# Grade 3: Standards-Based Skills Worksheet

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The skills inventory worksheets are designed to assist with data analysis and goal writing for standards-based IEPs. They are based on the [Virginia SOL Curriculum Frameworks](http://www.doe.virginia.gov/testing/sol/standards_docs/index.shtml). Go to [Standards-Based IEP](http://www.doe.virginia.gov/special_ed/iep_instruct_svcs/stds-based_iep/) for the *Standards-based Individualized Education Program (IEP) A Guide for School Divisions* for additional information on the process for creating standards-based IEPs.

## Directions

### **Step 1**

Go to [Standards-Based IEP](http://www.doe.virginia.gov/special_ed/iep_instruct_svcs/stds-based_iep/) for to print the appropriate PDF file **Skills Worksheet** that will match the projected (or current if mid-year) grade level for the student.

### **Step 2**

Gather and analyze data to identify how the student has performed in each of the strands included in the curriculum. **Review data on student performance** and indicate all data sources analyzed to assess performance in this strand:

* Present Level of Performance (PLOP)
* Prior SOL data
* Standardized test data
* Classroom assessments
* Teacher observations

### **Step 3**

Based on prior performance, predict what level of instruction ***will be*** necessary for the student to successfully master upcoming curriculum in each of the strands using the following worksheets. Check the areas that specially designed instruction and/or supports may be critical to meeting the standard.

### **Step 4**

After completing the Worksheet, based on data and your knowledge of the student as discussed in the present level of academic and functional performance (PLOP), determine if a goal(s) is/are needed to address the specific skill(s). Guiding Question:  **Is/Are standard-based goal(s) needed?**

* **YES** Address areas of need in PLOP
* **NO Check one or more justifications:**
	+ Accommodations Available (specify):
	+ Area of Strength in PLOP
	+ New Content
	+ Other (Specify):

### **Step 5**

Additional space is provided under each strand for comments or notes on data analysis

## Essential Knowledge and Skills

### Strand: Number and Number Sense (SOL 3.1a-c, 3.2a-c)

The student will:

* Read six-digit numerals orally. (a)
* Write six-digit numerals in standard form that are stated verbally or written in words. (a)
* Represent numbers up to 9,999 in multiple ways, according to place value (e.g., 256 can be 1 hundred, 14 tens, and 16 ones, but also 25 tens and 6 ones), with and without models. (a)
* Determine the value of each digit in a six-digit whole number (e.g., in 165,724, the 7 represents 7 hundreds and its value is 700). (a)
* Round a given whole number, 9,999 or less, to the nearest ten, hundred, and thousand. (b)
* Solve problems, using rounding of numbers, 9,999 or less, to the nearest ten, hundred, and thousand. (b)
* Compare two whole numbers, each 9,999 or less, using symbols (>, <, =, or ≠) and/or words (*greater than, less than*, *equal to,* and *not equal to)*. (c)
* Order up to three whole numbers, each 9,999 or less, represented with concrete objects, pictorially, or symbolically from least to greatest and greatest to least. (c)
* Name and write fractions (proper and improper) and mixed numbers with denominators of 12 or less in symbols represented by concrete and/or pictorial models. (a)
* Represent a given fraction (proper or improper) and mixed numbers, using concrete or pictorial set, area/region, length/measurement models and symbols. (b)
* Identify a fraction represented by a model as the sum of unit fractions. (b)
* Using a model of a fraction greater than one, count the fractional parts to name and write it as an improper fraction and as a mixed number (e.g., $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, $\frac{5}{4}$ = 1$\frac{1}{4}$, or 2$\frac{1}{3}$ = $\frac{7}{3}$ ). (b)
* Compare a model of a fraction, less than or equal to one, to the benchmarks of 0, $\frac{1}{2}$, and 1. (c)
* Compare proper fractions using the terms *greater than, less than, equal to, or not equal to* and the symbols (<, >, =, and ≠). Comparisons are made between fractions with both like and unlike denominators, with concrete or pictorial models. (c)

