# Third Grade

## Assurances

**By the end of third grade, the student will:**

1. **Know all addition, subtraction, and multiplication facts.**
2. **Read, write, locate, compare, and order numbers to 999,999.**
3. **Solve one and two-step word problems using three-digit addition and subtraction with extraneous information.**
4. **Solve word problems using multiplication and division facts.**
5. **Round two and three-digit numbers and estimate to solve word problems.**
6. **Compare and identify equivalent fractions up to twelfths with pictures (models).**
7. **Recognize, compare, and describe two and three-dimensional figures using formal geometric terms.**
8. **Construct and use complex pictographs, bar graphs, tally charts, and tables to solve problems.**
9. **Use measurement concepts to select appropriate units, find perimeter, determine area, tell time, measure temperature, and solve problems involving elapsed time.**
10. **Use the problem-solving model to solve appropriate grade level problems.**

## Mathematics – First Six Weeks

## Vocabulary

**ADDITION**
addend
combined total
equal
fact family
greater than
grouping property (add)
missing addend
missing data
number line
number sentence
order property (add)
point
plus
symbols

**SUBTRACTION**
borrow
comparative
difference
fewer
greater than
hundreds
less than
minuend
minus
rename/regroup
subtrahend
work backwards

**PLACE VALUE**
base ten blocks
column
even numbers
expanded form/notation
hundreds
thousands
millions
name to numeral
odd numbers
ones
ordinal numbers
patterns
place value chart
standard form
tens

**ESTIMATION**
reasonable
rounding

**PROBLEM SOLVING**
graph
guess and check
information
multi-step problem
logic
logical reasoning
represents

# Aldine I.S.D. Benchmark Targets / Third Grade

Summer 2004

**The student will:**

1. Review and extend patterns to identify missing numbers using addition; multiples of 2, 3, 4, 5, 10; even and odd numbers; and basic skip counting (using a number line).(TEKS 6A; TAKS 2)
2. Review ordinal numbers, $1^{st}$-$50^{th}$, and extend and internalize through $100^{th}$.
3. Represent three- and four-digit numbers with base ten blocks and write the numeral for objects grouped in thousands, hundreds, tens, and ones to 9,999. (TEKS 1A; TAKS 1)
4. Round two and three-digit numbers to the nearest ten or hundred. (TEKS 5A; TAKS 1)
5. Compare and order whole numbers from least to greatest and greatest to least (up to 4 digits). (TEKS 1B; TAKS 1)
6. Use place value to read, write (in symbols, words and expanded form), identify, describe, and match the value of whole numbers through 999,999 to describe real-life situations. (TEKS 1A; TAKS 1)
7. Use objects to demonstrate the meaning of addition and match illustrations to appropriate addition sentences. (TEKS 3A; TAKS 1)
8. Demonstrate addition of two and three digit numbers with and without regrouping. (TEKS 3A; TAKS 1)
9. Estimate sums by first rounding to the nearest ten or hundred. (TEKS 5A, 5B TAKS 1)
10. Add columns of numbers with and without regrouping.
11. Use two- and three-digit numbers to solve addition word problems. (TEKS 3B; TAKS 1)
12. Use objects to demonstrate subtraction sentences. (TEKS 3A; TAKS 1)
13. Demonstrate subtraction of two- and three-digit numbers with and without regrouping. (TEKS 3A; TAKS 1)
14. Subtract across zeros with three- and four-digit numbers. (TEKS 3A, 3B; TAKS 1)
15. Estimate differences by first rounding to the nearest ten or hundred. (TEKS 5A, 5B; TAKS 1)
16. Use two- and three-digit numbers to solve subtraction word problems. Include take away subtraction, comparative subtraction, and missing subtrahend formats. (TEKS 3B; TAKS 1)
17. Identify, name and use inverse operations (family of facts) to solve problems. (TEKS 6C; TAKS 2)
18. Supply the missing addend or subtrahend in number sentences involving addition and subtraction.
19. Internalize and recall basic addition and subtraction facts to eighteen and multiplication facts through the fives (oral and written--40 facts within 3 minutes at 85% mastery).
20. Solve problems connected to everyday experiences in and outside of school. (TEKS 15A-D; TAKS 6)
    - Identify the mathematics in everyday situations.
    - Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and looking back to evaluate the solution.
    - Select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking or acting it out in order to solve problems.
    - Use tools such as real objects, manipulatives, and technology to solve problems.
    - Solve multi-step word problems that may or may not contain extraneous information.
    - Distinguish relevant from irrelevant information in a word problem.
    - Identify from four given choices the additional information needed to solve a word problem that does not contain enough information.
21. Communicate about mathematics using informal language. (TEKS 16A-B; TAKS 6)

- Explain and record observations using objects, words (including math vocabulary), pictures, numbers, and technology.
- Relate informal language to mathematical language and symbols.

