

# MATHEMATICALLY READY FOR THIRD GRADE

This form lists the skills your child should have already mastered, and the skills your child will be assessed on in the beginning of the next grade level. These skills are assessed with the DIBELS assessment in October and April. Please keep in mind the students may not have learned all the skills they are assessed on by the time DIBELS takes place, depending on when it is taught in the classroom. This is an opportunity to “jumpstart” these skills this summer, before taking the next DIBELS assessment. We highly recommend the IXL program, which can be accessed through computers and iPads, to assist your child in mastering these skills. IXL is a research-based, user-friendly program to master mathematical skills, and is divided and organized by grade level.

*At the end of **second grade**, your child was assessed on:*

## **Computation:**

- Add two one-digit numbers, excluding 0 and 1
- Subtract a one-digit number from a one-digit number, excluding 0 and 1
- Subtract a one-digit number from a two-digit number (within 20), resulting in an answer of 9 or less
- Add a two-digit and a one-digit number, without carrying, resulting in an answer of 100 or less
- Add two two-digit numbers, without carrying, resulting in an answer of 100 or less
- Add a two-digit and a one-digit number, with carrying, resulting in an answer of 100 or less
- Add two two-digit numbers, with carrying, resulting in an answer of 100 or less
- Add four two-digit numbers, with carrying, resulting in an answer of 100 or less
- Subtract a one- or two-digit number from a two-digit number, without borrowing
- Subtract a one-digit number from a two-digit number of 20 or more, with borrowing
- Subtract a two-digit number from a two-digit number of 20 or more, with borrowing

## **Concepts and Applications:**

- Work with equal groups of objects to gain foundations for multiplication
- Reason with shapes and their attributes
- Understanding place value
- Measure and estimate lengths in standard units
- Represent and solve problems involving addition or subtraction
- Work with time and money
- Related addition and subtraction to length
- Use place value understanding and properties of operations

*In October of **third grade**, your child will be assessed on:*

**Computation:**

- Add two two-digit numbers, without carrying, resulting in a sum of 100 or less
- Add two two-digit numbers, with carrying, resulting in a sum of 100 or less
- Subtract a one- or two-digit number, without borrowing
- Subtract a two-digit number from a two-digit number of 20 or more, with borrowing
- Add two two- or three-digit numbers, without carrying, resulting in a sum of 1000 or less
- Multiply a one-digit number by a one-digit number, resulting in an answer of 20 or less
- Multiply a one-digit number by a one-digit number, resulting in an answer between 21 and 50
- Multiply a one-digit number by a one-digit number, resulting in an answer of 51 or more
- Multiply a one-digit number by itself
- Multiply a one-digit number by 0 or 1
- Divide a one-digit number by a one-digit number, resulting in a one-digit number and no remainder
- Divide a two-digit number by a one-digit number, resulting in a one-digit answer, and no remainder
- Subtract a two- or three-digit number, without borrowing
- Subtract a two- or three-digit number, with borrowing
- Multiply a one-digit number by a two-digit multiple of 10
- Multiply a one-digit number by a two-digit number, without carrying, resulting in an answer of less than 100
- Multiply a one-digit number by a two-digit number, with carrying, resulting in an answer of less than 100

**Concepts and Applications:**

- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects
- Reason with shapes and their attributes
- Use place value understanding and properties of operations to perform multi-digit arithmetic
- Represent and solve problems involving multiplication and division
- Develop understanding of fractions as numbers
- Represent and Interpret Data
- Solve problems involving the four operations, and identify and explain patterns in arithmetic
- Geometric measurement: understand concepts of area and relate area to multiplication and division
- Geometric measurement: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measure

## Math Dictionary Terms for Grades 2-3:

### A

Acute - an angle less than  $90^\circ$

Addend - one of the numbers being added in an addition problem

Addition - combining quantities

Algebra - a strand of mathematics in which variables are used to express rules about numbers and relationships

Algorithm - a step-by-step procedure for math operations

And - 1) combine, 2) shared attributes, 3) represents decimal point when a number is in words

Angle - two line segments that meet at a point

Area - the size of a two-dimensional figure in square units

Array - a rectangular arrangement of objects with equal amounts in each row

Attribute - a characteristic of a shape or set of data

Average - a number that best describes a set of data

Axis - one of the reference lines on a coordinate graph

### B

Balance - 1) a scale uses to figure out approximate weight, or 2) to be equal or to make equal

Bar Graph - a way of organizing data in horizontal or vertical bars

Base - the face on which a three-dimensional object sits

Beneath - in a lower place

Between - in a position that separates two other things

Bi - prefix meaning two

Borrowing - *see subtraction*

### C

Calculate - to perform a mathematical operation (+, -, x, divide sign)

Calendar - a tool to keep track of the date

Cartesian plane - coordinate grid

Center - middle point

Centimeter - a metric measure which takes 10 millimeters to make

Century - 100 years

Circle - a perfectly round shape that has all points equally as far from the center

Circumference - the perimeter of a circle

Coins - metal money

Clockwise - turning in the direction a clock turns - to the right

Column - a vertical list

Commutative Property - the sum or product stays the same when the order of addends/factors changes

