

Grade 2 Curriculum Overview

Operations and Algebraic Thinking

- Add and subtract within 100.
- Add and subtract with unknown addends, subtrahends and minuends.
- Determine whether a number is odd or even by pairing.
- Using a rectangular array with columns and rows, find the total.
- Solve addition problems using the associative and commutative properties.
- Determine which operation is used in to make the number sentence true.
- Extend number sentence patterns.
- Extend a pattern by using its rule.
- Identify number patterns on a hundred chart.

Numbers & Operations in Base Ten

- Understand the place value of each numeral in a three-digit number.
- Identify 10 tens as an equal value to 100.
- Identify the value of each place in numbers such as 300 and 800 (e.g. $300 = 3$ hundreds, 0 tens, 0 ones).
- Skip count by 2's, 5's, 10's and 100's.
- Represent numbers in expanded form.
- Compare each place value of two three-digit numbers by using the symbols for more than, less than or equal to.
- Mentally add and subtract 10 or 100 to any given number up to 900.
- Read and write whole numbers to 1,000.
- Show values with pictured one, ten and hundred blocks.
- Show equivalent representations of numbers (e.g. $67 = 5$ tens and 17 ones).
- Compare whole numbers by using the symbols for greater than, less than or equal to.
- Order numbers from least to greatest.
- Use the inverse relationship between addition and subtraction to solve problems.
- Complete fact families.
- Determine whether the estimation to a solution is reasonable.
- Solve word problems.
- Add three numbers with up to two digits each.
- Add and subtract with zero.
- Translate word and picture problems into number sentences.
- Show ten more and ten less than a given number.
- Demonstrate multiplication by using repeated addition.
- Place mixed numbers on a number line.
- Find the numerical difference between numbers on a number line.
- Determine whether mathematical statements are true or false.
- Count backward.
- Determine what information is missing to solve a word problem.
- Use Punch-Out Sticks (provided in book) to model problems.
- Recognize and compare fractions from $\frac{1}{4}$ to $2\frac{1}{2}$.
- Place fractions on a fraction number line.
- Identify the fractional part of a whole (e.g. $\frac{1}{2}$ of a circle).
- Match one whole to its equivalent fractions (e.g. $1 = \frac{5}{5} = \frac{3}{3}$).
- Identify the fractional divisions of a square: halves, thirds, quarters, sixths, eighths, tenths.
- Use ordinal numbers to indicate position.
- Translate a number word to its corresponding numeral (e.g. two hundred sixty-six = 266).

Measurement & Data

- Estimate lengths using the correct unit of measurement (e.g. a child would be about a meter in length).
- Measure to determine how much longer one object is than another.
- Determine reasonable estimates in customary and metric units.
- Compare units of measurement in terms of shorter and longer.
- Determine the appropriate unit of measurement to use (e.g. is the length of your yard measured in feet or inches?).
- Show the concept of area (e.g. how many small squares would cover a larger rectangle?).
- Write the time using both analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- Show relationships of time (e.g. months in a year).
- Read a calendar by identifying the day and date.
- Determine the length of time intervals (e.g. 10:00 a.m. to 2:00 p.m. is 4 hours).
- Add and subtract units of time.
- Express time in terms such as 15 minutes after 2 o'clock.
- Use terms such as early or late as they relate to a given time.
- Determine the time of an events as it relates to a.m. or p.m.
- Identify what time of day a.m. and p.m. represent.
- Order events sequentially on a time line.
- Solve word problems using dollars, quarters, dimes, nickels and pennies.
- Use the symbols for dollars and cents.
- Choose the correct coins to purchase a given item.
- Compare equivalent coins and bills (e.g. 10 pennies = 2 nickels).
- Relate the fraction of a dollar to a coin (e.g. $\frac{1}{4}$ dollar = 1 quarter).
- Estimate costs.
- Add and subtract money.
- Identify all coins, including half-dollars, and count money.
- Read a thermometer.
- Estimate values of length, weight, cost, volume and time.
- Interpret data on a picture graph and a bar graph with up to four categories.
- Record data using a tally chart.
- Transfer data from a chart to a bar graph.
- Read a pictograph where a symbol represents more than one unit.
- Predict future events using the data from past events.
- Determine whether events are certain, possible, impossible, most likely, least likely or equally likely.

