

Kindergarten

Mathematics Content Standards

By the end of kindergarten, students understand small numbers, quantities, and simple shapes in their everyday environment. They count, compare, describe and sort objects, and develop a sense of properties and patterns.

Number Sense

1.0 Students understand the relationship between numbers and quantities (i.e., that a set of objects has the same number of objects in different situations regardless of its position or arrangement):

1.1 Compare two or more sets of objects (up to ten objects in each group) and identify which set is equal to, more than, or less than the other.

1.2 Count, recognize, represent, name, and order a number of objects (up to 30).

1.3 Know that the larger numbers describe sets with more objects in them than the smaller numbers have.

2.0 Students understand and describe simple additions and subtractions:

2.1 Use concrete objects to determine the answers to addition and subtraction problems (for two numbers that are each less than 10).

3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones and tens places:

3.1 Recognize when an estimate is reasonable.

Algebra and Functions

1.0 Students sort and classify objects:

1.1 Identify, sort, and classify objects by attribute and identify objects that do not belong to a particular group (e.g., all these balls are green, those are red).

Measurement and Geometry

1.0 Students understand the concept of time and units to measure it; they understand that objects have properties, such as length, weight, and capacity, and that comparisons may be made by referring to those properties:

1.1 Compare the length, weight, and capacity of objects by making direct comparisons with reference objects (e.g., note which object is shorter, longer, taller, lighter, heavier, or holds more).

1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar).

1.3 Name the days of the week.

1.4 Identify the time (to the nearest hour) of everyday events (e.g., lunch time is 12 o'clock; bedtime is 8 o'clock at night).

2.0 Students identify common objects in their environment and describe the geometric features:

2.1 Identify and describe common geometric objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone).

2.2 Compare familiar plane and solid objects by common attributes (e.g., position, shape, size, roundness, number of corners).

Statistics, Data Analysis, and Probability

1.0 Students collect information about objects and events in their environment:

1.1 Pose information questions; collect data; and record the results using objects, pictures, and picture graphs.

1.2 Identify, describe, and extend simple patterns (such as circles or triangles) by referring to their shapes, sizes, or colors.

Mathematical Reasoning

1.0 Students make decisions about how to set up a problem:

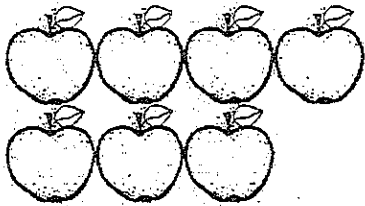
- 1.1 Determine the approach, materials, and strategies to be used.
- 1.2 Use tools and strategies, such as manipulatives or sketches, to model problems.

2.0 Students solve problems in reasonable ways and justify their reasoning:

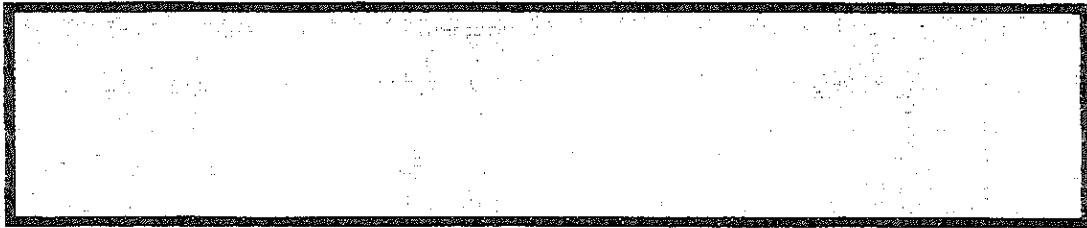
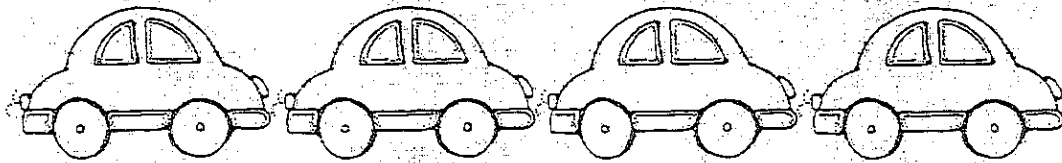
- 2.1 Explain the reasoning used with concrete objects and/ or pictorial representations.
- 2.2 Make precise calculations and check the validity of the results in the context of the problem.