Composite Number - a number that has more than two factors

Compute - to figure out an answer

Cone - a three-dimensional shape with a circle base and one vertex

Congruent - having exactly the same shape and size

Coordinates - an ordered pair of numbers that gives the location of a point on a coordinate grid

Corner - where two sides or two lines come together (vertex)  
Count - to say numbers one by one in order  
Counterclockwise - turning in the opposite direction a clock turns - to the left  
Cube - a three-dimensional shape with six square faces  
Curve - a line that is not straight, but does not have a corner (vertex)  
Cylinder - a three-dimensional shape with parallel circular bases

## D

Data - information  
Decagon - ten-sided polygon  
Decimal - a fractional number less than one whole written with a decimal point  
Decimeter - one-tenth of a meter, equal to 10 centimeters  
Denominator - the bottom number in a fraction which tells the number of pieces making up a whole  
Diagonal - a line segment that connects one vertex to another on a polygon, but is not on the perimeter of the polygon  
Diameter - a line segment that goes through the center of a circle  
Difference - the amount that remains when one quantity is subtracted from another  
Digit - any one of the symbols used in making numbers (0, 1, 2, 3, 4, 5, 6, 7, 8, 9)  
Digital Root - adding digits in a number until only one digit remains  
Dimension - the number of measures needed to describe a geometric figure  
Distance - a measure of length giving how far things are apart  
Division - the operation which makes equal groups  
Divisor - the amount by which another quantity is to be divided  
Dodecagon - twelve-sided polygon  
Double - twice as much

## E

Each - every one of a group  
Edge - a line that connects two faces on a three-dimensional shape  
Equal - having the same value as  
Equilateral Triangle - a triangle with all sides having the same length  
Equation - a math sentence showing two parts as equal  
Equivalent - having the same value  
Estimate - an approximate answer  
Even - a number that is a multiple of 2. This means that you can remove "groups of" two and there will be no leftover or remainders. The number will have a 0, 2, 4, 6, or 8 in the one's place as a visual indicator.  
Expanded Form - a number that is stretched out to show all the place value parts

## F

Face - a side on a three-dimensional shape  
Fact - something proven to be true  
Fact Families - a group of addition/subtraction or multiplication/division facts that use the same set of numbers in various combinations  
Factor - a number that is multiplied by another number  
Fewer - less than  
Flip - reflection rotation  
Foot - 12 inches in standard measurement

Formula - an equation or rule that shows a relationship between two or more numbers  
Fraction - a number showing part of a whole  
Frequency - how often something happens in a set of data or within a certain time  
Function - gives one output value for each input value

G  
Gallon - a standard measure of liquid equal to 128 ounces or 4 quarts  
Geometry - a strand of mathematics dealing with figures and their parts  
Googal - a number which has a 1 followed by 100 zeros  
Gram - a metric measure of weight/mass smaller in weight than an ounce  
Graph - a visual display of data  
Greater Than - more than  
Grid - a set of horizontal and vertical lines which form squares  
Growth Pattern - a type of pattern made by following a certain rule (formula)

H  
Half - one of two equal parts  
Height - the distance from the base to the top of something  
Hemisphere - half of the earth  
Heptagon - seven-sided polygon  
Hexagon - six-sided polygon  
Horizontal - a line parallel to the horizon  
Hour - a measure of time equaling 60 minutes

I  
Imperial Measure - standard form of measurement including inches, pounds, etc.  
Inch - a standard measure of length, one-twelfth of a foot  
Infinity - never ending  
Integer - whole numbers and their negative partners (1 and -1)  
Intersection - the elements that belong to both sets in overlapping sets  
Isosceles Triangle - a triangle with two sides that are the same length

J  
Junction - any place where two or more things join to meet

K  
Kilo - one thousand  
Kilogram - a metric measure of weight/mass equal to 1,000 grams (just over 2 pounds)  
Kilometer - a metric measure of length equal to 1,000 meters (over 3200 feet)

L  
Latitude - the distance north and south of the equator  
Least - smallest  
Length - the distance along a line or figure from one point to another  
Less Than - fewer than  
Line - a straight path that extends forever in both directions  
Line of Symmetry - a line that divides a shape into two halves that are a mirror image of each other

Line Segment - a straight path from one point to another  
Linear - having to do with lines  
Liter - a metric measure of volume/capacity almost equal to a quart  
Longitude - the distance east and west of the equator

## M

Mass - how much matter is in an object  
Maximum - greatest amount  
Mean - a way to average a group without extremes in the data in which all data is added and equally divided up  
Measure - the length, quantity, dimensions, or capacity of something  
Median - a way to average counts or measures when they are extremes in the data. The middle point of the ordered group of data is found  
Metric - a system of measurement based on tens  
Million - a large number equal to one thousand 1,000s  
Minimum - least amount  
Minute - a measure of time equal to 60 seconds  
Mode - a way to average data when there are many identical data points. The mode is the data that occurs most often  
Money - coins and paper bills used for buying and selling  
More Than - greater than  
Multiple - the product of any two whole numbers  
Multiplication - the operation of adding the same number over and over or groups shown in an array

