Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

Benchmark 1: Number Sense – The student demonstrates number sense for whole numbers, fractions, decimals, and money using concrete objects in a variety of situations.

Third Grade Knowledge Base Indicators	Third Grade Application Indicators
The student	The student
 knows, explains, and represents (\$): a. whole numbers from 0 through 10,000 (2.4.K1a-b) b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, sixteenths) (2.4.K1c) (\$); c. decimals greater than or equal to zero through tenths place (2.4.K1c). compares and orders: a. ▲ ■ whole numbers from 0 through 10,000 with and without the use of concrete objects (2.4.K1a-b) (\$); b. fractions greater than or equal to zero with like denominators (halves, fourths, thirds, eighths, tenths, sixteenths) using concrete objects (2.4.K1a,c); 	solves real-world problems using equivalent representations and concrete objects to (\$): a. compare and order whole numbers from 0 through 5,000 (2.4.A1a-b), e.g., using base ten blocks, represent the total school attendance for a week; then represent the numbers using digits and compare and order in different ways; b. add and subtract whole numbers from 0 through 1,000 and when used as monetary amounts (2.4.A1a,d) (\$), e.g., use re money to show at least 2 ways to represent \$10.42; then subtract the cost of a book purchases at the school's book fa from \$10.42 (the amount you have earned and can spend). 2. determines whether or not solutions to real-world problems that
c. decimals greater than or equal to zero through tenths place using concrete objects (2.4.K1a-c). 3. ▲ knows, explains, and uses equivalent representations including the use of mathematical models for: a. addition and subtraction of whole numbers from 0 through 1,000 (2.4.K1a-b) (\$), e.g., 144 + 236 = 300 + 80 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	involve the following are reasonable (\$). a. whole numbers from 0 through 1,000 (2.4.A1a-b), e.g., a student says that there are 1,000 students in grade 3 at her school, is this reasonable? b. fractions greater than or equal to zero (halves, fourths, thirds eighths, tenths, sixteenths) (2.4.A1a,c); e.g., you ate ½ of a sandwich and a friend ate ¾ of the same sandwich; is this reasonable? c. decimals greater than or equal to zero when used as monetary amounts (2.4.A1d), e.g., a pack of chewing gum costs what amount - \$62 \$.75 9¢ \$75.00 750¢? Is this reasonable?;

- ▲ Assessed Indicator on the Objective Assessment
- - Assessed Indicator on the Optional Constructed Response Assessment
- N Noncalculator
- (\$) Financial Literacy THESE STANDARDS AR

Fourth Grade Knowledge Base Indicators

Fourth Grade Application Indicators

- Standard 1: Number and Computation The student uses numerical and computational concepts and procedures in a variety of situations.
 - Benchmark 1: Number Sense The student demonstrates number sense for whole numbers, fractions (including mixed numbers), decimals, and money including the use of concrete objects in a variety of situations.

	r out the orange base maleuters	_	r cartir orace application marcators
	student	The	e student
1.	knows, explains, and uses equivalent representations for (\$): a. whole numbers from 0 through 100,000 (2.4.K1a-b);	1.	solves real-world problems using equivalent representations and concrete objects to (\$):
	 fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers (2.4.K1c); 		 compare and order whole numbers from 0 through 100,000 (2.4.A1a-b); e.g., using base ten blocks, represent the attendance at the circus over a three day stay; then represent
	 decimals greater than or equal to zero through hundredths place and when used as monetary amounts (2.4.K1c-d) (\$), e.g., 7¢ = 		the numbers using digits and compare and order in different ways;
2	\$.07 = 7/100 of a dollar or a hundreds grid with 7 sections colored or .1 = 1/10 =		 add and subtract whole numbers from 0 through 10,000 and decimals when used as monetary amounts (2.4.A1a-d), e.g., use real money to show at least 2 ways to represent \$142.78,
-	a. whole numbers from 0 through 100,000 (2.4.K1a-b) (\$);		then subtract the cost of a pair of tennis shoes;
	 fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers with a special emphasis on concrete objects (2.4.K1c); 		 multiply a one-digit whole number by a two-digit whole number (2.4.A1a-b), e.g., use base ten blocks to represent 24 x 5 to find the total number of hours in 5 days, or use repeated
	c. decimals greater than or equal to zero through hundredths place		addition
	and when used as monetary amounts (2.4.K1c-d) (\$).	_	24 + 24 + 24 + 25 to solve, or use the algorithm.
		2.	determines whether or not solutions to real-world problems that involve the following are reasonable (\$):
			a. whole numbers from 0 through 10,000 (2.4.A1a-b), e.g., a student says that there are 1,000 students in grade 4 at her school, is this reasonable?
			b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, sixteenths) (2.4.A1c), e.g., you ate ½ of a sandwich and a friend ate ¾ of the same sandwich; is this reasonable?
			c. decimals greater than or equal to zero when used as monetary amounts (2.4.A1c-d), e.g., a pack of chewing gum costs what amount - \$62 \$.75 9¢ 75.00 750¢? Is this reasonable?