### Strand: Computation and Estimation (SOL 3.3a-b, 3.4a-d, 3.5)

*The student will:*

* Determine whether an estimate or an exact answer is an appropriate solution for practical addition and subtraction problems involving single-step and multistep problems. (a, b)
* Estimate the sum of two whole numbers with sums to 9,999. (a)
* Estimate the difference of two whole numbers, each 9,999 or less. (a)
* Apply strategies, including place value and the properties of addition, to add two whole numbers with sums to 9,999. (a, b)
* Apply strategies, including place value and the properties of addition, to subtract two whole numbers, each 9,999 or less. (a, b)
* Use inverse relationships between addition and subtraction facts to solve practical problems.(b)
* Create and solve single-step and multistep practical problems involving the sum or difference of two whole numbers, each 9,999 or less. (b)
* Represent multiplication using a variety of approaches and models (e.g., repeated addition, equal-sized groups, arrays, equal jumps on a number line, skip counting). (a)
* Represent division using a variety of approaches and models (e.g., repeated subtraction, equal sharing, equal groups). (a)
* Write three related equations (fact sentences) when given one equation (fact sentence) for multiplication or division (e.g., given 6 x 7 = 42, write 7 x 6 = 42, 42 ÷ 7 = 6, and 42 ÷ 6 = 7. (a)
* Create practical problems to represent a multiplication or division fact. (b)
* Use multiplication and division basic facts to represent a given situation, using a number sentence. (b)
* Recognize and use the inverse relationship between multiplication and division to solve practical problems. (b)
* Solve single-step practical problems that involve multiplication and division of whole numbers through 10 × 10. (b)
* Demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10. (c)
* Solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less. (d)
* Apply strategies, including place value and the properties of multiplication and/or addition when multiplying and dividing whole numbers. (a, b, c, d)
* Solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less, using concrete and pictorial models representing area/regions (e.g., circles, squares, and rectangles), length/measurements (e.g., fraction bars and strips), and sets (e.g., counters).

### Strand: Measurement and Geometry (SOL 3.6a-c, 3.7a-b, 3.8a-b, 3.9a-c, 3.10, 3.11, 3.12a-c 3.13)

The student will

* Determine the value of a collection of coins and bills whose total value is $5.00 or less. (a)
* Compare the values of two sets of coins or two sets of coins and bills, up to $5.00, using the terms *greater than, less than*, and *equal to*. (b)
* Make change from $5.00 or less. (c)
* Estimate and use U.S. Customary and metric units to measure lengths of objects to the nearest $\frac{1}{2}$ inch, inch, foot, yard, centimeter, and meter. (a)
* Determine the actual measure of length using U.S. Customary and metric units to measure objects to the nearest $\frac{1}{2}$ inch, foot, yard, centimeter, and meter. (a)
* Estimate and use U.S. Customary and metric units to measure liquid volume to the nearest cup, pint, quart, gallon, and liter. (b)
* Determine the actual measure of liquid volume using U.S. Customary and metric units to measure to the nearest cup, pint, quart, gallon, and liter. (b)
* Estimate and use U.S. Customary and metric units to measure the distance around a polygon with no more than six sides to determine the perimeter. (a)
* Determine the area of a given surface by estimating and then counting the number of square units needed to cover the surface. (b)
* Tell time to the nearest minute, using analog and digital clocks. (a)
* Match a written time (e.g., 4:38, 7:09, 12:51) to the time shown on analog and digital clocks to the nearest minute. (a)
* Solve practical problems related to elapsed time in one-hour increments, within a 12-hour period (within a.m. or within p.m.):
	+ when given the beginning time and the ending time, determine the time that has elapsed; (b)
	+ when given the beginning time and amount of elapsed time in one-hour increments, determine the ending time; or (b)
	+ when given the ending time and the elapsed time in one-hour increments, determine the beginning time. (b)
* Identify the number of minutes in an hour and the number of hours in a day. (c)
* Identify equivalent relationships observed in a calendar, including the approximate number of days in a given month (about 30), the number of days in a week, the number of days in a year (about 365 $\frac{1}{4}$), and the number of months in a year. (c)
* Solve practical problems related to equivalent periods of time to include:
	+ approximate days in five or fewer months;
	+ days in five or fewer weeks;
	+ months in five or fewer years;
	+ minutes in five or fewer hours; and
	+ hours in five or fewer days. (c)
* Read Celsius and Fahrenheit temperatures to the nearest degree using real thermometers, physical models, or pictorial representations.
* Identify examples of points, lines, line segments, rays, and angles.
* Describe endpoints and vertices as they relate to lines, line segments, rays, and angles.
* Draw representations of points, line segments, rays, angles, and lines, using a ruler or straightedge.
* Define polygon. (a)
* Classify figures as polygons or not polygons. (a)
* Identify and name polygons with 10 or fewer sides in various orientations:
	+ triangle is a three-sided polygon;
	+ quadrilateral is a four-sided polygon;
	+ pentagon is a five-sided polygon;
	+ hexagon is a six-sided polygon;
	+ heptagon is a seven-sided polygon;
	+ octagon is an eight-sided polygon;
	+ nonagon is a nine-sided polygon; and
	+ decagon is a ten-sided polygon. (b)
* Combine no more than three polygons, where each has three or four sides, and name the resulting polygon. (c)
* Subdivide a three-sided or four-sided polygon into no more than three parts and name the resulting polygon(s). (c)
* Identify examples of congruent and noncongruent figures.
* Determine and explain why plane figures are congruent or noncongruent.