22. Use logical reasoning. (TEKS 17A-B; TAKS 6)
    - Make generalizations from patterns or sets of examples and nonexamples.
    - Justify why an answer is reasonable and explain the solution process.

# Mathematics - Second Six Weeks

## Vocabulary

| | | |
|---|---|---|
| **MONEY** | hour | degree |
| bills | hour hand | distance |
| cent | minute | estimate |
| change | minute hand | Fahrenheit |
| coins | month | foot |
| dimes | noon | gram |
| dollar | P.M. | height |
| half dollar | quarter hour | inch |
| nickel | second | length |
| penny | week | measure |
| quarter | year | meter |
| value | | metric system |
| | **MEAUREMENT** | mile |
| **TIME** | about | perimeter |
| A.M. | area | square unit |
| calendar | Celsius | temperature |
| clock | centimeter | width |
| day | customary system | yard |
| elapsed time | decimeter | |

**The student will:**

23. Determine the value of a collection of coins and bills, decide which coins and bills are needed to pay a given amount, and solve problems involving money and making change. (TEKS 1C; TAKS 1)
24. Add pairs of four-digit numbers with and without regrouping (including money values). (TEKS 3A, 3B; TAKS 1)
25. Add columns of three- and four-digit numbers (including money values). (TEKS 3A, 3B; TAKS 1)
26. Read and write time to the hour, half hour, quarter hour and five minute intervals. (TEKS 12A, TAKS 4)
27. Tell and write time to the nearest minute and match a pictorial representation of a clock (digital or analog) with a given time. (TEKS 12A; TAKS 4)

28. Identify/select a time or a pictorial representation of a time that fits within a given range of time. (TEKS 12A; TAKS 4)
29. Determine elapsed time (with and without a picture of a clock) across the hour and convert hours to minutes/minutes to hours. (TEKS 12A, 13; TAKS 4)
30. Solve problems involving elapsed time (with and without a picture of a clock) across the hour and converting hours to minutes/minutes to hours. (TEKS 12A, 13; TAKS 4)
31. Use a calendar to find information and identify missing days and months in a sequence. (TEKS 13, 15A, 15D; TAKS 3, 6)
32. Identify and choose the appropriate unit (inch, foot, yard, or mile) for measuring the perimeter, length, height, or width of a given object/person. (TEKS 11A, 11B, 15D; TAKS 4, 6)
33. Estimate and measure the length of an object using standard (inch, foot, yard, mile, centimeter, decimeter, meter, and kilometer) and non-standard (bricks, paper clips, etc.) units and measure the perimeter of a shape using linear measurement. (TEKS 11A, 11B, 15D; TAKS 6)
34. Determine length of an object placed in the middle of a ruler. (TEKS11A, 15D; TAKS 4, 6)
35. Convert measurements from inches to feet and measurements from feet to inches.
36. Use degrees Fahrenheit and Celsius to measure and solve problems involving temperature. (TEKS 12B, TEKS 13; TAKS 4)
37. Solve word problems involving customary units for length, temperature, and time. (TEKS13; TAKS 4)
38. Estimate answers and solve word problems involving measurement terminology (length, distance, temperature, and time). (TEKS 13; TAKS 4)
39. Internalize and recall multiplication facts through the tens (oral and written--40 facts within 3 minutes at 85% mastery).
40. Solve problems connected to everyday experiences in and outside of school. (TEKS 15A-D; TAKS 6)
    - Identify the mathematics in everyday situations.
    - Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and looking back to evaluate the solution.
    - Select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking or acting it out in order to solve problems.
    - Use tools such as real objects, manipulatives, and technology to solve problems.
    - Solve multi-step word problems that may or may not contain extraneous information.
    - Distinguish relevant from irrelevant information in a word problem.
    - Identify from four given choices the additional information needed to solve a word problem that does not contain enough information.
41. Communicate about mathematics using informal language. (TEKS 16A-B; TAKS 6)
    - Explain and record observations using objects, words (including math vocabulary), pictures, numbers, and technology.
    - Relate informal language to mathematical language and symbols.

42. Use logical reasoning. (TEKS 17A-B; TAKS 6)
    - Make generalizations from patterns or sets of examples and nonexamples.

- Justify why an answer is reasonable and explain the solution process.