- ▲ Assessed Indicator
- - Assessed Indicator on the Optional Constructed Response Assessment
- N Noncalculator
- (\$) Financial Literacy

Fourth Grade Knowledge Base Indicators

Fourth Grade Application Indicators

- Standard 1: Number and Computation The student uses numerical and computational concepts and procedures in a variety of situations.
 - Benchmark 1: Number Sense The student demonstrates number sense for whole numbers, fractions (including mixed numbers), decimals, and money including the use of concrete objects in a variety of situations.

	r out the orange base maleuters	_	r cartir orace application marcators
	student	The	e student
1.	knows, explains, and uses equivalent representations for (\$): a. whole numbers from 0 through 100,000 (2.4.K1a-b);	1.	solves real-world problems using equivalent representations and concrete objects to (\$):
	 fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers (2.4.K1c); 		 compare and order whole numbers from 0 through 100,000 (2.4.A1a-b); e.g., using base ten blocks, represent the attendance at the circus over a three day stay; then represent
	 decimals greater than or equal to zero through hundredths place and when used as monetary amounts (2.4.K1c-d) (\$), e.g., 7¢ = 		the numbers using digits and compare and order in different ways;
2	\$.07 = 7/100 of a dollar or a hundreds grid with 7 sections colored or .1 = 1/10 =		 add and subtract whole numbers from 0 through 10,000 and decimals when used as monetary amounts (2.4.A1a-d), e.g., use real money to show at least 2 ways to represent \$142.78,
-	a. whole numbers from 0 through 100,000 (2.4.K1a-b) (\$);		then subtract the cost of a pair of tennis shoes;
	 fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers with a special emphasis on concrete objects (2.4.K1c); 		 multiply a one-digit whole number by a two-digit whole number (2.4.A1a-b), e.g., use base ten blocks to represent 24 x 5 to find the total number of hours in 5 days, or use repeated
	c. decimals greater than or equal to zero through hundredths place		addition
	and when used as monetary amounts (2.4.K1c-d) (\$).	_	24 + 24 + 24 + 25 to solve, or use the algorithm.
		2.	determines whether or not solutions to real-world problems that involve the following are reasonable (\$):
			a. whole numbers from 0 through 10,000 (2.4.A1a-b), e.g., a student says that there are 1,000 students in grade 4 at her school, is this reasonable?
			b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, sixteenths) (2.4.A1c), e.g., you ate ½ of a sandwich and a friend ate ¾ of the same sandwich; is this reasonable?
			c. decimals greater than or equal to zero when used as monetary amounts (2.4.A1c-d), e.g., a pack of chewing gum costs what amount - \$62 \$.75 9¢ 75.00 750¢? Is this reasonable?

- ▲ Assessed Indicator
- - Assessed Indicator on the Optional Constructed Response Assessment
- N Noncalculator
- (\$) Financial Literacy

Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

Benchmark 1: Number Sense – The student demonstrates number sense for whole numbers, fractions, decimals, and money using concrete objects in a variety of situations.

Third Grade Knowledge Base Indicators	Third Grade Application Indicators
The student	The student
 knows, explains, and represents (\$): a. whole numbers from 0 through 10,000 (2.4.K1a-b) b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, sixteenths) (2.4.K1c) (\$); c. decimals greater than or equal to zero through tenths place (2.4.K1c). compares and orders: a. ▲ ■ whole numbers from 0 through 10,000 with and without the use of concrete objects (2.4.K1a-b) (\$); b. fractions greater than or equal to zero with like denominators (halves, fourths, thirds, eighths, tenths, sixteenths) using concrete objects (2.4.K1a,c); 	solves real-world problems using equivalent representations and concrete objects to (\$): a. compare and order whole numbers from 0 through 5,000 (2.4.A1a-b), e.g., using base ten blocks, represent the total school attendance for a week; then represent the numbers using digits and compare and order in different ways; b. add and subtract whole numbers from 0 through 1,000 and when used as monetary amounts (2.4.A1a,d) (\$), e.g., use re money to show at least 2 ways to represent \$10.42; then subtract the cost of a book purchases at the school's book fa from \$10.42 (the amount you have earned and can spend). 2. determines whether or not solutions to real-world problems that
c. decimals greater than or equal to zero through tenths place using concrete objects (2.4.K1a-c). 3. ▲ knows, explains, and uses equivalent representations including the use of mathematical models for: a. addition and subtraction of whole numbers from 0 through 1,000 (2.4.K1a-b) (\$), e.g., 144 + 236 = 300 + 80 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	involve the following are reasonable (\$). a. whole numbers from 0 through 1,000 (2.4.A1a-b), e.g., a student says that there are 1,000 students in grade 3 at her school, is this reasonable? b. fractions greater than or equal to zero (halves, fourths, thirds eighths, tenths, sixteenths) (2.4.A1a,c); e.g., you ate ½ of a sandwich and a friend ate ¾ of the same sandwich; is this reasonable? c. decimals greater than or equal to zero when used as monetary amounts (2.4.A1d), e.g., a pack of chewing gum costs what amount - \$62 \$.75 9¢ \$75.00 750¢? Is this reasonable?;

