline{)7} \end{array}$	$\begin{array}{r} 9 \\ 7 \overline{)63} \end{array}$	$\begin{array}{r} 3 \\ 7 \overline{)21} \end{array}$
$\begin{array}{r} 2 \\ 7 \overline{)14} \end{array}$	$\begin{array}{r} 5 \\ 7 \overline{)35} \end{array}$	$\begin{array}{r} 10 \\ 7 \overline{)70} \end{array}$	$\begin{array}{r} 7 \\ 7 \overline{)49} \end{array}$

9 5 7 6 1 3 2

Lesson Answers:

What am I?

I am...

the amount of matter in an object.	mass	the abbreviation for grams.	g
the abbreviation for kilograms.	kg	a tool best used to measure weight.	scale
the abbreviation for ounces.	oz	the amount of force or work needed to lift an object.	weight
a tool best used to measure mass.	a balance	equivalent to 1 pound.	16 oz
an object that weighs about an ounce.	a slice of bread	equivalent to 1 kilogram.	1,000 g
an object that weighs about a pound.	a loaf of bread		
an object that weighs about a gram.	a paper clip		
an object that weighs about a kilogram.	a pineapple		

Independent Activities

Student Worksheet: Decoding Conversions

Bonus Activity: Multiplication Practice

How? Choose one or more of the following multiplication practice activities for the child to complete. **Choose the activity that best matches the needs of the child.** The details for each activity are listed in the *Multiplication & Division Activity Book* found in the Math Activity Box.

- Game: Seven Wonders of the World—one-player game
- Choose a multiplication game or activity that focuses on facts not yet mastered.
- *Musical Multiplication:* Any set A–C (suggested)

Lesson 112—Student Worksheet

Decoding Conversions

Convert each measurement to decode Jessa's letter.

1
3 kg = _____g
A) 30 Mama
B) 300 Gian
C) 3,000 Jasmine

2
7 kg = _____g
A) 7 cousin
B) 7,000 grandma
C) 700 uncle

3
4,000 g = _____kg
A) 4,000 tambourine
B) 40 trumpet
C) 4 ukulele

4
9,000 g = _____kg
A) 9 songs
B) 90 lyrics
C) 900 tunes

5
27 oz = _____
A) 1 lb 2 oz show
B) 1 lb 11 oz performance
C) 1 lb 1 oz dance

6
18 oz = _____
A) 2 oz animals
B) 1 lb 10 oz family
C) 1 lb 2 oz friends

7
31 oz = _____
A) 1 lb 14 oz practicing
B) 1 lb 15 oz planning
C) 15 lb 1 oz singing

8
22 oz = _____
A) 1 lb 6 oz Hugs
B) 1 lb 1 oz Love
C) 6 oz Sincerely

Dear Jasmine,

I came by to ask if you could play, but you are away visiting your grandma. I can't wait until you return so I can show you my new ukulele. I will play the instrument while we sing our favorite songs! How fun would it be if we could put together performance for all of our friends? Let's begin planning when you return. Hugs, Jessa

Lesson 113—Dividing by 8

Daily Dose

Fraction Review: List the fractions in order from least to greatest.

$\frac{4}{8}$

$\frac{7}{8}$

$\frac{2}{8}$

$\frac{8}{8}$

$\frac{1}{8}$

$\frac{1}{8}$

$\frac{2}{8}$

$\frac{4}{8}$

$\frac{7}{8}$

$\frac{8}{8}$

Multiplication Mix-Up: Fill in the multiplication chart with the product for each multiplication fact.

×	7	6	3	2
8	56	48	24	16
10	70	60	30	20
2	14	12	6	4
5	35	30	15	10

Lesson Answers:

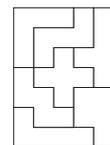
(a) 16 (b) 2 (c) 24 (d) 3 (e) $24 \div 8 = 3$ (f) $40 \div 8 = 5$ (g) multiplication (h) 4 (i) $72 \div 8 = 9$ (j) 10, 6, 7, 8

