

Grade 2 Mathematics Prince William County Pacing Guide 2019-2020

Teacher Focus Groups have assigned a given number of days to each unit based on their experiences and knowledge of the curriculum. It is critical that teachers stay as close as possible to the pacing guidelines to ensure that all of the Standards of Learning have been taught by the end of the school-year, and that, as children move within the Division, their mathematics instruction remains coherent. Ongoing review should occur throughout the year.

Prince William County Regulation 602-1 describes the organization of the instructional day. **Mathematics is allotted 90 minutes in Grade 2.** This should include an uninterrupted 75-minute block of time for the lesson and an additional 15-minute block to be used for classroom routines, number talks, and/or other selected review activities. These types of activities are a critical element of mathematics instruction that provide essential practice and maintenance of key concepts and skills.

Teachers may find the full wording of the objectives, along with the essential knowledge and skills to be learned, in the Unit Guides. The Unit Guides created by the Teacher Focus Groups provide suggestions for learning experiences, assessments, and resources. These documents are available on the Mathematics Staff Communities site for each grade level.

Classroom Routines should be an integral part of the development of mathematics understanding. Each day should include a brief (10-15 minutes), deliberate, and carefully planned time for review of key concepts and skills. It is not expected that all skills are addressed every day; each teacher should determine which skills and at what level may be appropriate on a given day. Examples may include Number Talks, 3-Act Math, *Which One Doesn't Belong?*, Quick Images, *Splat!*, and *Bedtime Math*. These types of activities are a critical element of mathematics instruction that provide essential practice and maintenance of key concepts and skills.

A sample schedule for Classroom Routines:

- Measurement Monday – money, time, weight, length, temperature
- Number Talk Tuesday
- Word Problem Wednesday
- Thinking Back Thursday – fractions, shapes, data
- Fluency Friday

Assessment Opportunities are provided throughout each unit. Each unit includes **Progress Checks** on the unit's Focus Standards. The progress checks are intended to be used to determine student growth and guide ongoing instruction. **Mastery Assessments** are provided in units when the instruction for Focus Standards is considered complete. Using **Assessment Regulation 661-1** as a guide, **assessment scoring guides** indicate achievement as follows:

- **S: meets grade level requirements using the rubric provided.**
- **S+: meets grade level requirements using the rubric provided AND answers ALL starred (*) questions correctly for that standard. *Starred (*) questions require understanding and connections that have not yet been taught.***

Students who do not demonstrate mastery should receive ongoing instruction and reassessment until mastery is met with at least a score of S (meets grade level requirements). Reassessments can include: exit tickets, observations, student interview, and teacher-created assessments using the mastery assessment as a guide.

Unit 1: Number Sense and Computation 1
August 26 – October 2 (26 days)

Focus Topics	Standards of Learning
<p>Ordinal Numbers – Review 1st through 10th</p> <ul style="list-style-type: none"> Count and identify using an ordered set of objects Write ordinal numbers 1st through 10th <p>Calendar</p> <ul style="list-style-type: none"> Review days of the week and months of the year Identify specific days and dates on a given calendar <p>Computational fluency: Addition and Subtraction <u>within 10</u></p> <ul style="list-style-type: none"> One less than, two less than Use patterns to make sums (e.g., $0 + 5 = 5$, $1 + 4 = 5$, $2 + 3 = 5$, etc.) Combinations of 10 Subtraction from 10 Missing quantities (addition and subtraction) <p>Solving single-step story problems using number sentences <u>within 20</u> (<i>see page 3 for Problem Types</i>)</p> <ul style="list-style-type: none"> Join/Separate Result Unknown Join/Separate Change Unknown Determine the reasonableness of a solution (more or less) <p>Compare and order whole numbers <u>0 to 120</u> - Review</p> <ul style="list-style-type: none"> Tools: hundred chart, open/empty number line <p>Identify numbers that are <u>10 more</u> up to 120</p> <p>Collections of <u>like</u> coins to \$1.00 - Review</p> <p>Place Value – tens, ones with and without models – Review Explore place value with 3-digit models</p>	<p>2.3ab</p> <p>2.10ab</p> <p>2.5ab, 2.6b</p> <p>2.5ab, 2.6abc</p> <p>2.1c</p> <p>2.1b</p> <p>2.7a</p> <p>2.1a</p>
Progress Checks	2.3ab, 2.10ab, 2.5ab, 2.6abc, 2.7a, 2.1abc
Mastery Assessments	None