- ▲ Assessed Indicator on the Objective Assessment
- - Assessed Indicator on the Optional Constructed Response Assessment
- N Noncalculator
- (\$) Financial Literacy THESE STANDARDS AR

Fourth Grade Knowledge Base Indicators

Fourth Grade Application Indicators

- Standard 1: Number and Computation The student uses numerical and computational concepts and procedures in a variety of situations.
 - Benchmark 1: Number Sense The student demonstrates number sense for whole numbers, fractions (including mixed numbers), decimals, and money including the use of concrete objects in a variety of situations.

	r out the orange base maleuters	_	r cartir orace application marcators
	student	The	e student
1.	knows, explains, and uses equivalent representations for (\$): a. whole numbers from 0 through 100,000 (2.4.K1a-b);	1.	solves real-world problems using equivalent representations and concrete objects to (\$):
	 fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers (2.4.K1c); 		 compare and order whole numbers from 0 through 100,000 (2.4.A1a-b); e.g., using base ten blocks, represent the attendance at the circus over a three day stay; then represent
	 decimals greater than or equal to zero through hundredths place and when used as monetary amounts (2.4.K1c-d) (\$), e.g., 7¢ = 		the numbers using digits and compare and order in different ways;
2	\$.07 = 7/100 of a dollar or a hundreds grid with 7 sections colored or .1 = 1/10 =		 add and subtract whole numbers from 0 through 10,000 and decimals when used as monetary amounts (2.4.A1a-d), e.g., use real money to show at least 2 ways to represent \$142.78,
-	a. whole numbers from 0 through 100,000 (2.4.K1a-b) (\$);		then subtract the cost of a pair of tennis shoes;
	 fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, twelfths, sixteenths, hundredths) including mixed numbers with a special emphasis on concrete objects (2.4.K1c); 		 multiply a one-digit whole number by a two-digit whole number (2.4.A1a-b), e.g., use base ten blocks to represent 24 x 5 to find the total number of hours in 5 days, or use repeated
	c. decimals greater than or equal to zero through hundredths place		addition
	and when used as monetary amounts (2.4.K1c-d) (\$).	_	24 + 24 + 24 + 25 to solve, or use the algorithm.
		2.	determines whether or not solutions to real-world problems that involve the following are reasonable (\$):
			a. whole numbers from 0 through 10,000 (2.4.A1a-b), e.g., a student says that there are 1,000 students in grade 4 at her school, is this reasonable?
			b. fractions greater than or equal to zero (halves, fourths, thirds, eighths, tenths, sixteenths) (2.4.A1c), e.g., you ate ½ of a sandwich and a friend ate ¾ of the same sandwich; is this reasonable?
			c. decimals greater than or equal to zero when used as monetary amounts (2.4.A1c-d), e.g., a pack of chewing gum costs what amount - \$62 \$.75 9¢ 75.00 750¢? Is this reasonable?

- ▲ Assessed Indicator
- - Assessed Indicator on the Optional Constructed Response Assessment
- N Noncalculator
- (\$) Financial Literacy

Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.

Benchmark 1: Number Sense – The student demonstrates number sense for integers, fractions, decimals, and money in a variety of situations.

Fifth Grade Knowledge Base Indicators	Fifth Grade Application Indicators

The student...