k)
 $8 \times 9 = 72$
 $9 \times 8 = 72$
 $72 \div 8 = 9$
 $72 \div 9 = 8$

$8 \times 6 = 48$
 $6 \times 8 = 48$
 $48 \div 6 = 8$
 $48 \div 8 = 6$

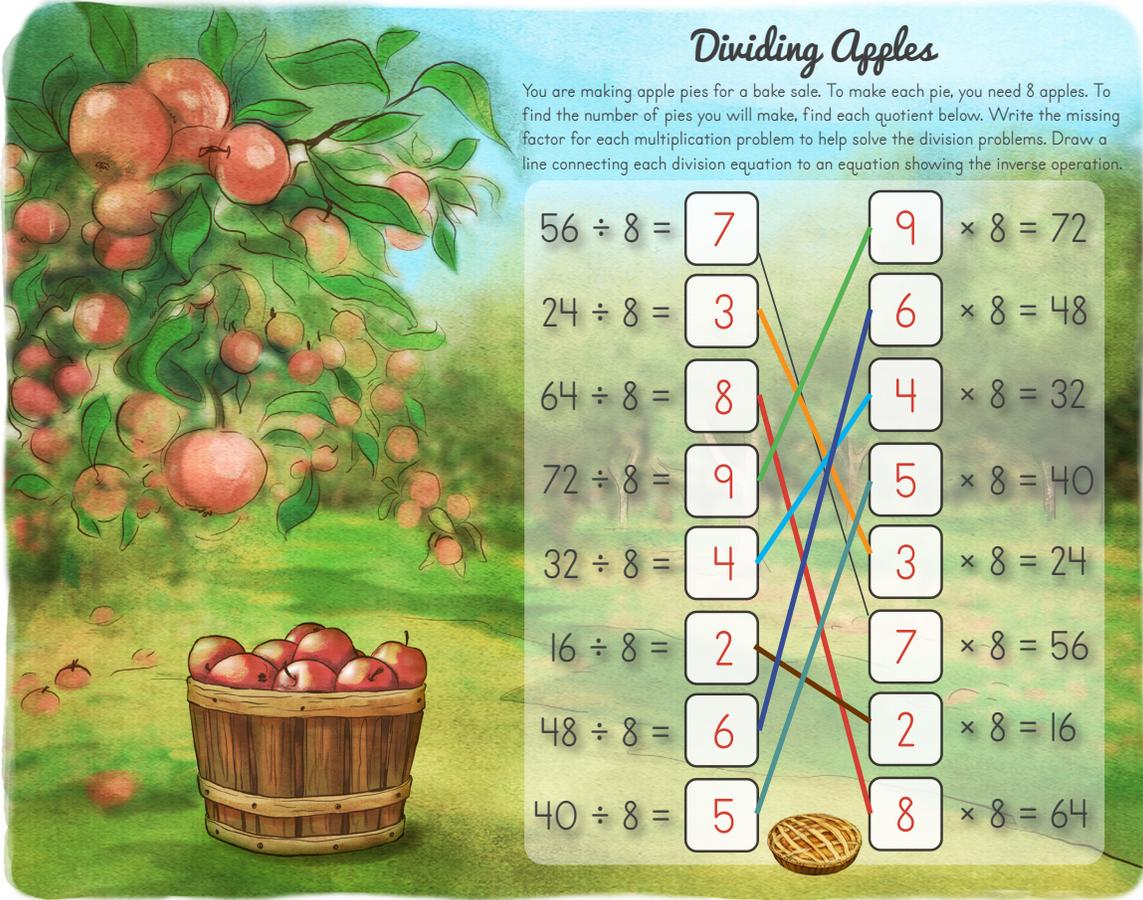
Bonus Activity Answers:

Answers may vary.



Dividing Apples

You are making apple pies for a bake sale. To make each pie, you need 8 apples. To find the number of pies you will make, find each quotient below. Write the missing factor for each multiplication problem to help solve the division problems. Draw a line connecting each division equation to an equation showing the inverse operation.

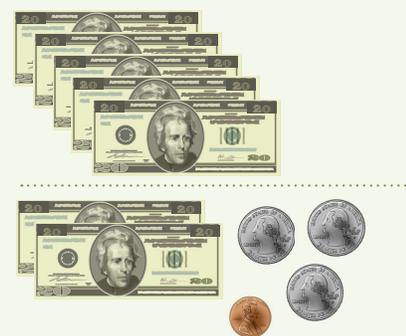


$56 \div 8 =$	7		9	$\times 8 = 72$
$24 \div 8 =$	3		6	$\times 8 = 48$
$64 \div 8 =$	8		4	$\times 8 = 32$
$72 \div 8 =$	9		5	$\times 8 = 40$
$32 \div 8 =$	4		3	$\times 8 = 24$
$16 \div 8 =$	2		7	$\times 8 = 56$
$48 \div 8 =$	6		2	$\times 8 = 16$
$40 \div 8 =$	5		8	$\times 8 = 64$

Lesson 114—Dividing Groups Review

Daily Dose

Money: Write the value of the money shown and subtract.



$\begin{array}{r} 999 \\ 010 \\ \hline \$100.00 \end{array}$
$\begin{array}{r} \$40.76 \\ - \\ \hline \end{array}$
$\$59.24$

Divide:

$\begin{array}{r} 8 \\ 8 \overline{)64} \end{array}$	$\begin{array}{r} 2 \\ 8 \overline{)16} \end{array}$	$\begin{array}{r} 6 \\ 8 \overline{)48} \end{array}$
$\begin{array}{r} 4 \\ 8 \overline{)32} \end{array}$	$\begin{array}{r} 5 \\ 8 \overline{)40} \end{array}$	$\begin{array}{r} 9 \\ 8 \overline{)72} \end{array}$

Lesson Answers:

- (a) 6 (b) 6 (c) 4 (d) 4 (e) 8 (f) 3 (g) 3 (h) 15
 (i) 7 (j) 7 (k) 14 (l) 6, 18, 6, 24 (m) 2, 7

Lesson 114—Student Worksheet

Fraction Feast

Divide each kind of produce into equal groups based on the denominator and circle each group. Then find the fractions listed by counting the produce in the correct number of groups.

What is $\frac{1}{4}$ of 20? 5

What is $\frac{1}{5}$ of 25? 5

What is $\frac{1}{3}$ of 12? 4

What is $\frac{3}{4}$ of 20? 15

What is $\frac{4}{5}$ of 25? 20

What is $\frac{2}{3}$ of 12? 8

What is $\frac{1}{7}$ of 28? 4

What is $\frac{3}{7}$ of 28? 12

What is $\frac{5}{7}$ of 28? 20

Draw small pictures on a dry-erase board as needed to find these fractions.

What is $\frac{1}{2}$ of 18? 9

What is $\frac{1}{3}$ of 6? 2

What is $\frac{1}{4}$ of 40? 10

What is $\frac{1}{8}$ of 32? 4

Lesson 115—Volume and Division

Daily Dose

Measurement: Convert each measurement of mass, volume, or length.