Geometry

- Identify the attributes of shapes such as number of angles.
- Identify triangles, quadrilaterals, pentagons, hexagons, cubes, spheres, pyramids and rectangular prisms.
- Count the number of squares in a rectangle that has been partitioned into rows and columns.
- Partition circles and rectangles into equal portions (e.g. halves or fourths)
- Determine equal portions of the whole (e.g. half of).
- Take apart and put together shapes to make other shapes (e.g. divide a rectangle into 2 triangles).
- Identify congruent and similar shapes.
- Determine the perimeters of triangles and rectangles.
- Describe the spatial relationship among objects (e.g. to the right or left of, inside, above, below).
- Use ordered pairs to locate points on a map.

Extras: Hundred Chart, Punch-Out Sticks, Addition and Subtraction Flash Cards, Math Facts Sharpener Sheets, Dalmatian Station Attribute Page.

IMPORTANT!

Instructions for Parents

- To use Summer Math Skills Sharpener, simply tear off a page and have your child complete both sides. The program is designed to be used 3-4 days per week for 10 weeks.
- Our math books now support the Common Core Curriculum and the Standards of all 50 states. Therefore, some materials may not have been presented to your child. **Please allow your child to skip concepts not yet learned. Introduce new concepts only if your child shows readiness.**
- Check answers immediately for optimal feedback. You may want to offer small incentives to your child for pages successfully completed. An answer sheet is provided at the back of the book. A Lesson Tracker has been included for your convenience.
- **Help pages** have been added at the front of the book to clarify certain concepts.



- Allow your child to use a calculator only for those problems using this icon.



- **Hundred Chart:** Problems designated with this icon are to be used with the chart at the back of the book. Your child may use buttons, beans, coins, etc. as markers.



- **Dalmatian Station:** Problems with this icon are to be used with the Dalmatian chart at the back of the book. Your child may use buttons, beans, coins, etc. as markers.



- **Punch-Out Sticks:** Punch-out sticks have been provided to assist with visualizing some concepts. When this icon appears, simply have your child count out the required number of sticks and manipulate them to suit the problem.



- **Hands-on:** The problems with this designation indicate a short activity using ordinary household items.



- **Mental math:** Problems with this icon are to be solved without pencil and paper.

- Addition and subtraction flash cards are provided for extra practice.
- “Math Facts Sharpener” pages are located at the back of the book. Have your child complete one side of each of the five pages weekly.
- Adjust this book to your vacations, etc. Presentation of mixed concepts on every page ensures that all skills are reinforced. Therefore, pages may be used in any order.
- If your child experiences difficulty with a few concepts that have been taught in the classroom, address the problem with his or her teacher in the fall; more consistent problems indicate that a tutor may be needed.

We appreciate your comments. Please send us the evaluation page included in this book before November 1st, after your child has returned to school in the fall and you are able to determine the success of the Summer Math Skills Sharpener.

Thank you for your assistance.

GRADE 2 HELP PAGES

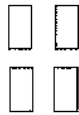
TWO-DIGIT SUBTRACTION WITH REGROUPING

Children should be familiar with subtraction facts through 18. Using the picture below, subtract a one-digit number from a 2-digit number. Before subtracting, decide if a trade is needed. You need to trade a ten if there aren't enough ones from which to subtract.

Example:
$$\begin{array}{r} 34 \\ - 7 \\ \hline \end{array}$$

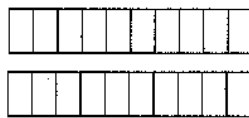


3 tens

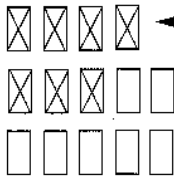


4 ones

You can't subtract 7 from 4, so you trade (borrow) a ten block and it becomes 10 ones.



2 tens



14 ones

Regroup. 10 ones plus 4 ones equals 14 ones. Now there are enough ones to subtract 7. 14 ones minus 7 ones is 7 ones. Now subtract the tens. 2 tens minus 0 = 2 tens.

The answer is 2 tens, 7 ones or 27

Symbolic representation:

tens	ones
2	14
3	4
-	7
2	7

4 is less than 7

Trade

Now subtract the ones.

Then subtract the tens.