GRADE 2: COMMON ADDITION AND SUBTRACTION PROBLEM TYPES

Join (Result Unknown)	Join (Change Unknown)	Join (Start Unknown)
Sue had 28 pencils. Alex gave her 14 more pencils. How many pencils does Sue have altogether?	Sue had 28 pencils. Alex gave her some more pencils. Now Sue has 42 pencils. How many did Alex give her?	Sue had some pencils. Alex gave her 14 more. Now Sue has 42 pencils. How many pencils did Sue have to start with?
Separate (Result Unknown)	Separate (Change Unknown)	Separate (Start Unknown)
Brooke had 35 marbles. She gave 19 marbles to Joe. How many marbles does Brooke have now?	Brooke had 35 marbles. She gave some to Joe. She has 16 marbles left. How many marbles did Brooke give to Joe?	Brooke had some marbles. She gave 19 to Joe. Now she has 16 marbles left. How many marbles did Brooke start with?
Part-Part-Whole (Whole Unknown)	Part-Part-Whole (One Part Unknown)	Part-Part-Whole (Both Parts Unknown)
The teacher has 20 red markers and 25 blue markers. How many markers does he have?	The teacher has 45 markers. Twenty of the markers are red, and the rest are blue. How many blue markers does he have?	The teacher has a tub of red and blue markers. She has 45 markers in all. How many markers could be red? How many could be blue?
Compare (Difference Unknown)	Compare (Bigger Unknown)	Compare (Smaller Unknown)
Ryan has 20 books and Chris has 9 books. How many more books does Ryan have than Chris? Ryan has 20 books. Chris has 9 books. How many fewer books does Chris have than Ryan?	Chris has 9 books. Ryan has 11 more books than Chris. How many books does Ryan have? Chris has 11 fewer books than Ryan. Chris has 9 books. How many books does Ryan have?	Ryan has 11 more books than Chris. Ryan has 20 books. How many books does Chris have? Chris has 11 fewer books than Ryan. Ryan has 20 books. How many books does Chris have?

**Unit 3: Number Sense and Computation 3 & Calendar
November 6 – December 12 (23 days)**

Focus Topics	Standards of Learning
<p>Ordinal Numbers - 1st through 20th</p> <ul style="list-style-type: none"> Count and identify using an ordered set of objects Write ordinal numbers 1st through 20th <p>Calendar</p> <ul style="list-style-type: none"> Determine past and future days of the week Identify specific days and dates on a given calendar <p>Addition and Subtraction to 20</p> <ul style="list-style-type: none"> Recognizing and using relationships between addition and subtraction Computational Fluency <ul style="list-style-type: none"> include computation strategies listed in Unit 1 and Unit 2 <p>Single-step story problems (<i>see page 3 for Specific Problem Types</i>)</p> <ul style="list-style-type: none"> Join/Separate – Start Unknown Review Problem Types from Unit 1 and 2 <p>Place Value to three-digits with / without models</p> <p>Read, write and represent three-digit numbers</p> <ul style="list-style-type: none"> Using standard, word, and expanded form Compare using symbols and words Order three-digit numbers <p>Count and compare a collection of mixed coins to 50¢; use \$, ¢, .</p> <p>Equality (=) and inequality (≠) (e.g., $10 = 5 + 5$; $3 + 9 = 20 - 8$; $12 + 3 \neq 8 + 4$)</p> <ul style="list-style-type: none"> Combinations to 20 	<p>2.3ab</p> <p>2.10ab</p> <p>2.5ab, 2.6b</p> <p>2.5ab, 2.6abc</p> <p>2.1a</p> <p>2.1c</p> <p>2.7ab</p> <p>2.17</p>
Progress Checks	2.5ab, 2.6abc, 2.10ab, 2.1ac, 2.7ab, 2.17
Mastery Assessments	2.3ab