5,000 g = 5 kg

40 mm = 4 cm

7,000 mL = 7 L

12 qt = 3 gal

30 oz = 1 lb 14 oz

17 in = 1 ft 5 in

Missing Divisor: Fill in the missing divisor for each problem.

24 ÷ 8 = 3

54 ÷ 6 = 9

56 ÷ 8 = 7

40 ÷ 5 = 8

Bonus Activity Answers:

Islands and Bridges #4

Connect the islands together with the number of bridges indicated on each island. Bridges can only be drawn horizontally or vertically and cannot cross. Up to two bridges can connect any two islands, and all the islands need to be connected together.

Lesson Answers:

(a) 4 quarts, 2 pints, 2 cups, 8 pints, 4 cups, 16 cups (b) 4 (c) 4 (d) 8 (e) 2 (f) 4 (g) $20 \div 4 = 5$ gallons (h) $28 \div 4 = 7$ quarts (i) $16 \div 8 = 2$ gallons

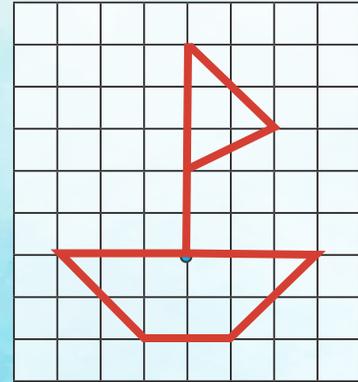
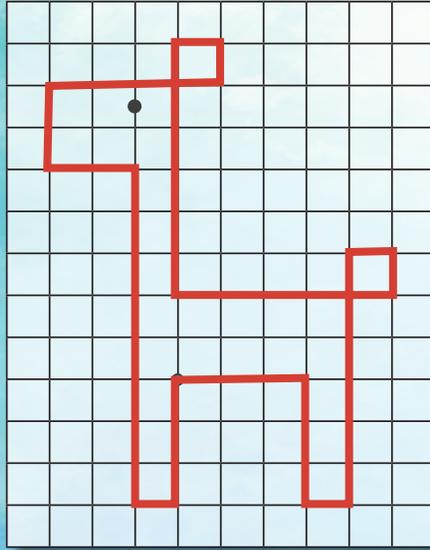
Lesson 115—Student Worksheet

Graphic #3 Dictation

First, solve each division and multiplication problem below. Then use the answer and its arrow to draw a hidden image on the designated grid. Start on each blue dot and draw lines that go the number of spaces and direction indicated.

$24 \div 8 = 3 \downarrow$ $7 \div 7 = 1 \leftarrow$ $56 \div 7 = 8 \uparrow$ $20 \div 10 = 2 \leftarrow$
 $14 \div 7 = 2 \uparrow$ $24 \div 6 = 4 \rightarrow$ $10 \div 10 = 1 \uparrow$ $8 \div 8 = 1 \leftarrow$
 $36 \div 6 = 6 \downarrow$ $40 \div 8 = 5 \rightarrow$ $3 \div 3 = 1 \uparrow$ $5 \div 5 = 1 \leftarrow$
 $42 \div 7 = 6 \downarrow$ $4 \div 4 = 1 \leftarrow$ $18 \div 6 = 3 \uparrow$ $24 \div 8 = 3 \leftarrow$

$7 \times 3 \leftarrow = 21$ $6 \times 2 \searrow = 12$
 $9 \times 2 \rightarrow = 18$ $2 \times 2 \nearrow = 4$
 $5 \times 3 \leftarrow = 15$ $6 \times 5 \uparrow = 30$
 $8 \times 2 \searrow = 16$ $10 \times 2 \swarrow = 20$



Lesson 116—Dividing by 9

Daily Dose

Write the correct equivalent fraction by dividing each shape into smaller pieces to match the new denominator.



$\frac{3}{4} = \frac{6}{8}$ $\frac{1}{3} = \frac{3}{9}$ $\frac{2}{3} = \frac{4}{6}$ $\frac{1}{2} = \frac{4}{8}$

Crisscross: Fill in the missing product and factors.

			6	×	8	=	48
9	×	5	=	45		×	
×		×			4	×	8 = 32
8		2			×		=
=		=			7		64
72		10	×	6	=	60	
					28		

Lesson 116—Student Worksheet

Nine-Mazing

Complete the following maze by connecting each division problem to the correct answer. Use a colored pencil or crayon that matches the color of the division problem for each line running to the answer. *Note: The lines may go through the same openings at times but will not cross paths.*



Lesson Answers:

(a) 3 (b) 2 (c) 4 (d) see Fact Family Houses below

$7 \times 9 = 63$ $6 \times 7 = 42$

$9 \times 7 = 63$ $7 \times 6 = 42$

$63 \div 9 = 7$ $42 \div 7 = 6$

$63 \div 7 = 9$ $42 \div 6 = 7$

Bonus Activity Answers:

Tulip Fields

The Netherlands is a country in Europe well known for its colorful tulip fields. When seen from above, these flowers create beautiful images and patterns. Follow the directions listed below to create your own tulip field.

First, in each rectangle, write the multiplication equation you used to find the area. Then color each section so that its area matches the color listed on the key. For example, for a rectangle that is 3 by 4, you would write $3 \times 4 = 12$ and color that rectangle green.

Key

24 Pink	6 Purple	18 Yellow	36 Orange	40 Red	12 Green	8 Blue
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Lesson 117—More Line Graphs

Daily Dose

Find the Differences.