## Mathematics – Third Six Weeks

## Vocabulary

| **MULTIPLICATION** | | **DIVISION** |
|---|---|---|
| array | multiply | divide |
| columns | product | dividend |
| each | property of one | division sentence |
| factor | rows | division sign |
| fact family | square number | divisor |
| grouping property | times | equal groups |
| missing factors | total | equivalents sets |
| multiple | zero property | quotient |
| multiplication sentence | | remainder |
| multiplication sign | | |

**The student will:**

43. Change repeated addition sentences to multiplication sentences and change multiplication sentences to repeated addition sentences. (TEKS 3A, 4A; TAKS 1)
44. Identify and arrange objects in array patterns to demonstrate the meaning of multiplication (concrete, pictorial, and technology). (TEKS 4A, TEKS 6B; TAKS 1, 2)
45. Use modeling to learn and apply multiplication facts through the twelves. (TEKS 4A; TAKS 1)
46. Internalize and recall basic multiplication facts through the tens (oral and written--40 facts within 3 minutes at 85% mastery).
47. Multiply two- and three-digit numbers by one-digit numbers. (TEKS 4B; TAKS 1)
48. Solve word problems involving multiplication (with and without pictures), addition, and/or subtraction (including multi-step problems and problems containing extraneous information). (TEKS 4B, TEKS 3B; TAKS 1)
49. Identify missing factors in a multiplication problem using fact families. (TEKS 4B; TAKS 1)
50. Use information from pictographs (where the key indicates that the symbol represents more than one piece of data) to solve problems involving multiplication, addition, and subtraction. (TEKS 3B, 4B, 14B; TAKS 1, 5)
51. Separate a set of objects into equivalent sets without remainders to demonstrate the meaning of division (using real situations). (TEKS 4C; TAKS 1)
52. Use concrete objects to separate a set of objects into equivalent sets with a remainder. (TEKS 4C; TAKS 1)
53. For a division problem, recognize the appropriate model/picture for the problem. (TEKS 4C, TAKS 1)

54. When given a model/picture of the total number of objects for a division word problem, be able to manipulate the picture (by circling groups, etc.) to find and record the solution sentence and answer to the given division word problem. (TEKS 4C; TAKS 1)
55. Solve problems connected to everyday experiences in and outside of school. (TEKS 15A-D; TAKS 6)
    - Identify the mathematics in everyday situations.
    - Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and looking back to evaluate the solution.
    - Select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking or acting it out in order to solve problems.
    - Use tools such as real objects, manipulatives, and technology to solve problems.
    - Solve multi-step word problems that may or may not contain extraneous information.
    - Distinguish relevant from irrelevant information in a word problem.
    - Identify from four given choices the additional information needed to solve a word problem that does not contain enough information.
56. Communicate about mathematics using informal language. (TEKS 16A-B; TAKS 6)
    - Explain and record observations using objects, words (including math vocabulary), pictures, numbers, and technology.
    - Relate informal language to mathematical language and symbols.
57. Use logical reasoning. (TEKS 17A-B; TAKS 6)
    - Make generalizations from patterns or sets of examples and nonexamples.
    - Justify why an answer is reasonable and explain the solution process.

# Mathematics – Fourth Six Weeks

## Vocabulary

| PROBABILITY | CHARTS/GRAPHS | FRACTIONS |
|---|---|---|
| chance | bar graph | compare |
| equally likely | data | decimal |
| least likely to occur | graph | decimal point |
| most likely to occur | pictograph | denominator |
| odds | recording | equal parts |
| outcome | table | equivalent fraction |
| prediction | tally chart | fourths |
| relationship | Venn diagram | halves |
| | | hundredths |
| | | mixed number |
| | | numerator |
| | | tenths |
| | | thirds |
| | | whole |

**The student will:**

58. Use objects to demonstrate the relationship between multiplication and division (inverse operations). (TEKS 4A, 4C, 6C; TAKS 1, 2)
59. Solve word problems involving division with or without remainders, multiplication, addition, and/or subtraction. (TEKS 3B, 4B, 4C, 15A-D; TAKS 1, 6)
60. Internalize and recall basic multiplication facts through 12x12 (oral/written--40 facts within 3 minutes at 85% mastery) and use them to get answers to division problems.
61. Identify patterns in a table of related number pairs based on a real life situation and extend the table. (TEKS 7B; TAKS 2)
62. Collect, organize, record, and display data on the frequency of events to generate pictographs, bar graphs, tally charts, and tables. (TEKS 7A, 14A; TAKS 2, 5)
63. Collect, organize, record, and display data in picture graphs and bar-type graphs where each picture or cell might represent more than one piece of data. (TEKS 14A, TEKS14B, TEKS16A, TEKS 16B; TAKS 5, TAKS 6)
64. Use information in picture graphs, bar-type graphs, tally charts, and tables to predict outcomes and to describe events as more likely, less likely, or equally likely. (TEKS 14B; TAKS 5)
65. Use data to predict outcomes and describe events as more likely, less likely, or equally likely (spinners, tree diagrams, marbles, colored chips, different colored cubes, coin toss, etc.). (TEKS 14C; TAKS 5)
66. Use information from picture graphs (where the key indicates that each symbol represents more than one piece of data) to solve problems involving division, multiplication, addition, and subtraction (TEKS 14A, 14B; TAKS 5, TAKS 6)

