THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of The University

LESTER W. YOUNG, JR., *Chancellor*, B.S., M.S., Ed.D.	Beechhurst
JUDITH CHIN, *Vice Chancellor*, B.S., M.S. in Ed.	Little Neck
ROGER TILLES, B.A., J.D.	Manhasset
CHRISTINE D. CEA, B.A., M.A., Ph.D.	Staten Island
WADE S. NORWOOD, B.A.	Rochester
JAMES E. COTTRELL, B.S., M.D.	New York
CATHERINE COLLINS, R.N., N.P., B.S., M.S. in Ed., Ed.D.	
LUIS O. REYES, B.A., M.A., Ph.D.	New York
SUSAN W. MITTLER, B.S., M.S.	Ithaca
FRANCES G. WILLS, B.A., M.A., M.Ed., C.A.S., Ph.D.	Ossining
ARAMINA VEGA FERRER, B.A., M.S. in Ed., Ph.D.	Bronx
SHINO TANIKAWA, B.A., M.S.	Manhattan
ROGER P. CATANIA, B.A., M.A., M.S., C.A.S., Ph.D.	Saranac Lake
ADRIAN I. HALE, A.S., B.A.	Rochester
HASONI L. PRATTS, B.S., M.P.A.	Brooklyn
PATRICK A. MANNION, B.A., M.B.A.	Fayetteville
SEEMA RIVERA, B.A., M.S., Ph.D.	Slingerlands

Commissioner of Education and President of the University
BETTY A. ROSA, B.A., M.S. in ED., M.S. in ED., M.ED., ED.D.

Senior Deputy Commissioner, O f ce of Education Policy
JEFFREY A. MATTESON

Deputy Commissioner, P-12 Operational Support
JASON HARMON

Assistant Commissioner, O f ce of State Assessment
ZACHARY WARNER

Table of Contents

Foreword.....1

New York State Grades 3–8 Testing Program.....2

Grade 4 Post-Test Standards Assessed in Grade 5 11

Grade 6 12

Grade 5 Post-Test Standards Assessed in Grade 6 13

Grade 7 14

Grade 6 Post-Test Standards Assessed in Grade 7 15

Grade 8 16

Grade 7 Post-Test Standards Assessed in Grade 8 17

The Grades 3–8 Mathematics Tests 18

Testing Sessions 18

When Students Have Completed Their Tests 18

Test Design 19

Testing Sessions 17

Question Formats

Foreword

The information contained in this Educator Guide is designed to raise educator awareness of the structure of the New York State Grades 3ï8 Mathematics Tests measuring the New York State Next Generation Mathematics Learning Standards (https://www.nysed.gov/curriculum-instruction/new-york-state-next-generation-mathematics-learning-standards).

The guide provides educators with pertinent information about the test development process, the learning standards that the tests are designed to measure, the format of the testing sessions which includes what types of questions will be asked, the estimated average length of the testing sessions, and what mathematics tools are allowable during testing. Links to additional resources are provided to further enhance educatorsô understanding of the structure of the mathematics tests. Educators are encouraged to review the guide prior to the test administration to gain familiarity with the test format. The information presented can also be used as a platform for educator discussion on how student assessment results can guide future instruction.

The Elementary and Intermediate testing schedule for the spring administration can be found on the Department's website (https://www.nysed.gov/state-assessment/grades-3-8-test-schedules). Questions regarding the New York State Testing Program and test design may be addressed to the Oxice of State Assessment at emscassessinfo@nysed.gov. Questions regarding the New York State Learning Standards may be addressed to the Oxice of Curriculum and Instruction at emscurric@nysed.gov.