- AN knows, explains, and uses equivalent representations for (\$):
 - a. whole numbers from 0 through 1,000,000 (2.4.K1a-b);
 - fractions greater than or equal to zero (including mixed numbers) (2.4.K1c);
 - decimals greater than or equal to zero through hundredths place and when used as monetary amounts (2.4.K1c).
- compares and orders (2.4.K1a-c) (\$):
 - a. integers,
 - fractions greater than or equal to zero (including mixed numbers).
 - decimals greater than or equal to zero through hundredths place.
- explains the numerical relationships (relative magnitude) between whole numbers, fractions greater than or equal to zero (including mixed numbers), and decimals greater than or equal to zero through hundredths place (2.4.K1a-c).
- knows equivalent percents and decimals for one whole, one-half, one-fourth, three-fourths, and one tenth through nine tenths (2.4.K1c), e.g., 1 = 100% = 1.0, 3/4 = 75% = .75, 3/10 = 30% = .3.
- identifies integers and gives real-world problems where integers are used (2.4.K1a), e.g., making a T-table of the temperature each hour over a twelve hour period in which the temperature at the beginning is 10 degrees and then decreases 2 degrees per hour.

The student...

- solves real-world problems using equivalent representations and concrete objects to (\$):
 - a. compare and order (2.4.A1a-d)
 - whole numbers from 0 through 1,000,000; e.g., using base ten blocks, represent the attendance at the circus over a three day stay; then represent the numbers using digits and compare and order in different ways;
 - ii. fractions greater than or equal to zero (including mixed numbers), e.g., Frank ate 2 ½ pizzas, Tara ate 9/4 of the pizza. Frank says he ate more. Is he correct? Use a model to explain. With drawings and shadings, student shows amount of pizza eaten by Frank and the amount eaten by Tara.
 - iii. decimals greater than or equal to zero to hundredths place, e.g., uses decimal squares, money (dimes as tenths, pennies as hundredths), the correct amount of hundred chart filled in, or a number line to show that .42 is less than 59
 - iv. integers, e.g., plot winter temperature for a very cold region for a week (use Internet data); represent on a thermometer, number line, and with integers;
 - add and subtract whole numbers from 0 through 100,000 and decimals when used as monetary amounts (2.4.A1a,c), e.g., use real money to show at least 2 ways to represent \$846.00, then subtract the cost of a new computer setup;

- ▲ Assessed Indicator on the Objective Assessment
- - Assessed Indicator on the Optional Constructed Response Assessment
- N Noncalculator

Kindergarten Knowledge Base Indicators	Kindergarten Application Indicators
The student	The student
 establishes a one-to-one correspondence with whole numbers from 0 through 20 using concrete objects and identifies, states, and writes the appropriate cardinal number (2.4.K1a) (\$). compares and orders whole numbers from 0 through 20 using concrete objects (2.4.K1a) (\$). recognizes a whole, a half, and parts of a whole using concrete objects (2.4.K1a,c) (\$), e.g., half a pizza, part of a cookie, or the whole school. identifies positions as first and last (2.4.K1a). identifies pennies and dimes and states the value of the coins using money models (2.4.K1d) (\$). 	solves real-world problems using equivalent representations and concrete objects to compare and order whole numbers from 0 through 10 (2.4.A1a) (\$).
First Grade Knowledge Base Indicators	First Grade Application Indicators
 knows, explains, and represents whole numbers from 0 through 100 using concrete objects (2.4.K1a) (\$). compares and orders (\$): a. whole numbers from 0 through 100 using concrete objects (2.4.K1a), b. fractions with like denominators (halves and fourths) using concrete objects (2.4.K1a,c). recognizes a whole, a half, and a fourth and represents equal parts of a whole (halves, fourths) using concrete objects, pictures, diagrams, fraction strips, or pattern blocks (2.4.K1a,c) (\$). identifies and uses ordinal numbers first (1st) through tenth (10st) (2.4.K1a). identifies coins (pennies, nickels, dimes, quarters) and currency (\$1, \$5, \$10) and states the value of each coin and each type of currency using money models (2.4.K1d) (\$). recognizes and counts a like group of coins (pennies, nickels, dimes) (2.4.K1d) (\$). 	 solves real-world problems using equivalent representations and concrete objects to compare and order whole numbers from 0 through 50 (2.4.A1a) (\$). determines whether or not numerical values using whole numbers from 0 through 50 are reasonable (2.4.A1a) (\$), e.g., when asked if 40 dictionaries will fit inside the student's desk, the student answers no and explains why. demonstrates that smaller whole numbers are within larger whole numbers using whole numbers from 0 to 30 (2.4.A1a) (\$), e.g., if there are five pigs in a pen, there are also three pigs in the pen.

Second Grade Knowledge Base Indicators

The student...