67. Construct concrete models of fractions and use fraction names and symbols to describe parts of a whole and parts of a set (denominators of 12 or less, shaded and not shaded). (TEKS 2A, 2C; TAKS 1)
68. Locate and name points on a number line using whole numbers and fractions such as halves, thirds, and fourths. (TEKS 10; TAKS 3)
69. Use concrete and pictorial models to compare (<, >, =), match, name, and construct equivalent fractions and add fractional parts of whole objects (denominators of 12 or less). (TEKS 2B, TEKS 2D; TAKS 1)
70. **(Introduce)** Match, name, and write mixed numbers to name parts of regions (using models). (TEKS 2B, 2C; TAKS 1)
71. Identify and write decimals containing tenths and hundredths using models and pictures (include decimals greater than one). (TEKS 2C; TAKS 1)
72. **(Introduce)** Add and subtract decimals.
73. Estimate answers to solve word problems. (TEKS 5B; TAKS 1)
74. Solve problems connected to everyday experiences in and outside of school. (TEKS 15A-D; TAKS 6)
    - Identify the mathematics in everyday situations.
    - Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and looking back to evaluate the solution.
    - Select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking or acting it out in order to solve problems.
    - Use tools such as real objects, manipulatives, and technology to solve problems.
    - Solve multi-step word problems that may or may not contain extraneous information.
    - Distinguish relevant from irrelevant information in a word problem.
    - Identify from four given choices the additional information needed to solve a word problem that does not contain enough information.
75. Communicate about mathematics using informal language. (TEKS 16A-B; TAKS 6)
    - Explain and record observations using objects, words (including math vocabulary), pictures, numbers, and technology.
    - Relate informal language to mathematical language and symbols.
76. Use logical reasoning. (TEKS 17A-B; TAKS 6)
    - Make generalizations from patterns or sets of examples and nonexamples.
    - Justify why an answer is reasonable and explain the solution process.

# Mathematics – Fifth Six Weeks

# Vocabulary

| | | |
|---|---|---|
| **GEOMETRY** | line of symmetry | right angle |
| angle | line segment | side |
| area | octagon | similar |
| circle | open curve | solid figures |
| closed curve | ordered pair | space figures |
| cone | pentagon | sphere |
| congruent | perimeter | square |
| corner | plane figure | symmetry |
| cube | point | tangram |
| cylinder | polygon | trapezoid |
| edge | pyramid | triangle |
| end point | quadrilateral | triangular prism |
| face | ray | vertex |
| grid | rectangle | vertices |
| hexagon | rectangular prism | volume |
| line | rhombus | |

**The student will:**

77. **(Introduce)** Internalize and recall all division facts.
78. For a division problem, recognize the appropriate model/picture for the problem when given picture choices (facts to fives). (TEKS 4C; TAKS 1)
79. When given a picture of the total number of objects for a division word problem, be able to manipulate the picture by circling groups to get the answer to the given division word problem (one-digit divisors). (TEKS 4C; TAKS 1)
80. Add, subtract, multiply, and divide to solve word problems. (TEKS 3B, 4B-C, 15A-D; TAKS 1, 6)
81. Recognize/name, describe, and compare (number of sides, vertices/corners) 2-dimensional/plane figures: square, rectangle, circle, triangle, pentagon, hexagon, octagon, quadrilateral, polygon, trapezoid, rhombus, and parallelogram. (TEKS 8; TAKS 3)
82. Sketch and identify curves that are open, closed, simple, or not simple.
83. **(Introduce)** Identify points, lines, line segments, and rays. Investigate angles (right, acute and obtuse) using models, paper folding, drawings and computer graphics where appropriate.
84. **(Introduce)** Use ordered pairs to locate points on a grid and identify the ordered pair for a given point on a grid.
85. Identify congruence, non-congruence, symmetry, and non-symmetry using models, paper folding, drawings, and computer graphics where appropriate. (TEKS 9 A-C; TAKS 3)
86. Use linear measure to find the perimeter of a shape (include finding the perimeter of a square when given the length of one side and the perimeter of a rectangle when given the length of one side and the width of one side). (TEKS 11B; TAKS 4)
87. Determine the area of shapes by using concrete models of square units. (TEKS 11C; TAKS 4)
88. Recognize/name, describe, and compare (number of faces, edges, corners/vertices)