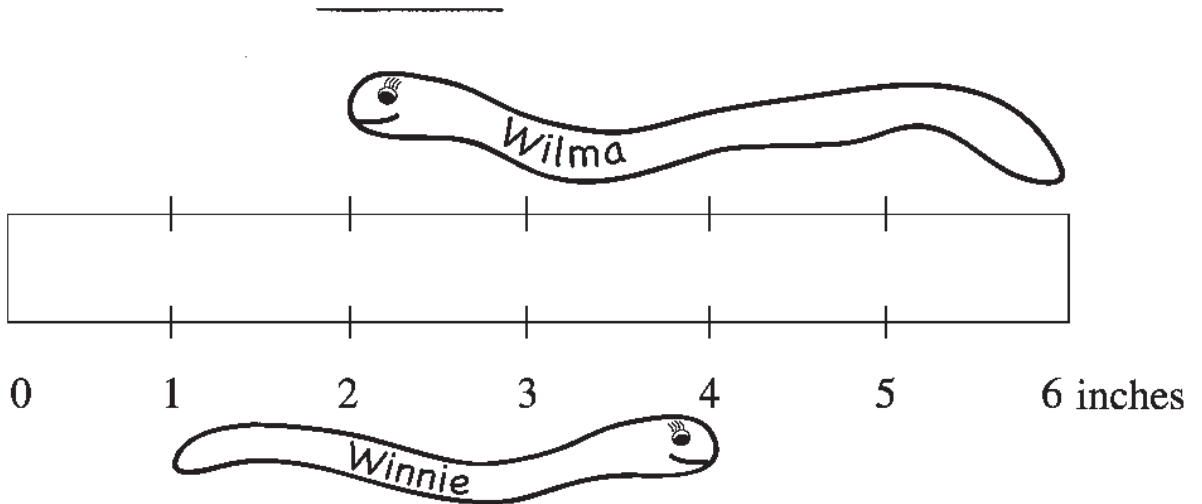
Lesson #10



1.
$$\begin{array}{r} 673 \\ - 617 \\ \hline \end{array}$$

2. I am thinking of a number between 34 and 40. It is an even number. It is not 36. What is the number?

3.



How much longer is Wilma the worm than Winnie the worm? _____

4. A. $70 - \square = 60$ B. $700 - \square = 600$

5. Look at the time on this clock:

10:05 am

Now write the time that is 10 minutes later:

:

:

6. Fill in the missing number: 50, 100, 150, _____, 250

How much longer is Wilma the worm than Winnie the worm?



Lesson #10 (continued)

7. A.
$$\begin{array}{r} 209 \\ + 84 \\ \hline \end{array}$$

B. 
$$\begin{array}{r} 28 \\ 2 \\ + 11 \\ \hline \end{array}$$

8. Circle the largest number: 669 696 966

9. A. If you had a quarter and a nickel, how much money would you have? Give your answer in cents using the correct sign. _____

B. If you had a 5 dollar bill and a 10 dollar bill, how much money would you have? Be sure to use the correct sign. _____