Name _____

1. Count the objects in each set and circle the set that has less. Number Sense 1.1



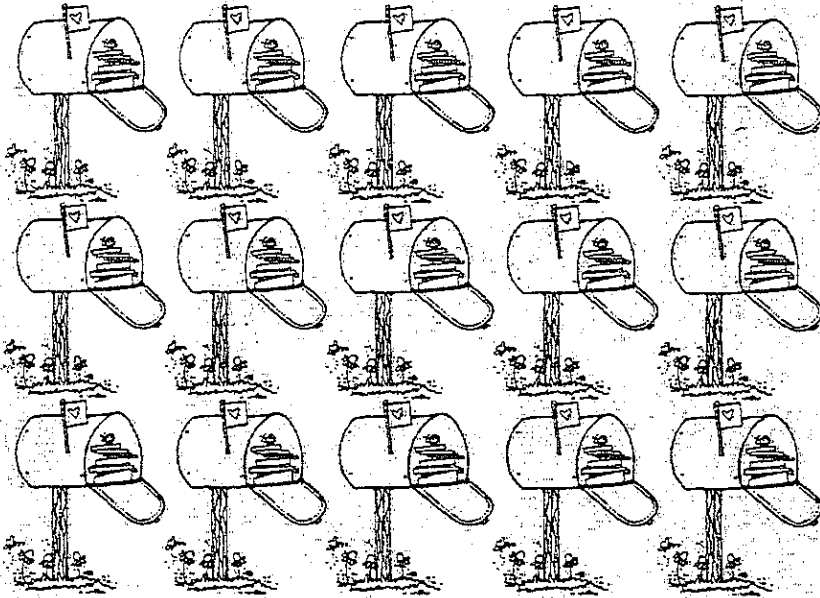
2. Draw more circles than cars. Number Sense 1.1



3. Extend the pattern. Statistics, Data Analysis & Probability 1.2

XOXOXOXO _____

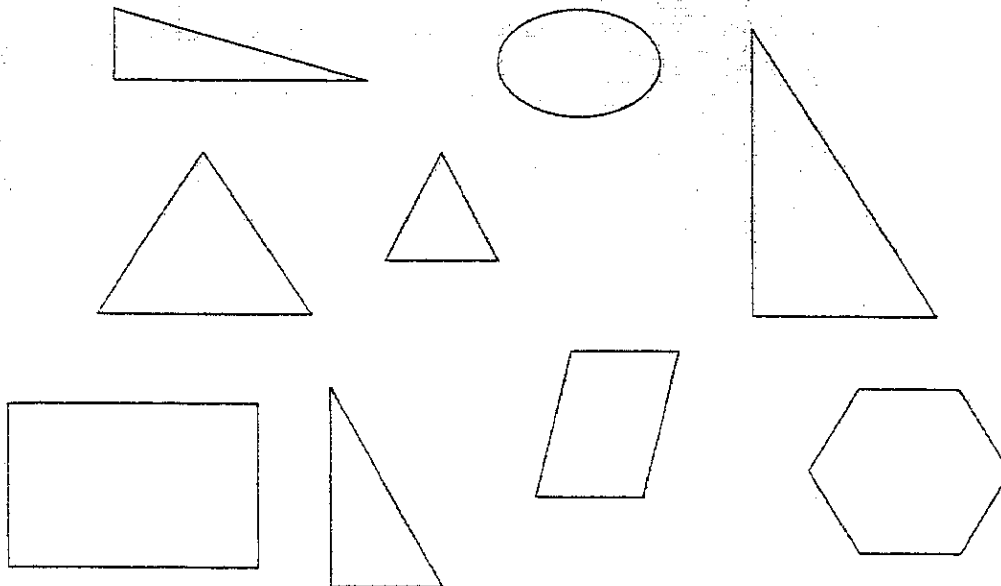
4. Estimate how many mailboxes are shown. *Number Sense 3.1*



More than 8

Less than 8

5. Put an x on all of the triangles. *Measurement & Geometry 2.1*



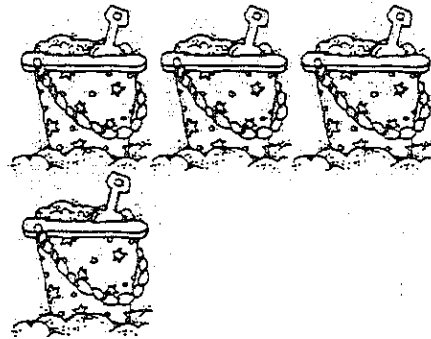
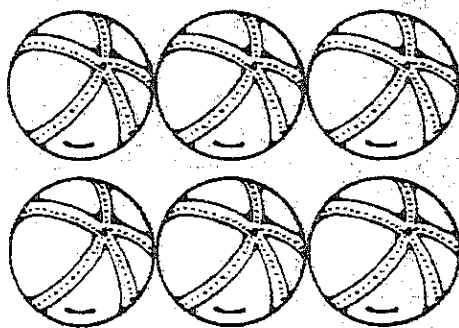
6. Count the objects and write the number. Number Sense 1.2



