

BENCHMARK COMPLEXITY REPORT

MATHEMATICS GRADE 3



Key: OCS Code = The benchmark code. Consists of Grade (K-8), Domain (2-3 character alpha code), Strand (1-3 character alpha code), Standard (1-9), Benchmark Number (1 or 1-1 and up), and Complexity (a, b, c).
Benchmark = The wording of the benchmark.
CCSS Code = Common Core State Standards, developed by National Governors Association Center for Best Practices, Council of Chief State School Officers (www.corestandards.org).
CRS Strand = ACT College Readiness Standards developed by ACT, Inc. (www.act.org).
The CRS Strands are: BOA = Basic Operations & Applications, PSD = Probability/Statistics/Data, NCP = Numbers/Concepts/Properties, XEI = Expression/Equation & Inequality,
 GRE = Graphical Representations, PPF = Properties of Plane Figures, MEA = Measurement, FUN = Functions.

a. Low Complexity				b. Intermediate Complexity				c. High Complexity			
OCS Code	Benchmark	CCSS Code	CRS Strand	OCS Code	Benchmark	CCSS Code	CRS Strand	OCS Code	Benchmark	CCSS Code	CRS Strand
DOMAIN: Standards for Mathematical Content											
Operations and Algebraic Thinking											
3.SMC.OA.1.1.a	Interpret products of whole numbers	3.OA.A.1	BOA	3.SMC.OA.1.3-1.b	Use multiplication and division with numbers up to 100 to solve word problems in situations involving equal groups	3.OA.A.3	BOA	3.SMC.OA.2.1.c	Multiply and divide using properties of operations	3.OA.B.5	BOA
3.SMC.OA.1.2.a	Interpret whole-number quotients of whole numbers	3.OA.A.2	BOA	3.SMC.OA.1.3-2.b	Use multiplication and division with numbers up to 100 to solve word problems in situations involving arrays	3.OA.A.3	BOA	3.SMC.OA.4.1-1.c	Solve two-step word problems using the four operations	3.OA.D.8	BOA
				3.SMC.OA.1.3-3.b	Use multiplication and division with numbers up to 100 to solve word problems in situations involving measurement quantities	3.OA.A.3	BOA	3.SMC.OA.4.1-2.c	Represent two-step word problems using equations with a letter standing for the unknown quantity	3.OA.D.8	XEI
				3.SMC.OA.1.4.b	Determine the unknown whole number in a multiplication or division equation relating three whole numbers	3.OA.A.4	BOA	3.SMC.OA.4.1-3.c	Assess the reasonableness of an answer after solving a two-step word problems using the four operations	3.OA.D.8	BOA
				3.SMC.OA.2.2.b	Show that division is the multiplication of the dividend and divisor of a number	3.OA.B.6	BOA	3.SMC.OA.4.2-1.c	Identify arithmetic patterns found in an addition or multiplication table	3.OA.D.9	NCP
				3.SMC.OA.3.1.b	Multiply and divide numbers up to 100 fluently	3.OA.C.7	BOA	3.SMC.OA.4.2-2.c	Explain arithmetic patterns found in an addition or multiplication table by using properties of operations	3.OA.D.9	NCP
Number and Operations in Base Ten											
3.SMC.NBT.1.1.a	Use place value understanding to round whole numbers to the nearest 10 or 100	3.NBT.A.1	NCP	3.SMC.NBT.1.3.b	Use strategies based on place value and properties of operations to multiply one-digit whole numbers by multiples of 10 in the range 10-90	3.NBT.A.3	NCP				
3.SMC.NBT.1.2.a	Use strategies and algorithms to fluently add and subtract numbers up to 1000	3.NBT.A.2	BOA								
Number and Operations - Fractions											
3.SMC.NF.1.1-1.a	Show that a fraction $1/b$ is equal to the quantity formed by 1 part when a whole is partitioned into b equal parts	3.NF.A.1	NCP	3.SMC.NF.1.2-1.b	Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts	3.NF.A.2a	GRE	3.SMC.NF.1.3-2.c	Generate simple equivalent fractions	3.NF.A.3b	NCP
3.SMC.NF.1.1-2.a	Show that a fraction a/b is equal to the quantity formed by a parts of size $1/b$	3.NF.A.1	NCP	3.SMC.NF.1.2-2.b	Demonstrate that each part on a number line diagram has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$	3.NF.A.2a	GRE	3.SMC.NF.1.3-3.c	Use a fraction model to explain why fractions are equivalent	3.NF.A.3b	NCP
				3.SMC.NF.1.2-3.b	Represent a fraction a/b on a number line diagram by marking off " a " lengths $1/b$ from 0	3.NF.A.2b	GRE	3.SMC.NF.1.3-5.c	Express whole numbers as fractions	3.NF.A.3c	NCP
				3.SMC.NF.1.2-4.b	Explain that an interval on a number line diagram has size a/b and that its endpoint locates the number a/b on the number line	3.NF.A.2b	GRE	3.SMC.NF.1.3-6.c	Compare the size of two fractions with the same numerator or denominator	3.NF.A.3d	NCP
				3.SMC.NF.1.3-1.b	Identify two fractions as equivalent if they are the same size or the same point on a number line	3.NF.A.3a	GRE	3.SMC.NF.1.3-7.c	Explain why comparisons are valid only when two fractions with the same numerator or denominator refer to the same whole	3.NF.A.3d	NCP
				3.SMC.NF.1.3-4.b	Relate fractions to whole numbers	3.NF.A.3c	NCP	3.SMC.NF.1.3-8.c	Record the results of comparisons of two fractions with the same numerator or denominator with the symbols $>$, $=$, and $<$	3.NF.A.3d	NCP
								3.SMC.NF.1.3-9.c	Use a fraction model to justify conclusions based on comparisons of fractions with the same numerator or denominator	3.NF.A.3d	NCP
Measurement and Data											
3.SMC.MD.1.1-1.a	Tell time to the nearest minute	3.MD.A.1	MEA	3.SMC.MD.1.1-4.b	Solve word problems involving addition and subtraction of time intervals in minutes	3.MD.A.1	MEA	3.SMC.MD.1.2-3.c	Solve one-step word problems involving masses or volumes that are given in the same units	3.MD.A.2	MEA