10. If a stuffed bear costs \$3.95, you could estimate that it costs:
(Circle the better answer.)

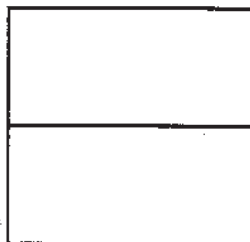
A. about \$3.00 B. about \$4.00



11. Abbie bought 6 starfish for her fish tank. She now has 13. How many did she start with?

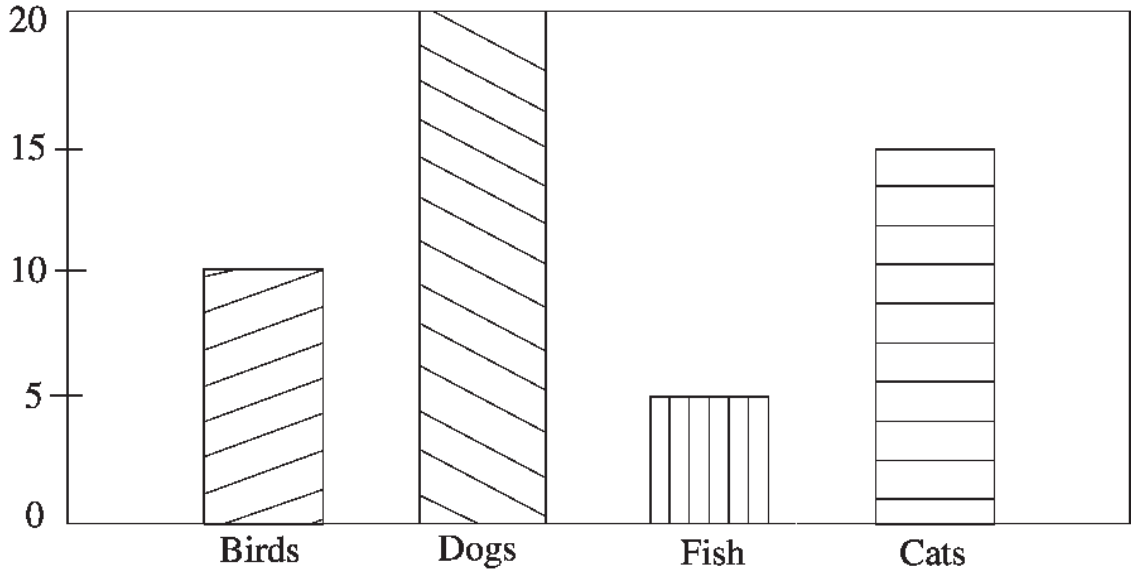


12.  Draw one line in this square to make it equal 4 parts.



Lesson #17

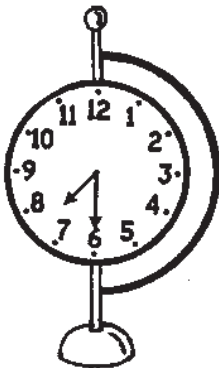
1. Pets owned by all Second Graders at Ferry School



Look at the bar graph above and answer the questions.

- A. How many more dogs than fish? _____
- B. How many cats and dogs? _____
- C. How many more cats than birds? _____

2.



- A. What time is it? _____
- B. What time will it be in 5 minutes? _____
- C. What time was it 5 minutes ago? _____

3. A. $\square - 5 = 7$

B. $\begin{array}{r} \text{☺} \quad 42 \\ - 26 \\ \hline \end{array}$


4. Put the numbers in order from least to greatest:

204 214 201 211



Lesson #17 (continued)


5.
$$\begin{array}{r} 391 \\ + 53 \\ \hline \end{array}$$

6.  If $\triangle = 20$, what is $\triangle + \triangle$? _____

7. $9 + 1 + 7 =$ _____


8. Double these numbers to finish the chart. The first one has been completed for you.

10	20
20	
30	
40	



9. How many 5's are there in 45? (Hint: Count by 5's) _____

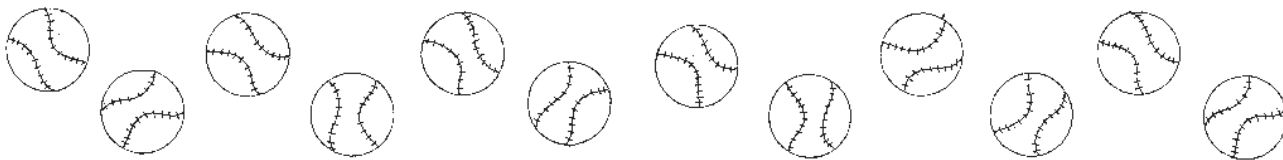
10. 20 equals: 2 tens and 0 ones or _____ sets of 10.

11.  Take 12 Punch-out sticks. Divide them into 2 equal groups. How many are in each group? _____ Now try 3 groups. How many are in each group? _____ Now try dividing them into 4 equal groups. How many are there in each group this time? _____



Lesson #33

1. A. With a pencil divide the set of balls below into **3** equal groups. How many are in each group?



- B. Use a crayon or marker to divide them into **2** equal groups. Now how many are in each group?

2. **Tally** the number of ladybugs below. _____



3. Write this numeral: eight hundred sixty-eight. _____

4. Look at the circles below and answer the question that follows.



What do the circles show? Underline all that are true.