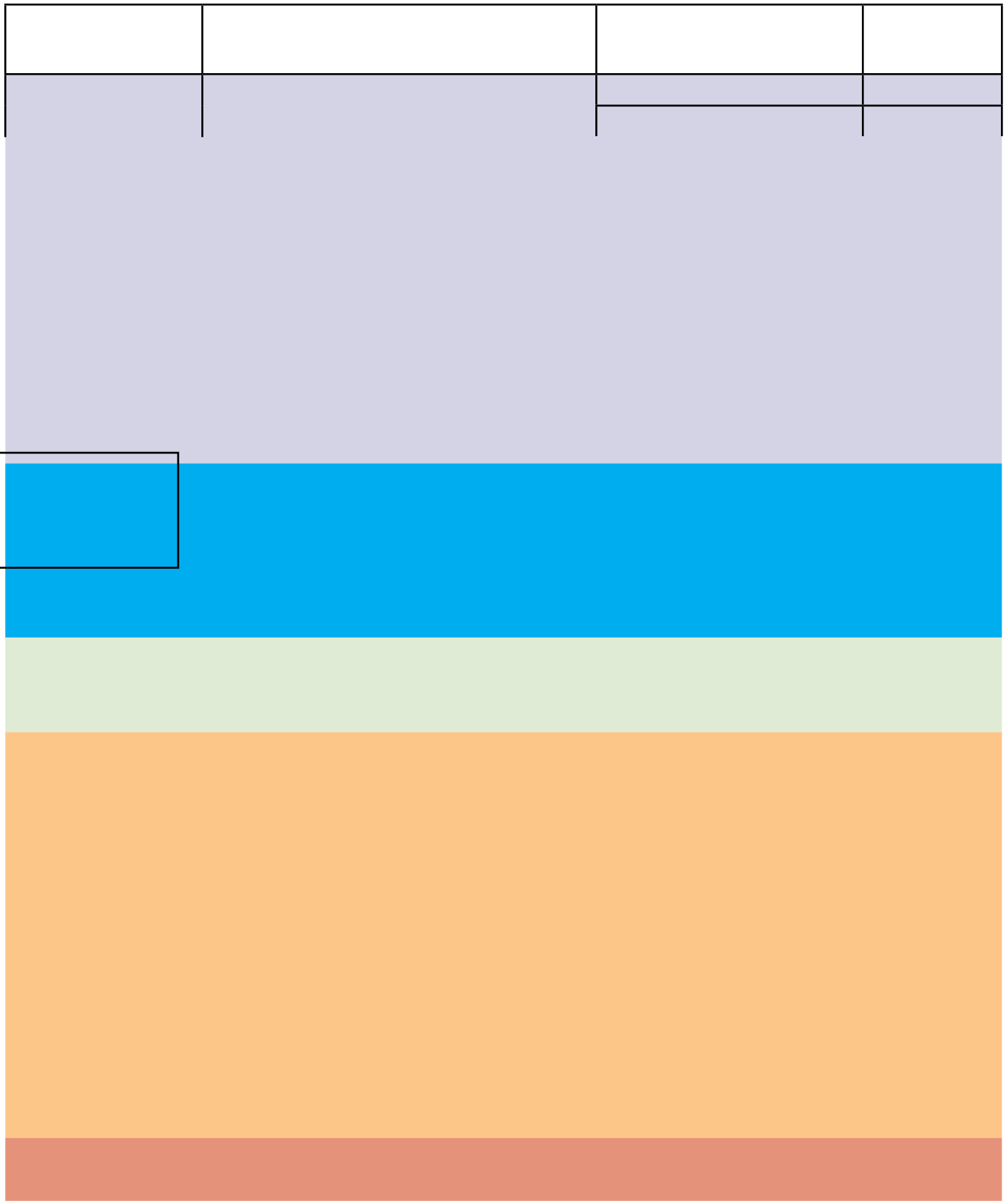
The Next Generation Mathematics Learning Standards

The New York State Next Generation Mathematics Learning Standards deýne the knowledge, skills, and understandings that individuals can and do habitually demonstrate over time when exposed to high-quality instructional environments and learning experiences. The Learning Standards, deýned through the integration of the Standards for Mathematical Content and the Standards for Mathematical Practice, collectively, are focused and cohesive ð designed to support student access to the knowledge and understanding of the mathematical concepts that are necessary to function in a world very dependent upon the application of mathematics. Students are expected to understand math conceptually, use procedural skills, and solve math problems rooted ðVOÀ€