7. Circle the number nine. Number Sense 1.2

7 8 9 10

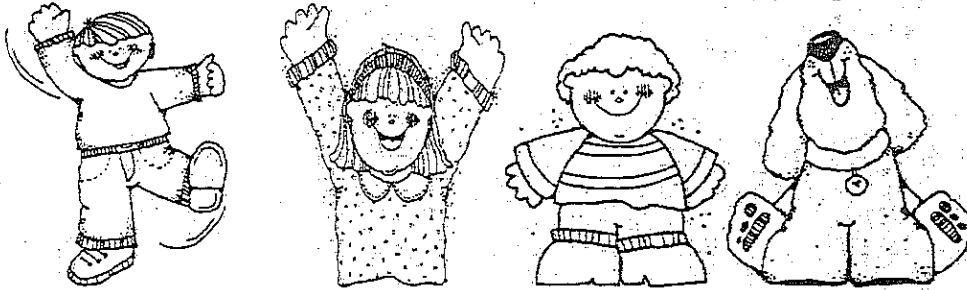
8. Circle the group of six. Number Sense 1.2



9. Write the numbers 1-5. Number Sense 1.2

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10. Cross out the object that does not belong. Algebra & Functions 1.1



11. Make a pattern on the line. Statistics, Data Analysis & Probability 1.2

12. Draw a circle in the box. Measurement & Geometry 2.1



13. Continue the pattern. Statistics, Data Analysis & Probability 1.2

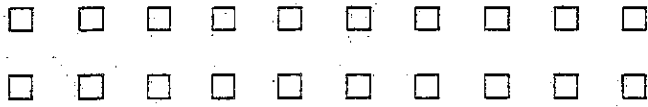
/ + a / + a / + a / + a _____

14. Draw six circles. Number Sense 1.2

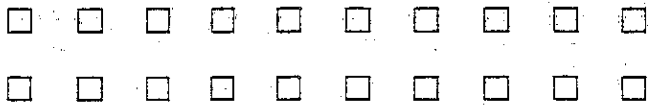
15. How many people are in your family? Draw them.

Statistics, Data Analysis & Probability 1.1

4. Circle these in groups of 2's. (Number sense 2.4)



5. Circle these in groups of 5's (Number sense 2.4)



6. Add

$2+1=$ ___ $5+0=$ ___ $3+0=$ ___ $4+1=$ ___ $6+0=$ ___

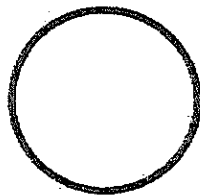
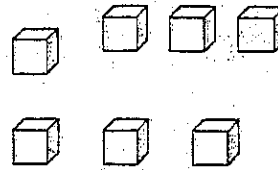
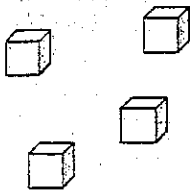
$5+1=$ ___ $2+0=$ ___ $6+1=$ ___ $3+1=$ ___ $4+0=$ ___

7. Subtract

$8-0=$ ___ $1-1=$ ___ $7-1=$ ___ $6-0=$ ___ $3-1=$ ___

$6-1=$ ___ $5-0=$ ___ $4-1=$ ___ $5-1=$ ___ $9-1=$ ___

8. Write how many. Put a < or > sign in the circle in the middle.



	Number Sense 1.1	Number Sense 1.1	Statistics, Data Analysis & Probability 1.2	Number Sense 3.1	Measurement & Geometry 2.1	Number Sense 1.2	Number Sense 1.2	Number Sense 1.2	Number Sense 1.2	Algebra & Functions 1.1	Statistics, Data Analysis & Probability 1.2	Measurement & Geometry 2.1	Statistics, Data Analysis & Probability 1.2	Number Sense 1.2	Statistics, Data Analysis & Probability 1.1
Names	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amanda			X					X							
Brett								X			X				
Casey								X			X			X	
Chase															
Cole															
Elizabeth	X	X		X	X	X	X	X	X	X		X	X	X	
Garrett								X						X	
India				X				X			X				
Jackson								X			X				
Jake				X							X			X	
Jeffrey		X									X			X	
Kendall								X						X	
Kyler	X							X						X	
Matthew								X							
Nicky											X				
Ryan								X							
Totals	2	2	1	3	1	1	1	11	1	2	7	1	1	7	
% Wrong	12	12	6	18	6	6	6	69	6	12	43	6	6	43	
% correct	88	88	94	82	94	94	94	31	94	88	57	94	94	57	

The workshop presentations and materials from the U.S. Department of Education Teacher-to-Teacher Workshops were developed by various individuals and are being provided as illustrative examples of what might be useful to teachers. The Department is not requiring or encouraging the use of any particular methods or materials in the classroom, and the use of the methods and materials in these sessions does not constitute an endorsement by the U.S. Department of Education.

Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1		X					X	X							
2							X	X			X	X			X
3	X	X	X				X	X	X		X	X		X	X
4	X	X					X	X							X
5		X	X		X	X	X			X	X	X	X		X
6							X	X							
7		X	X	X			X	X					X		
8															X
9							X	X							
10							X								
11															
12	X		X				X				X				
13		X	X				X	X					X		X
14									X	X	X	X			
15								X	X		X	X			X
16		X						X	X						
17	X	X	X			X	X	X	X	X	X	X			
18										X					
19	X	X	X	X			X	X	X	X	X	X	X	X	X
20				X											
Totals	5	9	8	3	7	2	13	12	6	5	8	7	4	2	8
% Wrong	25	45	40	15	35	10	65	60	30	25	40	35	20	10	40
% Correct	75	55	60	85	65	90	35	40	70	75	60	65	80	90	60

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Name	1	2	3	4	5	6	6	7	8	9	10	11	12	13	14	15
1							X		X							
2																
3																
4															X	
5						X					X					
6																
7				X										X		
8																X
9									X							
10																
11																
12																
13									X							
14																
15																
16																
17								X								
18																
19		X		X				X				X				
20			X													
Totals	0	1	0	3	2	2	2	2	3	0	1	1	0	2	1	1
% Wrong	0	5	0	15	10	10	10	10	15	0	5	5	0	10	5	5
% Correct	100	95	100	85	90	90	90	90	85	100	95	95	100	90	95	95

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Chapter 2 Pretest - Place Value Mrs. Brown's Class

Student	1 to 6	7 to 11	12,13,19	14-18	20-21	22-23	24-25	26-27	28-29	30-31	32-33
	Refresher	Refresher	L.1	L.2	L.3	L.4	L.5	L.7	L.8	L.9	L.10
Mas. 1,2 Master 3											
Alexea					1 of 2	2 of 2			1 of 2		1 of 2
Alli	1 of 6	5 of 5 before	3 of 3		1 of 2	2 of 2	1 of 2		1 of 2		1 of 2
Aubree						2 of 2				2 of 2	
Calvin	1 of 6	5 of 5 before	3 of 3		2 of 2	2 of 2	1 of 2	2 of 2	2 of 2		
Canyon	1 of 6	5 of 5 after				2 of 2			1 of 2		2 of 2
Chris					2 of 2	2 of 2		1 of 2	1 of 2		
Christian	1 of 6	1 of 5			1 of 2	2 of 2	1 of 2		2 of 2		
Christopher					1 of 2	2 of 2					
Curren	1 of 6					2 of 2					
Dakota						2 of 2					
Diana					2 of 2	2 of 2					
Elli	1 of 6		3 of 3		1 of 2	2 of 2		1 of 2		2 of 2	
Emily					1 of 2	2 of 2					
Joseph	2 of 6				1 of 2	2 of 2	2 of 2	2 of 2	2 of 2		
Kate					1 of 2	2 of 2			1 of 2		
Morgan						2 of 2			1 of 2		1 of 2
Ryan			1 of 3			2 of 2					1 of 2
Sarah O.	6 of 6		3 of 3		1 of 2	2 of 2	1 of 2	1 of 2	2 of 2	1 of 2	
Victor	4 of 6	1 of 5		1 of 5		2 of 2	2 of 2		2 of 2		
Yousef					1 of 2	2 of 2					

before

All children should complete every problem-solving lesson and all sessions covering new content. These lessons include Lessons 6, 11&12.

	Number Sense 1.1	Number Sense 1.1	Statistics, Data Analysis & Probability 1.2	Number Sense 3.1	Measurement & Geometry 2.1	Number Sense 1.2	Number Sense 1.2	Number Sense 1.2	Number Sense 1.2	Algebra & Functions 1.1	Statistics, Data Analysis & Probability 1.2	Measurement & Geometry 2.1	Statistics, Data Analysis & Probability 1.2	Number Sense 1.2	Statistics, Data Analysis & Probability 1.1	
Teacher		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Anderson		88	88	94	82	94	94	94	31	94	88	57	94	94	57	
Bailey		100	72	90	48	88	82	74	94	57	62	90	94	94	88	
Cooper		60	90	100	88	60	88	88	82	88	70	88	80	88	92	
Dell																
Eagan																

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End of the Year Math Totals

Percent correct.

