## MATH EXPRESSIONS CCSS GRADE 3- UNIT 3

## Goals:

## PLEASE NOTE THE UPDATED UNIT 3 QUIZ 1\&3 found online

## New extension of lesson 1 activity 2 is located at bottom of this document

- When using a number line make sure students understand they are counting lengths, not the endpoints where the numbers are.
- Students learn best when they construct understanding through concrete experiences. So if time can neither be seen or touched but just experienced and measured indirectly - it makes sense that it is hard to learn.
- Organizing data and labeling scaling are crucial
- Fundamental concepts, such as conventions of scaling in graphs, need more careful attention in initial instruction
- Work with data and time is closely related to fraction concepts, computations with the four operations and the number line.
- Students will measure lengths using rulers with halves and fourths of an inch. Fractions and number lines connect previous understanding
- When students circle the amount of inches and then the fraction of an inch that remains - this helps solidify understanding that the line segment is a certain number and some fractional parts.
- Explore different attributes with the customary and then metric units to measure - this allows deeper understanding of each attribute as well as the relationship between the two systems
- This unit starts with reviewing the features and functions of clocks and telling time to the hour.
- TRY placing the time at the top of the page at certain times of the day, instead of just the day date.
- Start with the hour, then add in the half hour, 15 minutes, 5 minutes and eventually 1 minute
- Allow different ways to say the name of the time to change it up from just writing it down in number form
- Using 5 count-bys helps solidify and apply their understanding for multiplication to the concept of time.
- When figuring elapsed time, start with hours, then minutes. Encourage counting by as many 15,10 or 5 count bys before single minutes.
- Find elapsed time in hours and minutes and use to solve real world problems
- Understand the clock is comprised of iterated units
- Reinforced as students count the sectors through which the clock hands traveled to find elapsed time
- Number lines help with elapsed time
- Line plots help students apply their understanding of fractions, number lines, and connect their comprehension of a ruler.
- Dot plot and line plot same thing - drawn as a number line diagram, dot is the representation and the observation is above the diagram
- Data is not just number, they are numbers with a context.
- Picture graphs - big change is that the picture can represent more than one object - which connects to the emphasis on multiplication concepts


## Second Grade skills...

Students found elapsed time in hours and half hours from a start time and an end time

## Third Grade...

Units 1 and 2 in mult and div help develop proficiency with reading the tables presented in this unit

Use number lines to represent time intervals

Generate data and make line plots

Tell time to the nearest minute this takes LOTS of exposure!

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It is recommended to try to practice a daily time routine. If your students are fluent at telling time, you might eliminate the time routine and instead have students write the TIME at the top of their paper, next to their name. This could be done during any subject, or when entering or leaving the room. Daily practice telling the time is critical. When students are ready, possibly after Unit 3 - have students start practicing telling elapsed time. Challenge them to write when you finished teaching a subject and find when you started, or vice versa.
Time
(Use with Unit 5 Lessons 3-10.)
Materials: Time Poster and dry erase markers,
pointer, Paper Clocks from Unit 5 Lesson 2

This routine reinforces time concepts and should be used every day in Unit 5, starting with Lesson 3. This routine is intended to achieve the following goals: tell time to 5 minutes, show time on an analog clock, write the time on a digital clock, and link daily activities to times of the day.

Five Student Leaders lead this routine.

## Model Time

Write $5,10,15$, and so on around the outside of the clock on the Time Poster as shown. The class says the minute numbers as Student Leader 1 points to them.


Student Leader 2 draws hands to show a time to
5 minutes (for example, 4;45) on the Time Poster

Then, Student Leader 3 gives a signal and the class will all together say the time shown on the clock.

Now, Student Leader 4 writes a digital time to 5 minutes. The children show the time by moving the two hands on their clocks. Once Student Leader 5 gives a signal, the children show their clocks.


## A.M. and P.M.

Student Leader 5 then asks one or two classmates what they were doing at that time, for example, "What were you doing at $2: 25$ a.m. 2 Were you asleep?"

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| Pacing at a Glance |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Unit | 1 day for each Lessons <br> Some special cases where lessons take more than one day are accounted for and are shown in the detailed pacing guide | 1 day to reteach any concepts/strategies from the quiz | 1 test per unit 2-3 days for mastery | Instructional Days <br> (Including Mastery Learning Loop) |
| 1 | 19 | 4 days (4 quizzes) | 2-3 | 25-26 |
| 2 | 15 | $\begin{gathered} 2 \text { days } \\ \text { (2 quizzes) } \end{gathered}$ | 2-3 | 19-20 |
| 3 | 15 | 3 | 2-3 | 20-21 |
| 4 | 18 | 3 | 2-3 | 23-24 |
| 5 | 11 | 2 | 2-3 | 15-16 |
| 6 | 11 | 2 | 2-3 | 15-16 |
| 7 | 9 | 2 | 2-3 | 13-14 |
|  |  |  |  |  |
| Total | 98 | 18 | 14-21 | 131-138 |