$\begin{array}{r} 13110 \\ 4881010 \\ 544210 \\ - 376,397 \\ \hline 167,813 \end{array}$	$\begin{array}{r} 15161210 \\ 7582011 \\ 867311 \\ - 488,395 \\ \hline 378,916 \end{array}$
--	---

Target Practice:

Each middle section is obtained by dividing the outer section by the center circle. Fill in the blank spaces with the correct answers.

(g) increase (h) see below



(i) 2012 (j) 25 (k) no (l) 2015

Lesson Answers:

- (a) Number of people or population (b) Each year, for 6 years (c) Increasing (d) The number of people living in a given area (e) 2020 (f) 2015

Lesson 117—Student Worksheet

Line Graphs *at the Library*

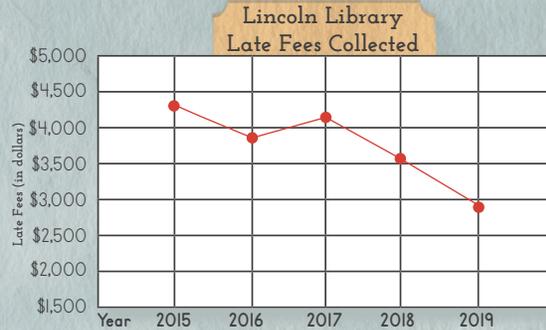
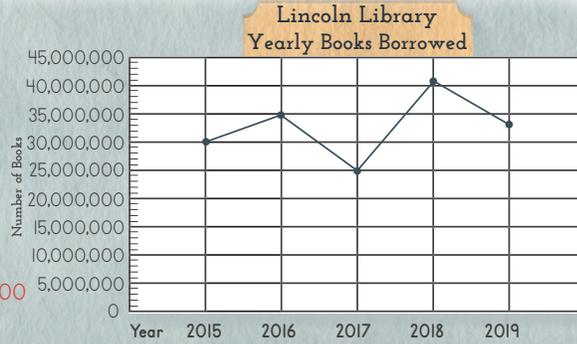
Lincoln Library collected data and created this line graph. Use the graph to answer the following questions.

1. What do the numbers along the left side of the graph represent? number of books
2. In which year were the most books borrowed? 2018
3. In which year were the fewest books borrowed? 2017
4. About how many books were borrowed in 2019? 34,000,000
5. In which two years did the number of books borrowed decrease? 2017 and 2019



Lincoln Library also tracked the amount of late fees collected during those same years. Use the data recorded in the table to create a line graph. Write down three questions that pertain to the graph and answer them.

Year	Late Fees (in dollars)
2015	\$4,350
2016	\$3,800
2017	\$4,230
2018	\$3,520
2019	\$2,875



Questions

- 1.
- 2.
- 3.

Answers will vary.



Lesson 118—Dividing by 11

Daily Dose

Measurement: Convert each measurement.

35 oz =	2 lb	3 oz
18 oz =	1 lb	2 oz
32 oz =	2 lb	0 oz
21 oz =	1 lb	5 oz
26 oz =	1 lb	10 oz

Division: Find each quotient.

$\begin{array}{r} 9 \\ 5 \overline{)45} \end{array}$	$\begin{array}{r} 8 \\ 9 \overline{)72} \end{array}$	$\begin{array}{r} 9 \\ 7 \overline{)63} \end{array}$
$\begin{array}{r} 3 \\ 8 \overline{)24} \end{array}$	$\begin{array}{r} 7 \\ 6 \overline{)42} \end{array}$	$\begin{array}{r} 8 \\ 10 \overline{)80} \end{array}$

Lesson Answers:

(a) 11 people (b) 2 boats (c) 5 boats (d) 1 boat (e) 9, 6, 4, 8 (f) see Fact Family Houses below

$$11 \times 3 = 33$$

$$3 \times 11 = 33$$

$$33 \div 11 = 3$$

$$33 \div 3 = 11$$

$$8 \times 7 = 56$$

$$7 \times 8 = 56$$

$$56 \div 8 = 7$$

$$56 \div 7 = 8$$

$$9 \times 5 = 45$$

$$5 \times 9 = 45$$

$$45 \div 5 = 9$$

$$45 \div 9 = 5$$

Lesson 118—Student Worksheet



**Division
&
Conversions
in an Optical Illusion**

Find all the true math statements and shade the entire section. Leave false math statements white. Notice the optical illusion that begins to appear!

$88 \div 11 = 5$	$66 \div 11 = 6$	$77 \div 11 = 3$	
		$99 \div 11 = 9$	
$11 \div 11 = 1$	$99 \div 11 = 2$		
$1,000 \text{ lb} = 1 \text{ oz}$	$77 \div 11 = 7$		
$22 \div 11 = 2$	$1,000 \text{ kg} = 1 \text{ g}$	$h = 11 \div hh$	$1 \text{ lb} = 16 \text{ oz}$
$55 \div 11 = 5$	$44 \div 11 = 1$	$88 \div 11 = 8$	$1,000 \text{ g} = 1 \text{ kg}$
	$33 \div 11 = 3$	$55 \div 11 = 0$	$11 \div 11 = 9$

Lesson 118—Bonus Activity



Math Path



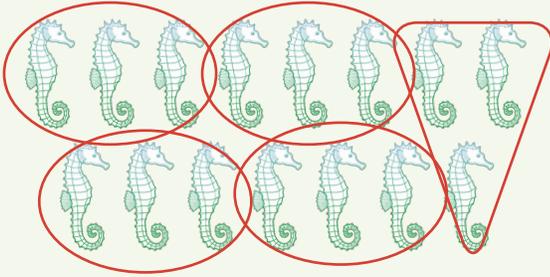
Start at the first box and complete each operation following the arrows. Fill in each answer to complete each path to a colored star.