3×4 $3 + 3 + 3 + 3$ 4×4 2×4 4×3

5. Using these two subtraction number sentences, make two addition number sentences to complete the **fact family**.

$8 - 5 = 3$ $8 - 3 = 5$ _____ _____

6. If $(2 + 3) + 4 = 9$, what is $2 + (3 + 4)$? _____



Lesson #33 continued

7. A. What is a **reasonable** estimate for $42 + 38$? Circle: **70** **80** **90**

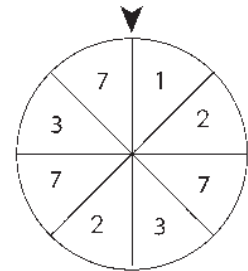
B. Is 10 a **reasonable** estimate for $21 - 9$? _____

8. If you spin this number wheel:

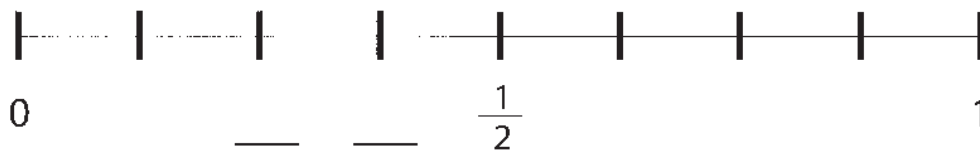
A. The arrow will **most likely** point to _____

B. The arrow will **least likely** point to _____

C. There's an **equal chance** the arrow will point to
number _____ or _____



9. A. Place these two missing fractions on the number line below: $\frac{3}{8}$, $\frac{1}{4}$

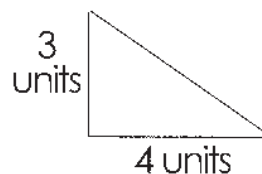


B. Which is **greater**, $\frac{3}{8}$ or $\frac{1}{4}$? _____

10. Match:
- | | |
|------------------|-------|
| A. 10 ones = | 100 |
| B. 10 tens = | 1,000 |
| C. 10 hundreds = | 10 |

11. The **perimeter** (distance around) of this triangle is 12 units. What is the **length** of the third side?

_____ units



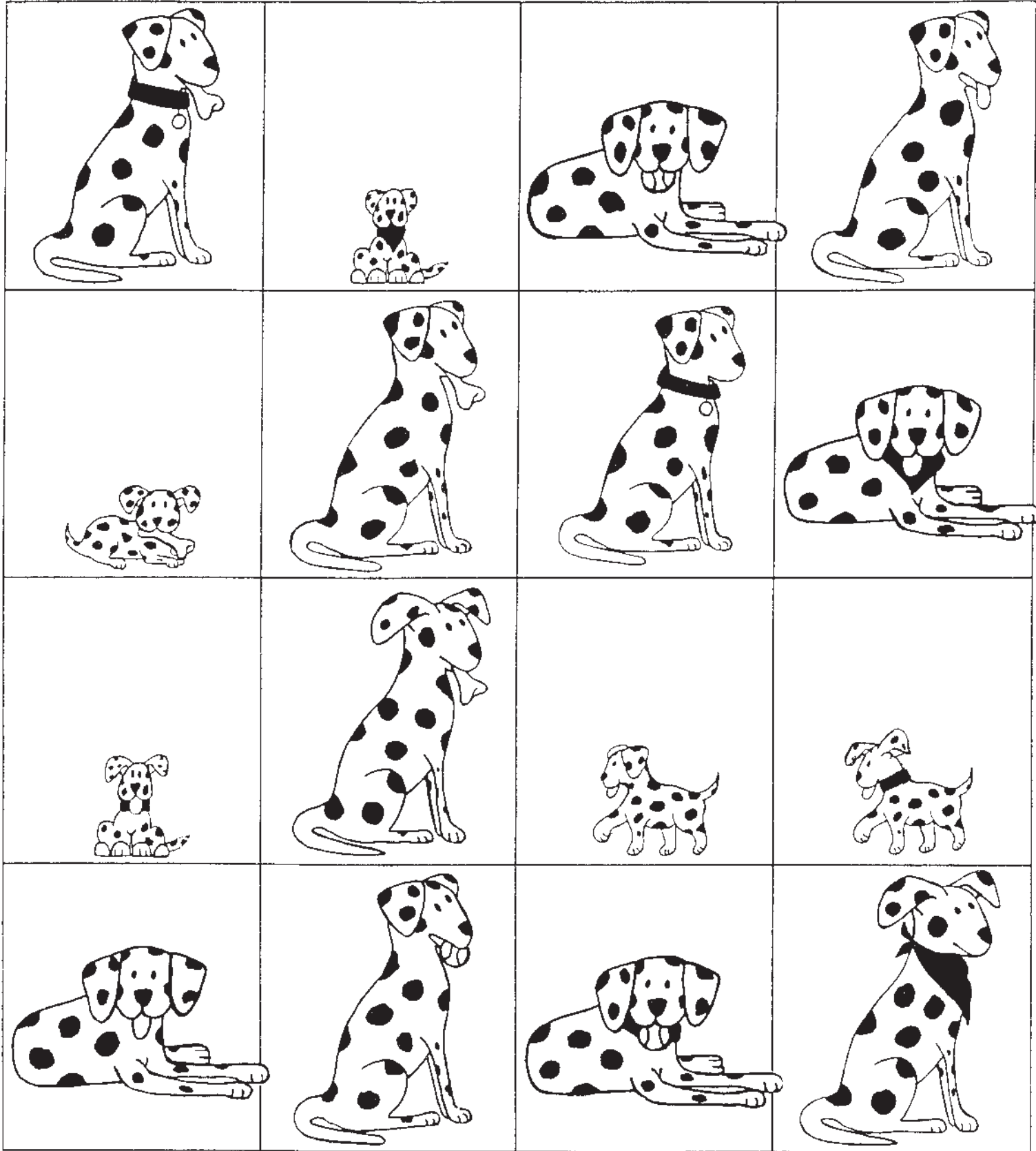
12. If you are eating dinner, is it A.M. or P.M.? _____