**Unit 4: Number Sense and Computation 4 & Measuring Length
December 13 – January 17 (15 days)**

Focus Topics	Standards of Learning
<p>Measurement Length: Estimate and measure to the nearest inch</p> <p>Counting and compare collections of coins to \$0.75</p> <ul style="list-style-type: none"> • Review and use notation (\$, ¢, etc.) <p>Create and solve single-step story problems (<i>see page 3 for Problem Types</i>)</p> <ul style="list-style-type: none"> • Part-Part-Whole, Both Parts Unknown <p>Identify numbers that are 10 less up to 120</p> <p>Rounding <i>as one form of estimation</i></p> <p>Use symbols (>, <, =) and words to compare numbers to 999</p> <p>Computational Fluency to 20 – <i>continue strategies listed in Units 1 and 2</i></p> <p>Estimating sums and differences with 2-digit numbers,</p> <ul style="list-style-type: none"> • using various methods • using practical situations • using concrete objects <p><i>*consider reasonableness of the solution</i></p>	<p>2.8a</p> <p>2.7ab</p> <p>2.5ab, 2.6abc</p> <p>2.1b</p> <p>2.1d</p> <p>2.1c</p> <p>2.5b</p> <p>2.6a</p>
Progress Checks	2.5ab, 2.6abc, 2.7ab, 2.1cd
Mastery Assessments	2.8a

Unit 5: Number Sense and Computation 5 & Patterns
January 21 – February 14 (18 days)

Focus Topics	Standards of Learning
<p>Repeating Patterns and Growing Patterns</p> <ul style="list-style-type: none"> • Identify • Describe • Create • Extend • Transfer (e.g. 10, 20, 30, 40 is the same as 14, 24, 34, 44; ○△□○△□ is the same as ABCABC) <p>Skip Counting Patterns</p> <ul style="list-style-type: none"> • by twos, fives, and tens to 120 • starting at various multiples of 2, 5, or 10 <p>Even & odd numbers – determine <i>using objects</i></p> <p>Identify numbers that are <i>100 more</i> up to 999</p> <p>Determine sums and differences with 2-digit numbers, using various methods</p> <p>Computational Fluency</p> <ul style="list-style-type: none"> – <i>continue strategies listed in Units 1 and 2</i> – <i>Near Doubles</i> <p>Create and Solve Single-step story problems (<i>see page 3 for Problem Types</i>)</p> <ul style="list-style-type: none"> • Compare: Difference Unknown, Bigger Unknown, and Smaller Unknown • Using numbers 0 - 10 	<p>2.16</p> <p>2.2a</p> <p>2.2c</p> <p>2.1b</p> <p>2.6b</p> <p>2.5b</p> <p>2.5ab, 2.6abc</p>
Progress Checks	2.5ab, 2.6abc
Mastery Assessments	2.16, 2.2abc

Unit 6: Data & Probability, Telling Time
February 18 – March 6 (15 days)

Focus Topics	Standards of Learning
<p>Time</p> <ul style="list-style-type: none"> • Introduce: Tell and write time to the nearest 5 minutes • Tell and write time to the nearest quarter hour <p>Probability</p> <ul style="list-style-type: none"> • Collect data from probability experiments • Predict outcomes of repeated experiments <p>Data</p> <ul style="list-style-type: none"> • Collect • Organize • Represent (picture graphs/pictographs*, bar graphs) • Analyze <p>Counting and compare collections of coins to <u>\$1.00</u></p> <ul style="list-style-type: none"> • Review and use notation (\$, ¢, etc.) 	<p>2.9</p> <p>2.14</p> <p>2.15ab</p> <p>2.7ab</p>
Progress Checks	2.9
Mastery Assessments	2.15ab, 2.14

Unit 7: Number Sense and Computation 6
March 9 – March 27 (15 days)