Start									
8×6	$48 - 8$	$40 \div 5$	8×10	★ 80	$36 \div 9$	4×8	★ 32		
$\downarrow \div 2$		$\downarrow \div 10$			$\uparrow \times 6$				
4×4	16	4×3	$12 + 6$	$18 \div 3$	6×9	$54 - 23$	★ 31		
	$\downarrow + 4$								
★ 38	$20 \div 2$	10×7	70	$35 \div 7$	★ 5	$72 \div 9$	8		
$\uparrow + 10$	$\downarrow \div 5$		$\downarrow - 7$	$\uparrow \times 5$		$\uparrow + 6$	$\downarrow \div 4$		
28×7	4	$64 \div 8$	$63 \div 9$	7×8	★ 56	66	★ 2		
$\downarrow + 2$		$\downarrow \div 8$	$\downarrow \div 7$			$\uparrow \times 11$			
$30 \div 6$	★ 5	★ 8	$9 \div 3$	3×8	$24 \div 4$	6×8	★ 48		

Lesson 119—Two-Step Story Problems

Daily Dose

Division Practice: Divide the seahorses into five equal groups.



$$\begin{array}{r} 3 \\ 5 \overline{)15} \end{array}$$

Order of Operations Practice:

$$(14 - 9) \times (14 \div 2) = 35$$

$$(45 \div 9 + 3) \times 6 = 48$$

$$99 \div 11 + 64 \div 8 = 17$$

Lesson Answers:

(a) How many opossums there are in all (b) There are 8 trees, each tree has 1 mommy and 7 baby opossums (c) 8 opossums (d) 64 opossums (e) $54 \text{ opossums} \div 6 \text{ trees} = 9 \text{ opossums in each tree}$; $9 \text{ opossums} - 1 \text{ mommy} = 8 \text{ babies}$ (f) $12 - 3 = 9$; $9 \times 8 = 72 \text{ worms}$ (g) $64 - 28 = 36$; $36 - 15 = 21 \text{ young female opossums}$

Bonus Activity Answers:

You have 45¢ made with 4 coins. Which coins do you have?



You have 61¢ using the fewest coins possible. Which coins do you have?



You have 98¢ using the fewest coins possible. Which coins do you have?



Lesson 119—Student Worksheet

Awesome Opossum!

Solve each story problem. First, underline what is known and then what you need to find in the story problem (as demonstrated in the lesson). Use your dry-erase board or a scratch piece of paper to draw a picture to solve.

As the baby opossums grow up, there are a total of 48 babies equally shared among 6 mommy opossums. Three groups of these babies are old enough to leave their mothers. How many can leave their mothers?

24

At first you count 6 trees with 5 opossums in each of them, but then you see there are 9 more trees with 4 opossums in each of them. How many do you see altogether?

66

At feeding time you find that 8 mothers each eat 11 berries, and 7 opossum babies eat 3 berries each. How many berries do the 8 mommies and the 7 babies eat altogether?

109

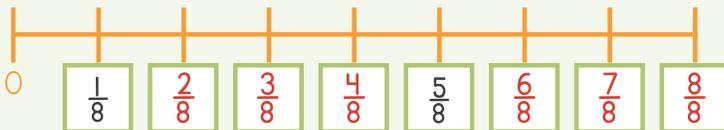
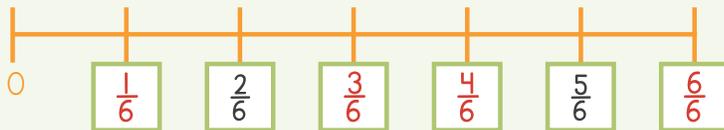
As you are studying, you see 3 opossums that equally share 24 worms. Later the same opossums equally share 33 worms. How many worms did each opossum eat?

19

Lesson 120—Section Review

Daily Dose

Fractions on a Number Line: Fill in the missing fractions on the number lines below. Then use the number lines to compare the fractions listed.



$$\frac{5}{6} < \frac{7}{8} \quad \frac{3}{6} = \frac{4}{8} \quad \frac{1}{6} < \frac{2}{8}$$

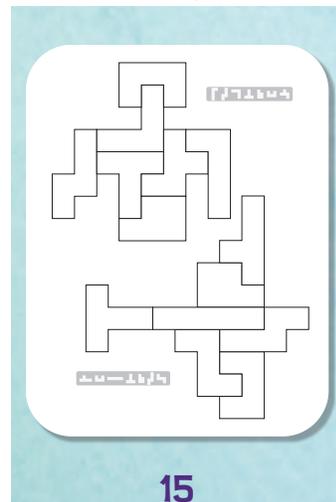
Divide:

$$\begin{array}{l} 72 \div 8 = 9 \\ 54 \div 6 = 9 \\ 24 \div 4 = 6 \\ 16 \div 2 = 8 \\ 28 \div 7 = 4 \\ 40 \div 10 = 4 \end{array}$$

Lesson Answers:

(a) scale (b) balance (c) 4 lbs 4 oz, 2 kg (d) 68 oz, 2,000 g (e) 6 lbs (f) $2 \times 3 = 6$; $3 \times 2 = 6$; $6 \div 3 = 2$; $6 \div 2 = 3$ (g) 15 lbs (h) $3 \times 5 = 15$; $5 \times 3 = 15$; $15 \div 3 = 5$; $15 \div 5 = 3$ (i) 4 oz (j) 8 oz (k) \$15 (l) 2 lb (m) $\frac{1}{2}$ of the remaining 4 lbs of almonds

Bonus Activity Answers:



Lesson 120—Student Worksheet

A Puzzling Review

Find the hexagon that has the word "start." Solve the problem and color in the rectangle with the correct answer. Then follow that rectangle to the next hexagon and solve that problem. Continue this process until you make it to the end of the puzzle!

