

# Practices

## MP5 Use appropriate tools strategically.

Third graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper to find all the possible rectangles that have a given perimeter. They compile the possibilities into an organized list or a table, and determine whether they have all the possible rectangles.

## MP6 Attend to precision.

As third graders develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the area of a rectangle they record their answers in square units.

## MP7 Look for and make use of structure.

In third grade, students look closely to discover a pattern or structure. For instance, students use properties of operations as strategies to multiply and divide (commutative and distributive properties).

## MP8 Look for and express regularity in repeated reasoning.

Students in third grade should notice repetitive actions in computation and look for more shortcut methods. For example, students may use the distributive property as a strategy for using products they know to solve products that they don't know. For example, if students are asked to find the product of  $7 \times 8$ , they might decompose 7 into 5 and 2 and then multiply  $5 \times 8$  and  $2 \times 8$  to arrive at  $40 + 16$  or 56. In addition, third graders continually evaluate their work by asking themselves, "Does this make sense?"

[www.aMathsDictionaryforKids.com](http://www.aMathsDictionaryforKids.com)

An animated, interactive dictionary for students which explains over 600 common mathematical terms in simple language.



# Grade 3

## CCSS Math Expectations Checklist



### Layout Design & Collaboration

**Janis Heigl**  
[janis@esnorthwest.com](mailto:janis@esnorthwest.com)

**Charlotte Hartman**  
[chartman@iinet.com](mailto:chartman@iinet.com)

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# Mathematical

## MP1 Make sense of problems and persevere in solving them.

In third grade, students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Third graders may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They listen to the strategies of others and will try different approaches. They often will use another method to check their answers.

## MP2 Reason abstractly and quantitatively.

Third graders should recognize that a number represents a specific quantity. They connect the quantity to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities.

## MP3 Construct viable arguments and critique the reasoning of others.

In third grade, students may construct arguments using concrete referents, such as objects, pictures, and drawings. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?" They explain their thinking to others and respond to others' thinking.

## MP4 Model with mathematics.

Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Third graders should evaluate their results in the context of the situation and reflect on whether the results make sense.



# My checklist of what I can do in 3<sup>rd</sup> grade math . . . . .

I understand that it is important to apply the mathematical practices (identified on the inside cover) on a regular basis.

## Operations & Algebraic Thinking . . . . .

**Represent and solve problems involving multiplication and division: (3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4)**

- I can explain the meaning of the product and quotient.  
\_\_\_\_\_ product    \_\_\_\_\_ quotient
- I can solve multiplication word problems within 100 involving equal groups, arrays, and measurement quantities.
- I can solve division word problems within 100 involving equal groups, arrays, and measurement quantities.
- I can find the unknown whole number (variable) in a multiplication/division equation.  
\_\_\_\_\_ multiplication    \_\_\_\_\_ division

**Understand properties of multiplication and the relationship between multiplication and division: (3.OA.5, 3.OA.6)**

- I can use the properties to multiply and divide.  
(Commutative, Associative, Distributive Property)
- I can use multiplication to find the answer to a division problem.

**Multiply and Divide within 100: (3.OA.7)**

- I can fluently multiply and divide within 100 using strategies and properties.
- I can fluently recall my multiplication facts 0-9.

**Solve problems involving the four operations, and identify and explain patterns in arithmetic: (3.OA.8, 3.OA.9)**

- I can use any of the four operations to solve two-step word problems.
- I can represent the problem using an equation with a letter for the unknown.
- I can use mental math, estimation, and rounding to decide if my answer makes sense.
- I can find arithmetic (number) patterns in the addition and multiplication tables
- I can explain these patterns.

## Number & Operations in Base 10 . . . . .

**Use place value understanding and properties of operations to perform multi-digit arithmetic: (3.NBT.1, 3.NBT.2, 3.NBT.3)**

- I can round whole numbers to the nearest 10 or 100.
- I can add within 1000.
- I can subtract within 1000.
- I can multiply one-digit whole numbers by multiples of 10 in the range of 10-90.

## Number & Operations – Fractions. . . . .

**(Limited to fractions with denominators 2, 3, 4, 6, & 8)  
Develop understanding of fractions as numbers: (3.NF.1, 3.NF.2, 3.NF.3)**

- I can explain and show that a fraction is a part of a whole.
- I can explain and show the meaning of the numerator and denominator.
- I can explain how a fraction is a number on a number line.
- I can represent fractions on a number line.
- I can divide a number line into equal intervals (parts) to represent fractions.
- I can place fractions on a number line that is divided into intervals.
- I can show two fractions as equivalent (equal) if they are the same size.
- I can show two fractions as equivalent (equal) if they are on the same point on a number line.
- I can recognize and show simple equivalent fractions.
- I can write whole numbers as fractions and recognize that they are equivalent (equal).
- I can compare two fractions with the same numerator or the same denominator using  $<$ ,  $>$ , or  $=$ .

## Measurement and Data . . . . .

**Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects: (3.MD.1, 3.MD.2)**

- I can tell time to the nearest minute.
- I can solve word problems using addition and subtraction of time in minutes.
- I can estimate and measure liquid volumes using liters.
- I can solve one-step word problems involving volume.
- I can estimate and measure masses of objects using grams and kilograms.
- I can solve one-step word problems involving mass.

**Represent and interpret data: (3.MD.3, 3.MD.4)**

- I can draw a scaled picture graph.
- I can solve one and two-step problems using the picture graph.
- I can draw a scaled bar graph.
- I can solve one and two-step problems using the bar graph.
- I can measure and record lengths to the nearest half and fourth of an inch.
- I can use measurement data to make a horizontal line plot marked off in appropriate units – whole numbers, halves, or quarters.

## Measurement and Data (continued) . . . . .

**Geometric measurement: understand concepts of area and relate area to multiplication and to addition: (3.MD.5, 3.MD.6, 5.MD.7)**

- I can find the area of a plane figure.
- I can use square units to measure area.
- I can label area with square units.
- I can measure area by counting square units.
- I can find the area of a rectangle with tiles and show the area can be found by multiplying the side lengths.
- I can solve real-world math problems that involve area.
- I can use tiles to make the area of a rectangle.
- I can represent the distributive property using tiles to make the area of a rectangle.
- I can add the area of rectangles to find the total area of a figure.

**Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures: (3.MD.8)**

- I can solve real-world problems involving perimeter and area.

## Geometry . . . . .

**Reason with shapes and their attributes: (3.G.1, 3.G.2)**

- I can classify shapes by their attributes.
- I can draw a shape that does not belong to a group according to the attributes.
- I can divide shapes into equal areas.
- I can write the area of each part as a fraction.

### How to use checklist:

- Show the date of when you were able to do the math expectation.
- Show an example of what you did in a journal.