- knows, explains, and represents whole numbers from 0 through 1,000 using concrete objects (2.4.K1a) (\$).
- compares and orders:
 - a. whole numbers from 0 through 1,000 using concrete objects (2.4.K1a) (\$);
 - fractions greater than or equal to zero with like denominators (halves, fourths, thirds, eighths) using concrete objects (2.4.K1a,c).
- uses addition and subtraction to show equivalent representations for whole numbers from 0 through 100 (2.4.K1a-b), e.g., 8 – 5 = 2 + 1 or 20 + 40 = 70 – 10.
- identifies and uses ordinal positions from first (1st) through twentieth (20th) (2.4.K1a).
- ▲ identifies coins, states their values, and determines the total value to \$1.00 of a mixed group of coins using pennies, nickels, dimes, quarters, and half-dollars (2.4.K1d) (\$).
- counts a like combination of currency (\$1, \$5, \$10, \$20) to \$100 (2.4.K1d) (\$).

Second Grade Application Indicators

The student...

- solves real-world problems using equivalent representations and concrete objects to (\$):
 - a. compare and order whole numbers from 0 through 1,000
 (2.4.A1b), e.g., using base ten blocks, represent the students in each class in the school; represent the numbers using digits (24 and compare and order in different ways;
 - add and subtract whole numbers from 0 through 100
 (2.4.A1b), e.g., using base ten blocks, represent the number of students in each class in the school; find the total of all students in grades K, 1, and 2 and the total of all of the students in grades 3, 4, and 5 and then subtract to find the difference between the primary and intermediate grades;
 - c. compare and order a mixed group of coins to \$1.00 (2.4.A1c), e.g., use actual coins to show 2 different amounts; students write: 47¢ is more than 31¢;
 - d. find equivalent values of coins to \$1.00 without mixing coins (2.4.A1c), e.g., 50 pennies = 2 quarters, 5 dimes = 2 quarters, or 10 nickels = 2 quarters.
- determines whether or not numerical values that involve whole numbers from 0 through 1,000 are reasonable (2.4.A1a-b) (\$), e.g., if there are 26 children, plus 10 more children, is it reasonable to say there are 50 children?

Second Grade Knowledge Base Indicators

The student...

- knows, explains, and represents whole numbers from 0 through 1,000 using concrete objects (2.4.K1a) (\$).
- compares and orders:
 - a. whole numbers from 0 through 1,000 using concrete objects (2.4.K1a) (\$);
 - fractions greater than or equal to zero with like denominators (halves, fourths, thirds, eighths) using concrete objects (2.4.K1a,c).
- uses addition and subtraction to show equivalent representations for whole numbers from 0 through 100 (2.4.K1a-b), e.g., 8 – 5 = 2 + 1 or 20 + 40 = 70 – 10.
- identifies and uses ordinal positions from first (1st) through twentieth (20th) (2.4.K1a).
- ▲ identifies coins, states their values, and determines the total value to \$1.00 of a mixed group of coins using pennies, nickels, dimes, quarters, and half-dollars (2.4.K1d) (\$).
- counts a like combination of currency (\$1, \$5, \$10, \$20) to \$100 (2.4.K1d) (\$).

Second Grade Application Indicators

The student...

- solves real-world problems using equivalent representations and concrete objects to (\$):
 - a. compare and order whole numbers from 0 through 1,000
 (2.4.A1b), e.g., using base ten blocks, represent the students in each class in the school; represent the numbers using digits (24 and compare and order in different ways;
 - add and subtract whole numbers from 0 through 100
 (2.4.A1b), e.g., using base ten blocks, represent the number of students in each class in the school; find the total of all students in grades K, 1, and 2 and the total of all of the students in grades 3, 4, and 5 and then subtract to find the difference between the primary and intermediate grades;
 - c. compare and order a mixed group of coins to \$1.00 (2.4.A1c), e.g., use actual coins to show 2 different amounts; students write: 47¢ is more than 31¢;
 - d. find equivalent values of coins to \$1.00 without mixing coins (2.4.A1c), e.g., 50 pennies = 2 quarters, 5 dimes = 2 quarters, or 10 nickels = 2 quarters.
- determines whether or not numerical values that involve whole numbers from 0 through 1,000 are reasonable (2.4.A1a-b) (\$), e.g., if there are 26 children, plus 10 more children, is it reasonable to say there are 50 children?

Module II - Standards, Benchmarks, and Indicators

Module II - Part I: Similarities among the Standards

Definitions of standards, benchmarks, and indicators differ among content areas.

True or False

The correct answer is (False)

Which of the following Curricular Standards does not have "Instructional Examples" as part of its right side column?

Reading

Mathematics

Writing

History/Government, Geography and Economics

Science

The correct answer is (B. Mathematics)

Assessed indicators are marked within the Curricular Standards with:

An asterisk

A delta

A dollar sign

The letter A

The correct answer is (B. A delta)