$90 \div 10$
1

You did it!
6

$5 \times 2 = 10$
 $2 \times 5 = 10$
 $10 \div 2 = 5$
 $? \div 5 = 2$
2

$1 \text{ lb} = 16 \text{ oz}$
 $21 \text{ oz} = \underline{\quad} \text{ lb} \underline{\quad} \text{ oz}$
20

$1 \text{ lb} = 16 \text{ oz}$
 $30 \text{ oz} = \underline{\quad} \text{ lb} \underline{\quad} \text{ oz}$
6

$(7 + 3) \times 2 \div 4$
16

$35 \div 5$
7

$30 \text{ oz} = \underline{\quad} \text{ lb} \underline{\quad} \text{ oz}$
21

$1 \text{ kg} = 1,000 \text{ g}$
 $6 \text{ kg} = \underline{\quad} \text{ g}$
6,000

There were 4 friends at the park. Then 2 more came to play. Later, 3 friends left. How many friends stayed to play?
6

$35 \div 5$
7

4×1
4

$2 \times 7 = 14$
 $7 \times 2 = 14$
 $14 \div 2 = 7$
 $14 \div \underline{\quad} = 2$
7

$(9 - 2) \times (2 + 1)$
18

Start
 5×3
15

$1 \text{ kg} = 1,000 \text{ g}$
 $\underline{\quad} \text{ kg} = 2,000 \text{ g}$
2

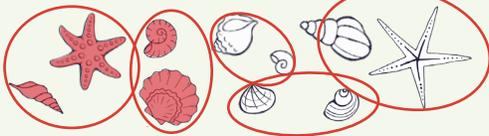
There are 3 buckets of pears. Each bucket has 10 pears. 12 pears get eaten. How many pears are left?
18

Lesson 121—Section Assessment

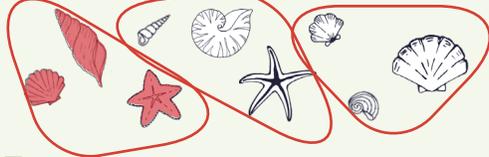
Daily Dose

Fraction Review:

Divide the shells into 5 equal groups. Then color $\frac{2}{5}$ of the shells.



Divide the shells into 3 equal groups. Then color $\frac{1}{3}$ of the shells.



Missing Divisor: Fill in the missing divisor for each problem.

$\frac{8}{11} \overline{)88}$	$\frac{7}{9} \overline{)63}$	$\frac{9}{2} \overline{)18}$	$\frac{5}{7} \overline{)35}$
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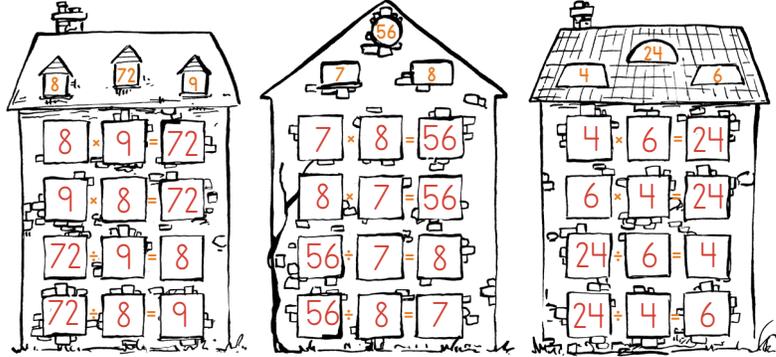
Lesson Answers:

Guided Assessment:

(a) 7, 5, 4, 6

Independent Assessment:

1. Complete each multiplication and division fact family house below. 12 points possible



2. Solve. 10 points possible

$30 \div 5 = 6$	$80 \div 10 = 8$	$12 \div 2 = 6$	$7 \div 1 = 7$	$16 \div 2 = 8$
$\frac{9}{5} \overline{)45}$	$\frac{3}{10} \overline{)30}$	$\frac{9}{2} \overline{)18}$	$\frac{4}{1} \overline{)4}$	$\frac{5}{5} \overline{)25}$

3. Complete each mass conversion. 4 points possible

4,000 g = 4 kg 7 kg = 7,000 g 1 lb = 16 oz

2 lb = 32 oz 18 oz = 1 lb 2 oz 1 kg = 1,000 g

4. Solve using the order of operations. 8 points possible (2 per problem)

$$20 \div (10 - 6) = 5$$

4

$$(3 + 5) \times 8 = 64$$

8

$$2 \times 10 \div 5 \times 8 = 32$$

$20 \div 5 = 4 \times 8$

$$90 \div 10 + 7 = 16$$

$9 + 7$

5. Solve each word problem using a method of your choice. 4 points possible (2 per problem)

• Elizabeth had 60 crayons in a box. The box had 10 crayons of each color. How many different colors of crayons were in the box? 6 colors

• Elizabeth shared 40 of the crayons equally among 5 children. How many crayons did each child get?

8 crayons

No Student Worksheet



Bonus Activity: Child's Choice

How? Have the child choose a Bonus Activity to play or complete again.