### Strand: Probability and Statistics (SOL 3.14, 3.15a-b)

*The student will:*

* Define probability as the measurement of chance that an event will happen.
* List all possible outcomes for a single event (e.g., heads and tails are the two possible outcomes of flipping a coin). Limit the number of outcomes to 12 or fewer.
* Describe the degree of likelihood of an outcome occurring using terms such as *impossible*, *unlikely*, *equally likely,* *likely*, and *certain*.
* Formulate questions to investigate. (a)
* Design data investigations to answer formulated questions, limiting the number of categories for data collection to four. (a)
* Collect and organize data, using various forms of data collections (e.g., surveys, polls, questionnaires, scientific experiments, observations). (a)
* Represent data in a pictograph (limited to 16 or fewer data points for no more than four categories). (a)
* Represent data in a bar graph (limited to 16 or fewer data points for no more than four categories). (a)
	+ Label each axis on a bar graph and give the bar graph a title. Limit increments on the numerical axis to whole numbers representing multiples of 1, 2, 5, or 10. (a)
* Analyze data represented in pictographs and bar graphs, orally and in writing. (b)
	+ Read the information presented on a bar or pictograph (e.g., the title, the categories, the description of the two axes). (b)
* Interpret information from pictographs and bar graphs, with up to 30 data points and up to eight categories, describe interpretation orally and by writing at least one sentence. (b)
	+ Describe the categories of data and the data as a whole (e.g., data were collected on preferred ways to cook or prepare eggs — scrambled, fried, hard boiled, and egg salad). (b)
	+ Identify parts of the data that have special characteristics, including categories with the greatest, the least, or the same (e.g., most students prefer scrambled eggs). (b)
	+ Select a correct interpretation of a graph from a set of interpretations, where one is correct and the remaining are incorrect. (b)

### Strand: Patterns, Functions, and Algebra (SOL 3.16, 3.17)

*The student will:*

* Identify and describe repeating and growing patterns using words, objects, pictures, numbers, and tables.
* Identify a missing term in a pattern (e.g., 4, 6,\_\_, 10, 12, 14).
* Create repeating and growing patterns using objects, pictures, numbers, and tables.
* Extend or identify missing parts in repeating and growing patterns using objects, pictures, numbers, and tables.
* Solve problems that involve the application of input and output rules limited to addition and subtraction of whole numbers.
* When given the rule, determine the missing values in a list or table. (Rules will be limited to addition and subtraction of whole numbers.)
* Identify and use the appropriate symbol to distinguish between expressions that are equal and expressions that are not equal (e.g., 256 - 13 = 220 + 23; 143 + 17 = 140 + 20; 457 + 100 ≠ 557 +100).
* Create equations to represent equivalent mathematical relationships (e.g., 4 × 3 = 14 - 2).