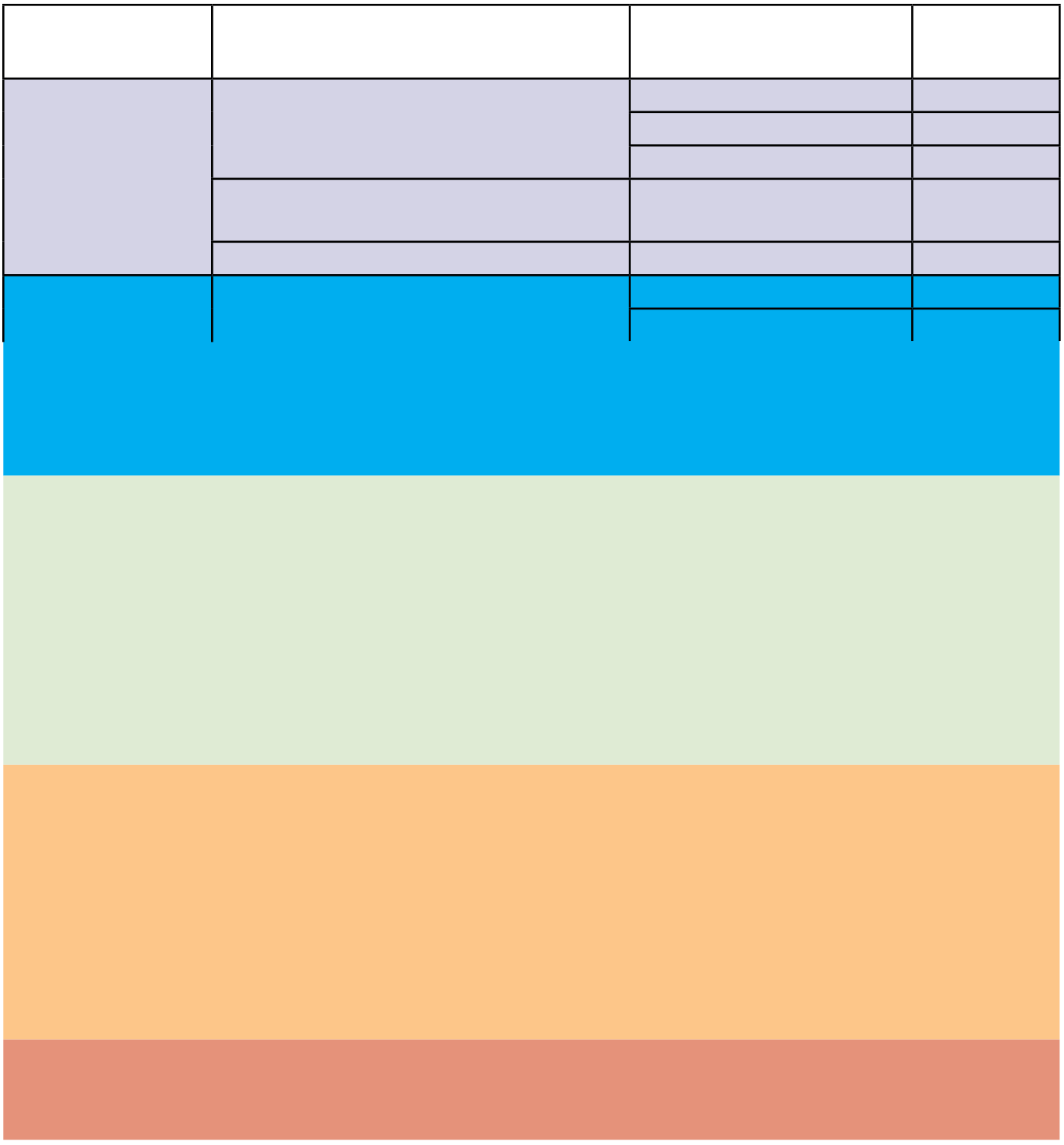
Domains, Clusters, Standards, and Sequencing in Instruction and Assessment

The Grades 3–8 Mathematics Tests will measure the NYS Next Generation Mathematics Learning Standards.

Grade 3



Grade 4



Grade 3 Post-Test Standards Assessed in Grade 4

The table below shows the Grade 3 post-test standards that are assessed on the Grade 4 New York State Mathematics Assessment. For more information about the NYS Next Generation Mathematics Learning Standards Grades 3ï8 Post-test Standards Designations, please refer to the website (https://www.nysed.gov/curriculum-instruction/next-generation-mathematics-learning-standards-grades-3-8-post-test-recommendations).