Focus Topics	Standards of Learning
Identify numbers that are <i>10 more/less</i> and <i>100 more/less</i> up to 999	2.1b
Place Value to three-digits with / without models	2.1a
Read, write and represent three-digit numbers <ul style="list-style-type: none"> • Using standard, word, and expanded form • Compare using symbols and words • Order three-digit numbers 	2.1c
Use symbols (>, <, =) and words to compare numbers to 999	2.1c
Rounding <i>as one form of estimation</i>	2.1d
Counting and Comparing Collections of Coins to <u>\$1.25</u>	2.7ab
Estimating sums and differences with 2-digit numbers, using various methods and practical situations (<i>consider reasonableness of the solution</i>)	2.6a
Determine sums and differences with 2-digit numbers, using various methods	2.6b
Create and Solve Single-Step and Two-Step Story Problems (<i>see page 3 for Problem Types</i>) <ul style="list-style-type: none"> • Review Story Problem types from Units 1-6, using numbers 0 -99 	2.5ab, 2.6abc
Computational Fluency <ul style="list-style-type: none"> • <i>continue strategies listed in Units 1 and 2</i> • <i>Plus/Minus 10</i> • Introduce adding/subtracting by place (Tens and Ones) (e.g. $66 + 52 = \square$; $\square + 50 = 110$; $6 + 2 = 8$; $110 + 8 = 118$) 	2.5ab
Demonstrate understanding of equality through use of equal symbol and not equal symbol	2.17
Progress Checks	2.7ab, 2.5ab, 2.6abc, 2.17
Mastery Assessments	2.1abcd

Unit 8: Fractions & Calendar
March 31 – April 29 (16 days)

Focus Topics	Standards of Learning
<p>Measurement: Calendar</p> <ul style="list-style-type: none"> • Determine past and future days of the week • Identify specific days and dates on a given calendar <p>Counting and Comparing Collections of Coins to <u>\$1.75</u></p> <p>Fractions</p> <ul style="list-style-type: none"> • Review: Halves, Fourths (Fair Share) • Introduce: Eighths, Thirds, Sixths • Parts of a set, region, and length model <ul style="list-style-type: none"> ○ Identify the whole ○ Name fractions • Introduce: Write fractions • Represent Fractional Parts <ul style="list-style-type: none"> ○ with symbols ○ with models • Compare unit fractions ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{3}, \frac{1}{6}$) with models 	<p>2.10ab</p> <p>2.7ab</p> <p>2.4abc</p>
Progress Checks	None
Mastery Assessments	2.10ab, 2.4abc

Unit 9: Number Sense and Computation 7 & Measurement
April 30 – May 27 (19 days)

Focus Topics	Standards of Learning
<p>Measurement:</p> <ul style="list-style-type: none"> • Temperature: Read to the nearest 10 degrees Fahrenheit • Time: Tell and write to the nearest 5 minutes (analog, digital) • Weight: Estimate and measure to the nearest pound • Money: Counting and Comparing Collections of Coins to <u>\$2.00</u> <p>Create and solve single-step and two-step addition and subtraction story problems <i>(see page 3 for Problem Types)</i></p> <ul style="list-style-type: none"> • Larger numbers • Estimating Sums and Differences • Efficient problem-solving strategies <p>Estimating sums and differences with 2-digit numbers, using various methods and practical situations <i>(consider reasonableness of the solution)</i></p> <p>Determine sums and differences with 2-digit numbers, using various methods</p> <p>Equality (=) and inequality (\neq) (e.g., $9 + 24 = 10 + 23$; $45 + 4 = 59 - 10$; $15 + 16 \neq 31 + 15$) <u>including with money</u></p> <p>Computational Fluency</p> <ul style="list-style-type: none"> – <i>continue strategies listed in Units 1 and 2</i> – <i>Plus/Minus 10</i> – Adding/subtracting by place (Tens and Ones) (e.g. $66 + 52 = \square$; $\rightarrow 60 + 50 = 110$; $6 + 2 = 8$; $110 + 8 = 118$) [Mastery Unit 9] 	<p>2.11</p> <p>2.9</p> <p>2.8b</p> <p>2.7ab</p> <p>2.5ab, 2.6abc</p> <p>2.6ab</p> <p>2.17</p> <p>2.5b, 2.6b</p>
Progress Checks	None
Mastery Assessments	2.11, 2.8b, 2.9, 2.5ab, 2.6abc, 2.7ab, 2.17