Lesson 122—Final Assessment

1. Multiply. 14 points possible

$$\begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 100 \\ \times 6 \\ \hline 600 \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 10 \\ \times 9 \\ \hline 90 \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 7 \\ \times 1000 \\ \hline 7,000 \end{array}$$

$$\begin{array}{r} 1 \\ \times 8 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ \times 11 \\ \hline 88 \end{array}$$

$$\begin{array}{r} 6 \\ \times 0 \\ \hline 0 \end{array}$$

2. Divide. 8 points possible

$$9 \div 3 = 3$$

$$50 \div 10 = 5$$

$$3 \overline{)12}$$

$$20 \div 5 = 4$$

$$16 \div 2 = 8$$

$$4 \overline{)16}$$

$$8 \div 4 = 2$$

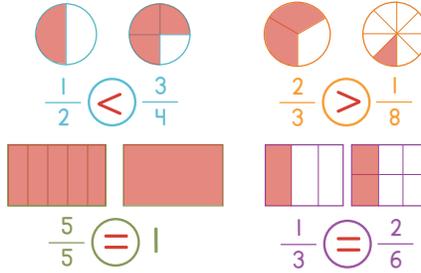
$$44 \div 11 = 4$$

Fractions

1. Fill in the missing fractions on the number line. Then circle the fraction that equals $\frac{1}{2}$. 3 points possible



2. Color in the fraction images as indicated. Then compare the fraction sets with the $<$, $>$, or $=$ symbol. 8 points possible



Place Value and Rounding

Follow the instructions below using this number. 6 points possible

3,286,401,779

- Circle the digit in the **hundreds** place with **red**.
- Circle the digit in the **millions** place with **orange**.
- Circle the digit in the **ten thousands** place with **yellow**.
- Circle the digit in the **hundred millions** place with **green**.
- Circle the digit in the **billions** place with **blue**.
- Round the number to the nearest thousands place and write the rounded number on the blank below.

3,286,402,000

Multi-Digit Addition and Subtraction

Solve the following problems. 4 points possible

$$\begin{array}{r} 11 \\ 81,534 \\ + 69,721 \\ \hline 151,255 \end{array}$$

$$\begin{array}{r} 111 \\ 286,401 \\ + 695,942 \\ \hline 982,343 \end{array}$$

$$\begin{array}{r} 3112811 \\ 422,918 \\ - 287,125 \\ \hline 135,793 \end{array}$$

$$\begin{array}{r} 8101010 \\ 90,000 \\ - 4,574 \\ \hline 85,426 \end{array}$$

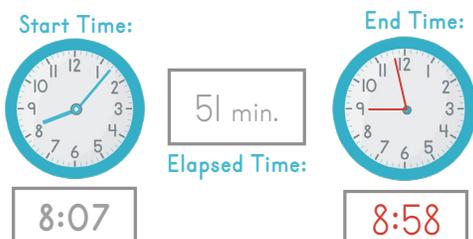
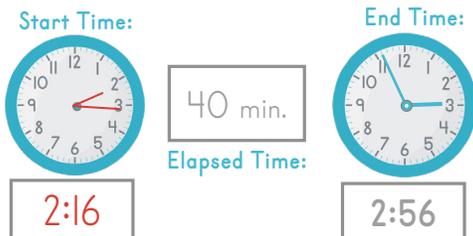
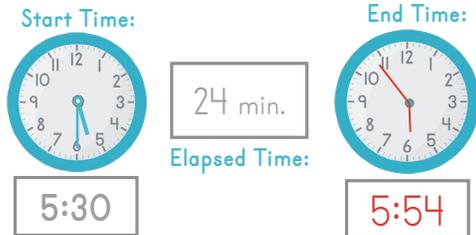
Perimeter and Area

Find the perimeter and area for each shape. Label each answer with the correct unit. 10 points possible (2 points for knowing the difference between area and perimeter, 1 point for each correct answer—even if it is not written on the right line—and 1 point for each correct unit)



Elapsed Time

Fill in the missing start or end time according to the information provided and draw the missing hands correctly on the clock. 6 points possible (1 point for each start or end time and 1 point for each correct clock)



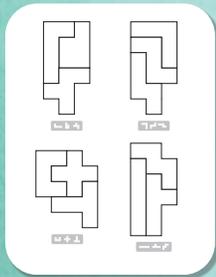
Measurements

Using the information provided, fill in the blanks with the equivalent amounts. 12 points possible

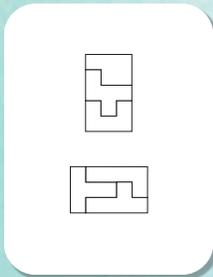
- 800 cm = 8 m 100 cm = 1 m
- 300 cm = 3 m
- 500 cm = 5 m
- 900 cm = 9 m
- 4,000 g = 4 kg 1,000 g = 1 kg
- 9,000 g = 9 kg
- 11,000 g = 11 kg
- 4,000 g = 4 kg
- 7,000 mL = 7 L 1,000 mL = 1 L
- 2,000 mL = 2 L
- 9,000 mL = 9 L
- 6,000 mL = 6 L

Pentominoes Answer Key

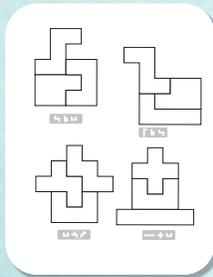
One to two possible solutions are shown for each pentomino shapes.
In many cases, there may be other possible answers.