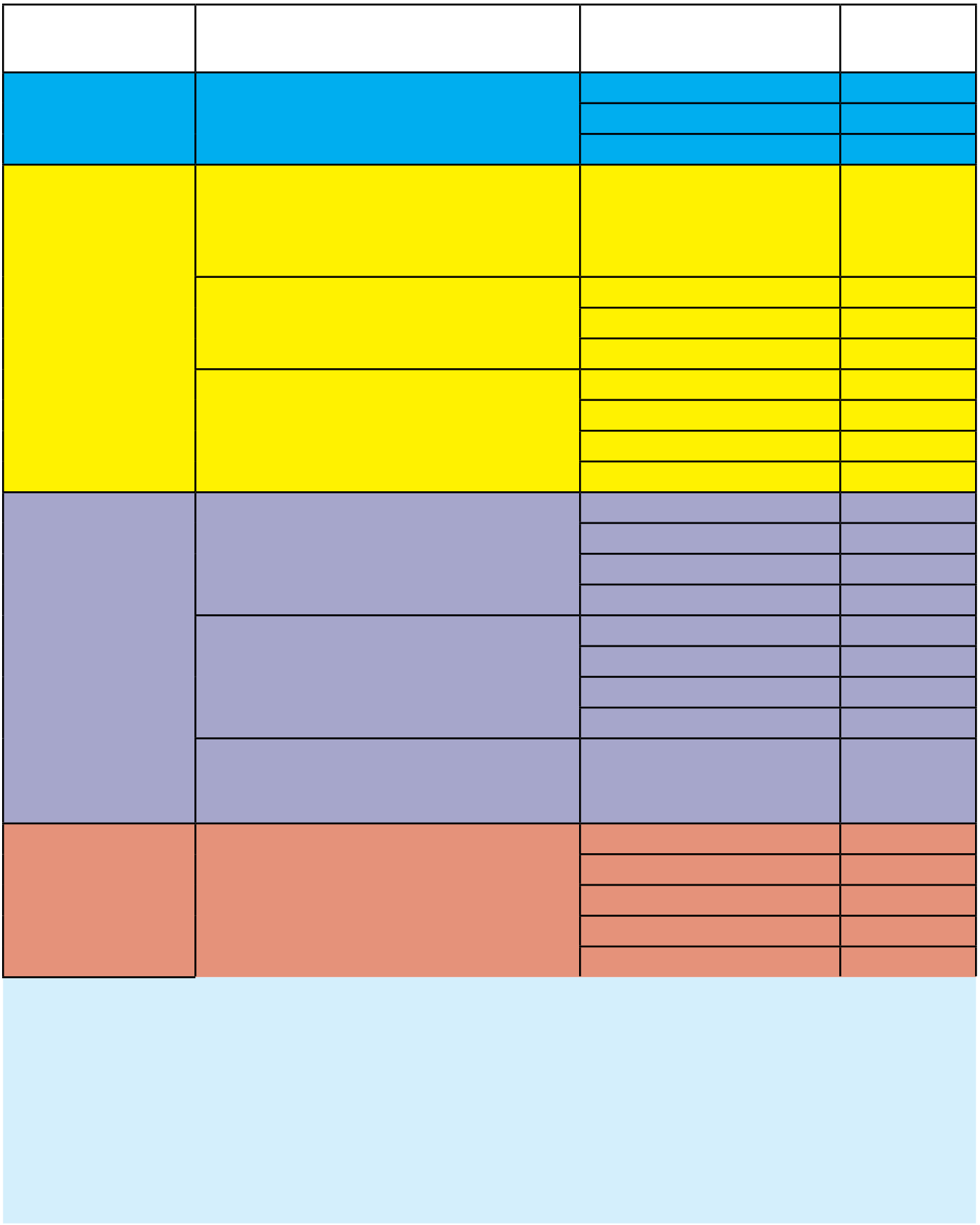
Domain	Cluster	Standard(s)
Measurement and Data	*Represent and interpret data.*	NY-3.MD.3
		NY-3.MD.4
	Geometric measurement: recognize perimeter as an DWWUEXWRISODQHDQGWR between linear and area measures.	NY-3.MD.8a, 8b
Geometry	*Reason with shapes and their attributes.*	NY-3.G.1

Grade 4 Post-Test Standards Assessed in Grade 5

The table below shows the Grade 4 post-test standards that are assessed on the Grade 5 New York State Mathematics Assessment. For more information about the NYS Next Generation Mathematics Learning Standards Grades 3ï8 Post-test Standards Designations, please refer to the website (https://www.nysed.gov/curriculum-instruction/next-generation-mathematics-learning-standards-grades-3-8-post-test-recommendations).