HUNDRED CHART

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Dalmatian Station



Math Facts Sharpener • Grades 1 and 2

$$\begin{array}{r} 0 \\ +5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ +1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ +10 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +8 \\ \hline \end{array}$$

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

$$\begin{array}{r} 0 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +4 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ +2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ +1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ +4 \\ \hline \end{array}$$

5

$$\begin{array}{r} 1 \\ + 1 \\ \hline \end{array}$$

4

$$\begin{array}{r} 1 \\ + 2 \\ \hline \end{array}$$

3

$$\begin{array}{r} 1 \\ + 3 \\ \hline \end{array}$$

8

$$\begin{array}{r} 1 \\ + 4 \\ \hline \end{array}$$

7

$$\begin{array}{r} 1 \\ + 5 \\ \hline \end{array}$$

6

$$\begin{array}{r} 1 \\ + 6 \\ \hline \end{array}$$

11

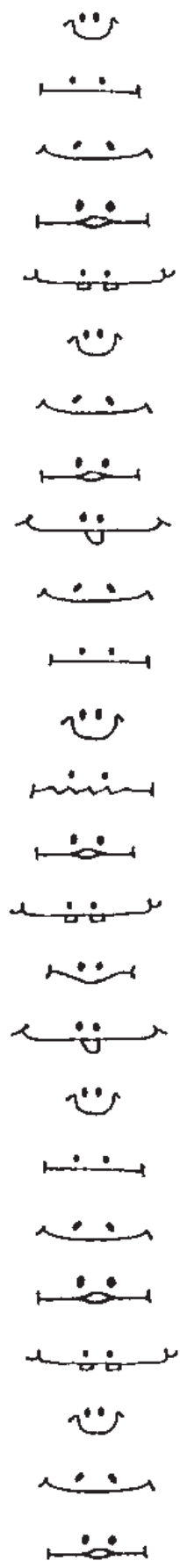
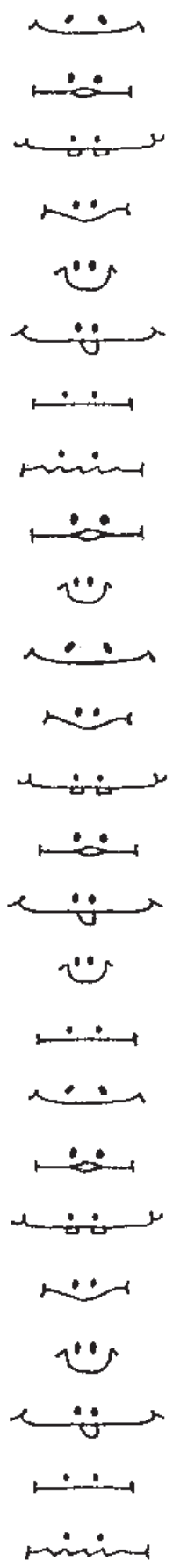
$$\begin{array}{r} 1 \\ + 7 \\ \hline \end{array}$$