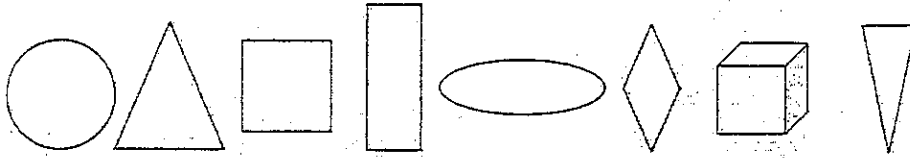
Teacher	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Brown	90			85	80	71	95	90	95	85	95	90		85	85	80	95	95		95	95	95	95			95
Eifler		95		80	85	70	85		85	55	95	85		90	80	70	95	80	95			70	95			95
Todd	88		94	88	88	88	94	94	88	85			94	83	94	72	88	94	94			88	72			94
Adams							88	88	88	88										88		88				88
Siglock	85			85	90	90		95	90	75	90	85		85	90	55		95					90			85
Hewitt	72		96	96	96	96		96	92	92	92	96		96	92					96						92
Stetter	94	94	94	94	89	84				84	94	89	94	89	78	94	94	94	94	94		94	89			85
Synch	70	95		95	80	90	95	90	85	80	90	70		70	90	55		90				85	86			55

Amanda	Brett	Casey
Chase	Cole	Elizabeth
Garrett	India	Jackson
Jake	Jeffrey	Kendall
Kyler	Matthew	Nicky
Ryan		

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Name _____

Shapes Use realia to assess cube, cone and sphere.



Sorting Record the attributes sorted by, and indicate if able to verbally label groups.

Creates a Pattern Record the pattern created by child. (abab, abc)

Completes a Pattern Record pattern child is able to complete.

1:1 Correspondence Child counts and touches objects. Record number.

Counts Child counts from rote without the use of objects.

Bloom's Taxonomy of Cognitive Skills

Knowledge	Comprehension	Application
Student recalls or recognizes information for ideas and principles in the approximate form	Student translates, comprehends or interprets information based on prior learning	Student selects, transfers and uses data and principles to complete a life problem task with a minimum of direction
Terms: Define List Identify Describe Match Locate	Terms: Explain Summarize Interpret Rewrite Convert Give Example	Terms: Demonstrate Show Operate Construct Apply

Analysis	Synthesis	Evaluation
Students is aware of thought process in use and can examine, classify, hypothesize, collect and draw conclusions to the nature or structure of a question	Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him.	Student appraises, assesses or criticizes on a basis of specific standards and criteria (this does not include opinions unless standards are made explicit).
Terms: Compare Contrast Distinguish Deduct Infer Analyze categorize	Terms: Create Suppose Design Compose Combine rearrange	Terms: Judge Appraise Debate Criticize support

Process Verbs According to Bloom's Taxonomy

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Name	Change	Practice	Examine	Produce	reject
Choose	Interpret	Illustrate	Compare	Compose	rate
Report	Discuss	Construct	Dissect	Devise	Recommend
Repeat	paraphrase	Operate	Subdivide	Create	Appraise
Define	Infer	Use	Question	Combine	criticize
Memorize	Classify	Dramatize	Discriminate	Propose	verify
State	Restate	Demonstrate	Break down	Design	judge
Recall	Summarize	Try	Experiment	Forecast	prioritize
Label	Explain	Manipulate	Contrast	Invent	Accept
Narrate	Rewrite	Solve	Investigate	Formulate	decide
Record	Reword	Exhibit	Debate	Catalog	assess
List	Translate	Experiment	Diagram	Assemble	value
Observe	Recognize	Interview	Categorize	Prepare	select
Read	Group	Simulate	Question	Develop	evaluate
Find/locate	Qualify	Apply	Survey	Imagine	recommend
Listen	Discuss	Organize	Take apart	Construct	Revise
Arrange	Measure	Build	Relate	Structure	determine
Show	Predict	Relate	Modify	Organize	Justify
Tell		Develop	Deduce	generate	
Group			Analyze	hypothesize	
Match			Dissect		
Sort			Outline		
Identify			Simplify		
write			deduce		
describe					

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