Domain	Cluster	Standard(s)
Number and Operations—Fractions	*Understand decimal notation for fractions, and compare decimal fractions.*	NY-4.NF.5
		NY-4.NF.6
		NY-4.NF.7
Measurement and Data	*Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.*	NY-4.MD.1
		NY-4.MD.2a, 2b

Grade 6



Grade 5 Post-Test Standards Assessed in Grade 6

The table below shows the Grade 5 post-test standards that are assessed on the Grade 6 New York State Mathematics Assessment. For more information about the NYS Next Generation Mathematics Learning Standards Grades 3ï8 Post-test Standards Designations, please refer to the website (https://www.nysed.gov/curriculum-instruction/next-generation-mathematics-learning-standards-grades-3-8-post-test-recommendations).

Domain	Cluster	Standard(s)
Operations and Algebraic Thinking	*Write and interpret numerical expressions.*	NY-5.OA.1
		NY-5.OA.2
	Analyze patterns and relationships.	NY-5.OA.3
Geometry	*Graph points on the coordinate plane to solve real-world and mathematical problems.*	NY-5.G.1
		NY-5.G.2

Grade 8

Domain	Cluster	Standard(s)	Post Standard
The Number System			

Grade 7 Post-Test Standards Assessed in Grade 8

The table below shows the Grade 7 post-test standards that are assessed on the Grade 8 New York State Mathematics Assessment. For more information about the NYS Next Generation Mathematics Learning Standards Grades 3ï8 Post-test Standards Designations, please refer to the website (https://www.nysed.gov/curriculum-instruction/next-generation-mathematics-learning-standards-grades-3-8-post-test-recommendations).

Domain	Cluster	Standard(s)
Geometry	*Draw, construct, and describe geometrical* [illegible] *them.*	NY-7.G.2
		NY-7.G.3
	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	NY-7.G.4
		NY-7.G.5
		NY-7.G.6

Testing Sessions

The Grades 3–8 Mathematics Tests consist of

Test Design

In Grades 3–8, students are required to apply mathematical understandings and mathematical practices

Test Blueprint

All questions on the Grades 3ï8 Mathematics Tests measure the Next Generation Mathematics Learning

Domain-Level Test Blueprint—Percent Ranges for Grade 7 Test				
Ratios and				

Question Formats

The Grades 3ï8 Mathematics Tests contain 1-credit multiple-choice questions, 1-credit constructed-response questions, 2-credit constructed-response questions, and 3-credit constructed-response questions. For multiple-choice questions, students select the correct response from four answer choices. For the constructed-response questions, students write an answer to an open-ended question and may be required to show their work. In some cases, they may be required to provide a written explanation for how they arrived at their answers. Some test questions target more than one standard or assess an entire cluster. As such, many individual test questions assess September-to-April/May standards in conjunction with May-to-June standards from past grades (i.e., post-test standards).

Multiple-Choice Questions

Multiple-choice questions will mainly be used to assess procedural skills and conceptual understanding. Many multiple-choice questions require students to complete multiple steps. Likewise, some of these questions are linked to more than one standard, drawing on the simultaneous application of multiple skills and concepts. Within answer choices, distractors[3] will all be based on plausible missteps.

1-Credit Constructed-Response Questions

1-credit constructed-response questions require students to complete a task and provide only their ýnal answer. The 1-credit constructed-response questions will often require multiple steps, assessing procedural skills, as well as conceptual understanding and application. While students may show how they arrived to their ýnal answer, only the ýnal answer will be scored.

2-Credit Constructed-Response Questions

2-credit constructed-response questions require students to complete a task and show their work or explain their answer. The 2-credit constructed-response questions will often require multiple steps, the application of multiple mathematics skills, and real-world applications. Many of the 2-credit constructed-response

Mathematics Rubrics and Scoring Policies

The Grades 3–8 Mathematics Tests will use the rubrics and scoring policies as shown in this guide.

1-Credit Constructed-Response Rubric

1 Credit	A 1-credit response is a **correct answer** to the question which indicates a thorough understanding of mathematical concepts and/or procedures.
0 Credits*	A 0-credit response is incorrect, irrelevant, or incoherent.

* Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

2-Credit Constructed-Response Holistic Rubric

2 Credits	A 2-credit response includes the correct solution to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task. This response • indicates that the student has completed the v Â q ‘ h

3-Credit Constructed-Response Holistic Rubric

3 Credits	

The following scoring policies must be applied while scoring the mathematics tests for all Grades 3–8. The rubrics for the constructed-response questions are designed to provide a systematic, consistent method for awarding credit. Each response must be rated carefully using the teacher's professional judgment and knowledge of mathematics. Any directions about acceptable formats of answers must be followed (e.g., decimal number, rounding, simplest form, in terms of ´). If the answer format for a question is not speciýed, mathematically equivalent solutions should be awarded credit. Please see the scoring materials for further details on acceptable answer formats speciýc to individual questions.

1-Credit Constructed-Response Mathematics Scoring Policies

1. The student is **not** required to show work for a 1-credit constructed-response question, therefore, any work shown will **not** be scored. A clearly identiýed correct response should still receive full credit.
2. If the student clearly identiýes a correct answer but fails to write that answer in the answer space, the student should still receive full credit.
3. If the student provides one legible response (and one response only), the rater should score the response, even if it has been crossed out.
4. If the student has written more than one response but has crossed some out, the rater should score only the response that has **not** been crossed out.
5. If the student provides more than one response but does not indicate which response is to be considered the correct response and none have been crossed out, the student shall not receive credit.
6. If the student does not provide the answer in the form as directed in the question, the student will not receive credit.
7. In questions requiring number sentences, the number sentences must be written horizontally.
8. When measuring angles with a protractor, there is a +/- 5 degrees deviation allowed of the true measure.
9. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question, but that work results in a score of zero.

2- and 3-Credit Constructed-Response Mathematics Scoring Policies

1. If a student shows the work in other than a designated ñShow your workò or ñExplainò area, that work should still be scored.
2.

Mathematics Tools

Why Mathematics Tools?

Reference Sheets

Each student testing in Grades 5ï8 will be provided with a mathematics reference sheet for their exclusive use during both Session 1 and Session 2. It is recommended that throughout the year, teachers provide students opportunities during classroom instruction to gain familiarity with the grade-level reference sheet.
Note:

Grade 6 Mathematics Reference Sheet

CONVERSIONS

1 yard = 3 fee
1 mile = 5,280 fee

1 cup = 8 fluid ounces
1 pin = 2 cups
1 quar = 2 pin s
1 gallon = 4 quar s
1 li er = 1,000 millili ers

1 pound = 16 ounces
1 on = 2,000 pounds
1 kilogram = 1,000 grams

FORMULAS AND FIGURES

Triangle

Grade 7 Mathematics Reference Sheet

CONVERSIONS

1 yard = 3 fee
1 mile = 5,280 fee

1 cup = 8 fluid ounces
1 pin = 2 cups
1 quar = 2 pin s
1 gallon = 4 quar s

1 pound = 16 ounces
1 on = 2,000 pounds

CONVERSIONS ACROSS MEASUREMENT SYSTEMS

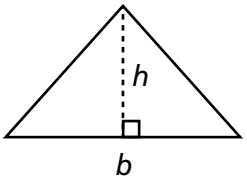
1 inch = 2.54 cen ime ers
1 me er = 39.37 inches
1 mile = 1.609 kilome ers
1 kilome er = 0.6214 mile

1 gallon = 3.785 li ers
1 li er = 0.2642 gallon

1 pound = 0.454 kilogram
1 kilogram = 2.2 pounds

FORMULAS AND FIGURES

Triangle



$A = \frac{1}{2}bh$

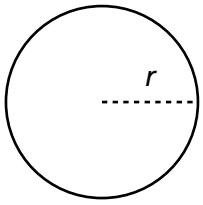
Parallelogram

$A = bh$

Trapezoid

$A = \frac{1}{2}h(b_1 + b_2)$

Circle



$C = 2\pi r$
$C = \pi d$
$A = \pi r^2$

Simple Interest

$I = prt$ where I is in eres ,
p is principal,
r is ra e, and
t is ime

General Prism $V = Bh$

1

Grade 8 Mathematics Reference Sheet

CONVERSIONS

1 yard = 3 fee
1 mile = 5,280 fee

1 cup = 8 fluid ounces
1 pin = 2 cups
1 quar = 2 pin s
1 gallon = 4 quar s

1 pound = 16 ounces
1 on = 2,000 pounds

CONVERSIONS ACROSS MEASUREMENT SYSTEMS

1 inch = 2.54 cen ime ers
1 me er = 39.37 inches
1 mile = 1.609 kilome ers
1 pe1.255