10

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

9


$$\begin{array}{r} 1 \\ + 9 \\ \hline \end{array}$$



PUNCH-OUT STICKS

2ND GRADE ANSWER KEY

Lesson:

Problem Numbers:	1	2	3	4	5	6	7	8	9	10	11	12
1	67, 69, 71, 73	July 20, 1969 Monday	1 red section 2 blue sections	54	4	345, 455	72	A	357	Megan 9 Derek 14	36	See below.
2	6:30 12:30	16	A. 50 B. 500	A. 3, 3 B. 4, 4	A. hundreds B. tens C. ones	3	102, 112, 117, 121, 171	A. 5 B. 6	4	B	A. 2 B. 5	See below.
3	13	A	25	A. > B. <	213	2	A. 20 B. 100	374	100	8:45 pm	3	+,-
4	528	400, 600	1 Q, 1 N, 2 P	A. yes B. odd C. no D. even	⊕ × ⊖	A. 30 B. 708 C. 9	17	Lea	A. 34 B. 24 C. 14 D. 4	See below.		
5	628, 629, 630	Numbers ending in 5 & 0	36	11	A. 764 B. 123	A. 60 B. 70	30 grapes	2	328	98	93	
6	A. 29 B. 27	A. Wednesday B. Thursday	A. 93 B. 303	C	A. 2 B. 4	A. 4 B. 4	40	A. 200 B. 10	less	8	2 years	24 squares
7	B	A	3	30	46¢	3	458	2	56	1 goal	10 + 3, 15 - 2, 13 - 0, 16 - 3, 4 + 9	Answers will vary.
8	85, 95	<	A. 6 B. 2	20°	A. 27 B. 78	A. 600 B. 800	A. 100 B. 200 C. 0	20¢	9, 17	See below.		
9	B	A. 60 B. 30	91	A. 1:20 B. 11:20	105, 107, 109, 112	109	C	30	4 tens	2:10 pm	9, 12, 15, 18	no
10	56	38	1 inch	A. 10 B. 100	10:15	200	A. 293 B. 41	966	A. 30¢ B. \$15.00	B	7	<input type="checkbox"/>
11	A. 65 B. 45	35¢ 10¢	309	9 tens or 90	57	310	39	3	yes	A	late	11
12	25, 4	48 mph	9	60, 62, 64 66, 68	A	20	73	104, 108	A. 3 B. 3	100	See below.	ID, 4P; 2N, 4P, 14P
13	756	14	3	350	110	Answers will vary.		5	11	B, D	462 < 642	Answers will vary.
14	A. 339 B. 26	A. inches B. 2 meters C. inches D. feet	21 + 21 = 42	A. 200 B. 400	See below.	3 books	3Q, 1D, 3P	130	3	15	6 + 5 = 11 11 - 6 = 5 11 - 5 = 6	A. 7 B. 7 C. 14
15	B	51	7	3	42	7	115	A. 10, 12 B. 12:30	B	0	2 1/4, 2 3/4	Answers will vary.
16	A. Saturday B. Monday C. Wednesday	100	6 rows	13	A. 30 B. 300	A	C	Monday, 5	A. 597 B. 7	A. no B. yes		
17	A. 15 B. 35 C. 5	A. 7:30 B. 7:35 C. 7:25	A. 12 B. 16	201, 204, 211, 214	444	40	17	40, 60, 80	9	2	6, 4, 3	
18	8	C	12	B	Color one circle.	560	0	490	45¢	3:35 pm	+10, -20, +5	2, 5

Lesson 1, #12: Color 1 hundred block and 38 small squares.
 Lesson 2, #12: 20 + 5 = 25, 25 + 5 = 30, 30 + 5 = 35
 Lesson 4, #10: A. 5 B. 4 C. 20 D. 5 + 5 + 5 E. 4 + 4 + 4 + 4
 Lesson 8, #10: 2 hundreds (200) + 9 tens (90) + 7 ones (7) 297 = 200 + 90 + 7

Lesson 12, #11 A. 365 B. 60 C. 31 D. 12 E. 30
 Lesson 14, #5: long hand on the 9; short hand on the 3
 Lesson 16, #10: Monday 5, Tuesday 3, Wednesday 5, Thursday 1, Friday 4