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3.SMC.MD.1.1-2.a	Write time to the nearest minute	3.MD.A.1	MEA	3.SMC.MD.1.2-1.b	Measure liquid volumes and masses of objects using standard units	3.MD.A.2	MEA	3.SMC.MD.2.1-1.c	Draw a scaled picture graph to represent a data set with several categories	3.MD.B.3	PSD
3.SMC.MD.1.1-3.a	Measure time intervals in minutes	3.MD.A.1	MEA	3.SMC.MD.1.2-2.b	Estimate liquid volumes and masses of objects using standard units	3.MD.A.2	MEA	3.SMC.MD.2.1-2.c	Draw a scaled bar graph to represent a data set with several categories	3.MD.B.3	PSD
3.SMC.MD.2.2-1.a	Measure lengths using rulers marked with halves and fourths of an inch	3.MD.B.4	MEA	3.SMC.MD.3.3-2.b	Compare methods of finding the area of a rectangle	3.MD.C.7a	MEA	3.SMC.MD.2.1-3.c	Solve one and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs	3.MD.B.3	PSD
3.SMC.MD.3.1-1.a	Relate area to attributes of plane figures	3.MD.C.5a	MEA	3.SMC.MD.3.3-3.b	Solve real world and mathematical problems by multiplying side lengths to find areas of rectangles with whole number side lengths	3.MD.C.7b	MEA	3.SMC.MD.2.2-2.c	Make a line plot using lengths, measured by a ruler, where the horizontal scale is marked off in appropriate units	3.MD.B.4	PSD
3.SMC.MD.3.1-2.a	Identify concepts of area measurement	3.MD.C.5b	MEA					3.SMC.MD.3.3-4.c	Show that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$	3.MD.C.7c	MEA
3.SMC.MD.3.2-a	Measure areas by counting unit squares	3.MD.C.6	MEA					3.SMC.MD.3.3-5.c	Use models to represent the distributive property in finding the area of a rectangle with whole-number side lengths	3.MD.C.7c	MEA
3.SMC.MD.3.3-1.a	Find the area of a rectangle with whole-number side lengths	3.MD.C.7a	MEA					3.SMC.MD.3.3-6.c	Decompose the area of rectilinear figures into non-overlapping rectangles	3.MD.C.7d	MEA
								3.SMC.MD.3.3-7.c	Show that the area of rectangles is additive	3.MD.C.7d	MEA
								3.SMC.MD.3.3-8.c	Add the areas of non-overlapping rectangular parts	3.MD.C.7d	MEA
								3.SMC.MD.3.3-9.c	Solve real world problems by adding the areas of non-overlapping rectangular parts	3.MD.C.7d	MEA
								3.SMC.MD.4.1-1.c	Solve real world and mathematical problems calculating perimeters of polygons	3.MD.D.8	MEA
								3.SMC.MD.4.1-2.c	Solve real world and mathematical problems by exhibiting rectangles with the same perimeter and different areas	3.MD.D.8	MEA
								3.SMC.MD.4.1-3.c	Solve real world and mathematical problems by exhibiting rectangles with the same area and different perimeters	3.MD.D.8	MEA
Geometry											
				3.SMC.G.1.1-1.b	Recognize that shapes in different categories may share attributes, and that the shared attributes can define a larger category	3.G.A.1	MEA	3.SMC.G.1.2-1.c	Partition shapes into parts with equal areas	3.G.A.2	MEA
				3.SMC.G.1.1-2.b	Identify examples of quadrilaterals including rhombuses, rectangles, and squares	3.G.A.1	MEA	3.SMC.G.1.2-2.c	Express the area of equally partitioned parts as a unit fraction of the whole	3.G.A.2	MEA
				3.SMC.G.1.1-3.b	Draw examples of quadrilaterals that are not rhombuses, rectangles, and squares	3.G.A.1	MEA				
DOMAIN: Standards for Mathematical Practices											
Solve Problems											
								3.SMP.1.c	Make sense of problems and persevere in solving them	MP1	
Reason											
								3.SMP.2.c	Reason abstractly and quantitatively	MP2	
Construct Arguments											
								3.SMP.3.c	Construct viable arguments and critique the reasoning of others	MP3	
Model											
								3.SMP.4.c	Model with mathematics	MP4	
Use Tools											
								3.SMP.5.c	Use appropriate tools strategically	MP5	
Attend to Precision											
								3.SMP.6.c	Attend to precision	MP6	
Use Structure											
								3.SMP.7.c	Look for and make use of structure	MP7	
Express Regularity											

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								3.SMP.8.c	Look for and express regularity in repeated reasoning	MP8	