## N

Negative Numbers - numbers less than zero  
Net - a two-dimensional figure that can be folded to make a three-dimensional model  
Network - connection between points or line segments  
Nonagon - nine-sided polygon  
None - not even one  
Number - symbols used for counting and measuring  
Numberline - a picture (diagram) showing numbers as points on a line  
Numeral - digits used to make up numbers  
Numerator - the top number in a fraction which tells the number of parts selected

## O

Oblong - a shape that is greater in length than in width  
Obtuse Angle - an angle greater than 90°  
Octagon - eight-sided polygon  
Odd - a number that is not a multiple of 2. It has a 1, 3, 5, 7, or 9 in the one's place  
Ounce - a standard measure of weight/mass  
Outcome - one of the possibilities in a probability experiment  
Oval - a curved shape like an egg

## P

Parallel - straight lines that always stay the same distance away from each other  
Parallelogram - a four-sided polygon with two sets of parallel sides  
Patterns - a repeating sequence of number or shapes

Pentagon - five-sided polygon

Percent - a number compared to part of 100 using a % sign

Perimeter - distance around the outside edge of a closed figure

Perpendicular - two lines that form a right angle where they intersect

Pictograph - a visual display of data which uses pictures to represent amounts

Pi - the comparison of the diameter of a circle to its circumference (about 3.14)

Place Value - the value of each digit in a number

Point - a location (dot) that has no length, width or height

Polygon - a closed two-dimensional figure made with straight line segments which join only at endpoints

Position - the place something holds in space

Possible - has a chance of happening

Prime Number - a number with only two factors: 1 and itself

Probability - the strand of math looking at the chance of events occurring

Product - the answer to a multiplication problem

Protractor - a math tool for measuring and drawing angles

Pyramid - a three-dimensional figure with a polygon base and all other faces are triangles which met at a common vertex

## Q

Quadrilateral - four-sided polygon

Qualify - to describe the characteristics of something

Quantity - an amount

Quart - a standard unit of liquid measure that is equal to 4 cups

Quarter - 1) a coin with a value of \$.25, 2) one-fourth of something

Quotient - the answer to a division problem

## R

Radius - a line segment from the center of a circle to the edge

Random - by chance

Range - the least to greatest value in a set of data

Ratio - comparing two numbers using division

Rectangle - a parallelogram with four right angles

Reflection - creating a mirror image of a shape by flipping it over

Remainder - the amount left over when you have divided as far as possible. Must be smaller than the divisor

Reoccurring - happening repeatedly

Rhombus - a parallelogram with all sides equal in length

Right Angle - a 90° angle

Rotation - turning a shape around on a vertex

Rounding - determining an approximate value of a number to a given place value

Row - a horizontal list

Rule - words that describe a relationship between numbers or objects

Ruler - a measuring tool used to determine length

## S

Scale - a measuring tool used to determine weight

Scalene - a triangle with three sides, each a different length

Second - 1) number two in order, or 2) a measure of time equal to 1/60<sup>th</sup> of a minute

Semicircle - half of a circle

Septagon - seven-sided polygon

Set - a collection of data with something in common

Shape - something having a specific form

Side - a line segment that forms part of a polygon

Similar - having the same shape, but not the same size

Sort - to put together things that are in some way alike

Sphere - a perfectly round three-dimensional geometric solid

Square - a parallelogram with four congruent sides and four right angles

Square Number - numbers that can be shown in a square array

Straight - unbending

Subtraction - the operation of finding the difference between two numbers or taking away

Sum - the answer in an addition problem

Surface - the outside part

Symbol - something that stands for something else

Symmetry - showing an exact duplicate of a shape on an opposite side of a line (line of symmetry) or around a central point (point symmetry)

## T

Table - an orderly arrangement of data

Take Away - *see subtraction*

Tally - marks used to keep track of an amount

Temperature - amount of heat or cold, measured by a thermometer

Tessellate - to arrange an area in a repeating geometric pattern

Tile - *see tessellate*

Time - the way we measure years, days, minutes

Total - the whole amount

Translation - sliding a geometric shape a certain distance in the same direction

Trapezoid - a quadrilateral with only one set of parallel sides

Triangle - a three-sided polygon

## U

Undecagon - an 11-sided polygon

Uneven - not even

Uniform - the same

Unit - a fixed amount in measurement

## V

Value - how much something is worth

Variable - a letter or symbol that stands for another number

Venn Diagram - a drawing with circles that shows relationships between sets of data

Vertex - the place where two or more line segments come together

Vertical - a line that is perpendicular to the horizon

Volume - the number of cubic units it takes to fill a three-dimensional shape

## W

Week - a set of seven consecutive days

Weight - a measure of the heaviness of an object



Whole Number - all counting numbers including zero

Width - a measure of the distance of an object from side to side

X

x-axis - the horizontal axis on a coordinate grid

Y

Yard - a standard unit of measure equal to 3 feet

y-axis - the vertical axis on a coordinate grid

Year - a length of time equal to 365 days

Z

Zero - a number with no value

Zillion - a large number equal to a thousand millions