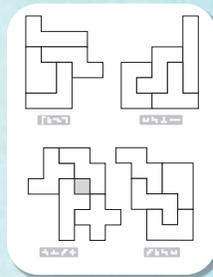
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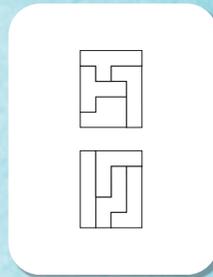
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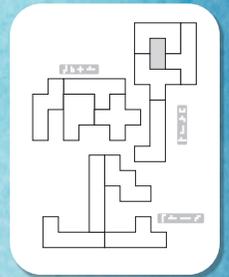
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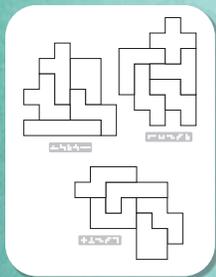
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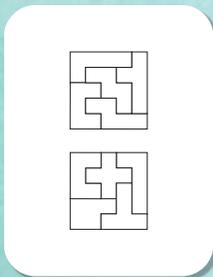
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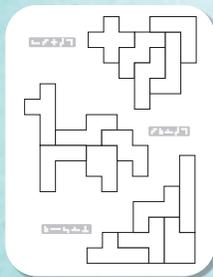
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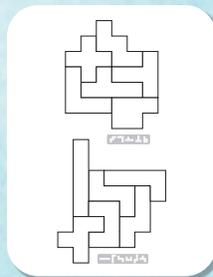
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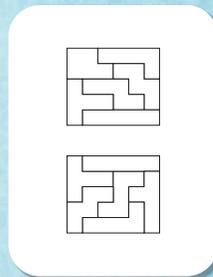
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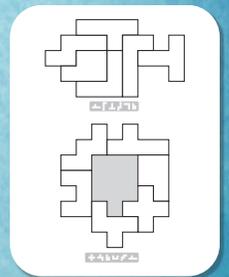
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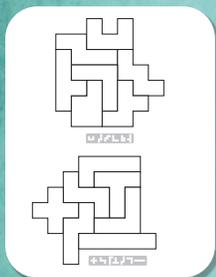
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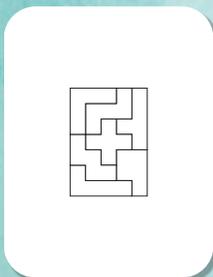
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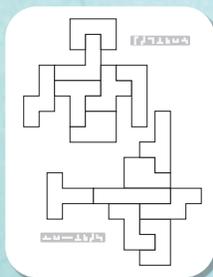
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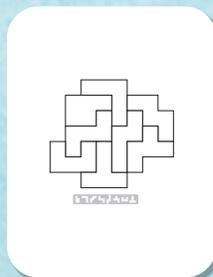
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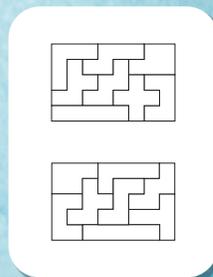
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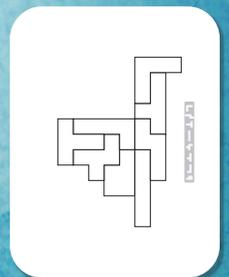
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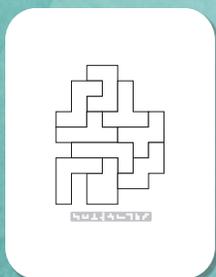
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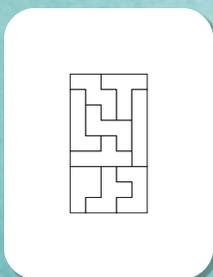
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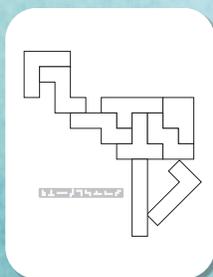
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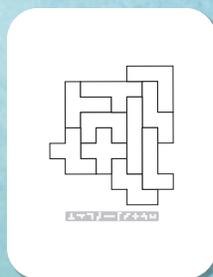
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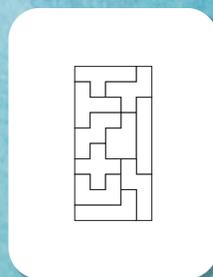
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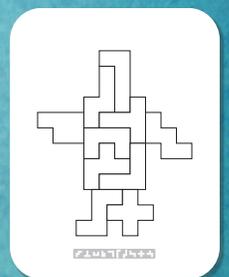
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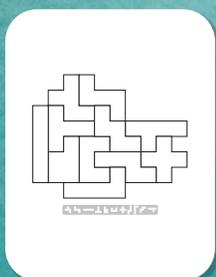
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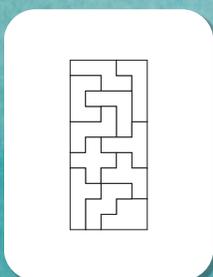
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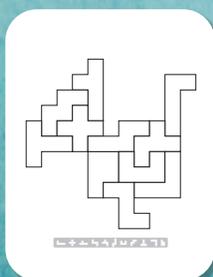
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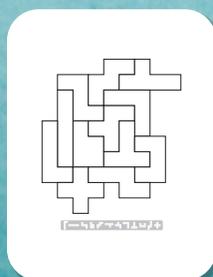
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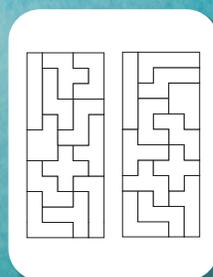
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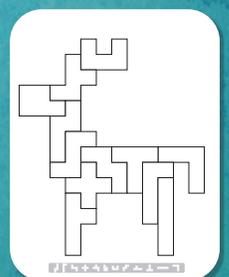
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