

WVGSA Grade 4 Mathematics Blueprint



Mathematics Item Blueprint

Table 1. Grade 4 Mathematics Blueprint by Domain and Cluster

Domain	Cluster	Min Items	Max Items
Operations and Algebraic Thinking (OAT)	Operations and Algebraic Thinking (Total)	8	11
OAT	Use the four operations with whole numbers to solve problems.	2	6
OAT	Gain familiarity with factors and multiples.	0	3
OAT	Generate and analyze patterns.	0	3
Number and Operations in Base Ten (NBT) & Fractions (NF)	Number and Operations in Base Ten & Fractions (Total)	15	18
NBT & NF	Generalize place value understanding for multi-digit whole numbers.	0	5
NBT & NF	Use place value understanding and properties of operations to perform multi-digit arithmetic.	0	5
NBT & NF	Extend understanding of fraction equivalence and ordering.	0	3
NBT & NF	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	0	3
NBT & NF	Understand decimal notation for fractions and compare decimal fractions.	0	5
Measurement, Data, and Geometry (MD & G)	Measurement, Data, and Geometry (Total)	8	10
MD & G	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	0	4
MD & G	Represent and interpret data.	0	2
MD & G	Geometric measurement: understand concepts of angles and measure angles.	0	5
MD & G	Draw and identify lines and angles and classify shapes by properties of their lines and angles.	0	5

Depth of Knowledge (DOK) Ranges

Table 2. DOK Item Distribution

DOK Level	Min Items	Max Items
DOK 1	5	9
DOK 2	17	22
DOK 3	5	9

Mathematical Habits of Mind (MHM) Subscores

Table 3. MHM Item Distribution

MHM Category	Min Items	Max Items
Modeling and Problem Solving	8	12
Use Mathematical Reasoning	8	12