3-dimensional figures: cube, sphere, cone, cylinder, rectangular prism, triangular prism, and pyramid. (TEKS 8; TAKS 3)

89. Classify objects/pictures of objects as 2-dimensional or 3-dimensional. (TEKS 8; TAKS 3)
90. **(Introduce)** Find the volume of space figures.
91. Use information from charts and graphs (where the key indicates that the symbol represents more than one piece of data) to solve problems involving division, multiplication, addition, and subtraction. (TEKS14B, 15A-D; TAKS 5, 6)
92. Internalize and recall basic multiplication facts through 12x12 (oral/written--40 facts within 3 minutes at 85% mastery) and use them to get answers to division problems.
93. Estimate answers and solve word problems. (TEKS 5B; TAKS 1)
94. Solve problems connected to everyday experiences in and outside of school. (TEKS 15A-D; TAKS 6)
    - Identify the mathematics in everyday situations.
    - Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and looking back to evaluate the solution.
    - Select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking or acting it out in order to solve problems.
    - Use tools such as real objects, manipulatives, and technology to solve problems.
    - Solve multi-step word problems that may or may not contain extraneous information.
    - Distinguish relevant from irrelevant information in a word problem.
    - Identify from four given choices the additional information needed to solve a word problem that does not contain enough information.
95. Communicate about mathematics using informal language. (TEKS 16A-B; TAKS 6)
    - Explain and record observations using objects, words (including math vocabulary), pictures, numbers, and technology.
    - Relate informal language to mathematical language and symbols.
96. Use logical reasoning. (TEKS 17A-B; TAKS 6)
    - Make generalizations from patterns or sets of examples and nonexamples.
    - Justify why an answer is reasonable and explain the solution process.

## Mathematics – Sixth Six Weeks

# Vocabulary

| | |
|---|---|
| **DIVISION**<br>divisible<br><br>**MEASUREMENT**<br>capacity<br>cups<br>customary system<br>gallons<br>grams<br>kilograms | liter<br>metric system<br>milliliter<br>ounces<br>pint<br>pound<br>quarts<br>volume<br>weight |

**The student will:**

97. **(Introduce)** Use standard units (including milliliters, liters, cups, pints, quarts, and gallons) to measure capacity. (Grade 4 TEKS 11B; TAKS 4)
98. **(Introduce)** Use standard units (including ounces, pounds, grams, and kilograms) to measure weight. Identify concrete models that approximate the weight of an ounce and a pound. Choose the appropriate unit to measure the weight of a given object.
99. **(Introduce)** Estimate products by rounding first.
100. **(Introduce)** Use number patterns to tell if a number is divisible by 2, 5, and/or 10.
101. **(Introduce)** Divide two-digit numbers by one-digit divisors (with and without remainders) to solve problems.
102. **(Introduce)** Multiply money amounts written as decimals by one-digit numbers (Ex.: $3.28 × 4).
103. Use information from charts and graphs (where the key indicates that the symbol represents more than one piece of data) to solve problems involving division, multiplication, addition, and subtraction. (TEKS14B, 15A-D; TAKS 5, 6)
104. Internalize and recall basic multiplication facts through 12x12 (oral/written --- 40 facts within 3 minutes at 85% mastery) and use them to get answers to division problems.
105. Estimate answers and solve word problems. (TEKS 5B; TAKS 1)
106. Review all previously taught skills.

107. Solve problems connected to everyday experiences in and outside of school. (TEKS 15A-D; TAKS 6)
    - Identify the mathematics in everyday situations.

- Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and looking back to evaluate the solution.
- Select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking or acting it out in order to solve problems.
- Use tools such as real objects, manipulatives, and technology to solve problems.
- Solve multi-step word problems that may or may not contain extraneous information.
- Distinguish relevant from irrelevant information in a word problem.
- Identify from four given choices the additional information needed to solve a word problem that does not contain enough information.

108. Communicate about mathematics using informal language. (TEKS 16A-B; TAKS 6)
    - Explain and record observations using objects, words (including math vocabulary), pictures, numbers, and technology.
    - Relate informal language to mathematical language and symbols.
109. Use logical reasoning. (TEKS 17A-B; TAKS 6)
    - Make generalizations from patterns or sets of examples and nonexamples.
    - Justify why an answer is reasonable and explain the solution process.