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## GRADE 3

Math Rtl Grade 2 CCSS MX Teacher Edition

| Identify numbers to 1,000 <br> 2.NBT. 3 <br> Need to know before Unit 4 | Unit 2 Lesson 1 Ones, tens and hundreds <br> Unit 2 Lesson 2 Activity 1 Draw Quick 10s and 100s <br> Unit 2 Lesson 3 Activity 2 Expanded form, Activity 3 Read, Write names |
| :---: | :---: |
| Mentally add and subtract 10 or 100 to an umber between 100 and 900 <br> 2.NBT. 8 <br> Need to know before Unit 4 | Unit 2 Lesson 4 Activity 3 Add 1, 10, 100 to a number |
| Compare numbers to 1,000 <br> 2.NBT. 4 <br> Need to know before Unit 4 | Unit 2 Lesson 5 Compare within 200 Unit 6 Lesson 3 Compare 3 digit numbers |
| Add 2-digit numbers <br> 2.NBT.5a <br> Need to know before Unit 4 | Unit 2 Lesson 7 Show all totals Unit 2 Lesson 8 Activity 1 New groups below Unit 2 Lesson 13 Activity 2 Game addition |
| Subtract 2-digit numbers <br> 2.NBT.5b <br> Need to know before Unit 4 | Unit 4 Lesson 3 <br> Unit 4 Lesson 8 When to ungroup <br> Unit 4 Lesson 5 Methods <br> Unit 4 Lesson 7 Subtract from 200 <br> Unit 4 Lesson 9 Zeros <br> Unit 4 Lesson 11 Game subtraction |

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## Unit 3

Are you using math sense making about math structure using math drawings to support math explaining?

## EXTRA Activity to be added to Lesson 1

## Activity 2

The small amount of length in U3 can be done before fractions in Unit 7, because it is an extension of
2.G.3: 3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

To transition from students' Grade 2 experiences with fraction names as equal shares, I suggest adding this step at the beginning of Unit 3 Lesson 1 Activity 2:

See attached Lesson at the end of this document!!!

| Big Idea 1: Length, Capacity, Weight, and Mass |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Lesson | Quick Practice | Materials | Common Core Standard/Practice | Words to Use |
| 3.12 days | Practice multiplications and divisions. | $\begin{aligned} & \hline \text { SAB: 157-162 } \\ & \text { SHC:1 57-162 \& AB: 115-118 } \end{aligned}$ (family Letter included) | $\begin{aligned} & \hline \text { MP: 3,5,6,8 } \\ & \text { 3.MD. } 4 \end{aligned}$ | inch (in.), foot (ft.), ruler, line segment |

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|  |  | HR: 147-148 (could be included in student portfolio) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Lesson Focus | Measure length in inches, half inches, and quarter inches with rulers. |  |  |  |  |
| Formative Assessment | Ask students to describe how to measure a line segment to the nearest $1 / 4$ inch. Students should describe that they would put the ruler underneath the line segment and line up 0 on the ruler with the left end of the line. Then count the repeated units to the other end of the line and decide which $1 / 4$ unit the line segment is closer to. |  |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Measure with nonstandard and standard units. <br> A2: Measure and draw line segments to nearest inch, half inch, and fourth inch. See notes about additional instruction for this activity <br> A3: Measure lengths to nearest fourth inch and show data on a line plot. |  |  |  |  |
| Notes | Read 293BB-2933CC, 295FF-293HH Read teaching note 297 May need to review rounding <br> Learn the ruler as having units that repeat (iteration) and that a ruler is partitioned or has large units that are divided into smaller units of the same size. Also conceptualize that more smaller units than larger units are needed to measure any distance - THESE lay the FOUNDATION students need to understand more complicated measurement concepts. Circling the inches and a fraction of an inch that remains solidifies a certain number of inches plus some fractional part of an inch long. This helps to focus on number of circles and partial circles rather than actual numbers on the ruler which will help when the zero-inch mark is not aligned. Careful of kids writing too many dots on their line plot |  |  |  |  |
| 3.2 | Practice multiplications and divisions. | SAB: 163-166 <br> SHC: 163-166 \& AB: 119-120 <br> HR: 149-150 | MP: 1,2,3,4,6,7 3.OA.3, 3.MD. 2 |  | (c), fluid ounce (fl oz), pint (pt), ( $q \mathrm{t}$ ), gallon (gal), liquid volume |
| Lesson <br> Focus | Use customary units of liquid volume. |  |  |  |  |
| Formative Assessment | Ask students to name the units of liquid volume they worked with in this lesson from largest to smallest. Students should name gallon, quart, pint, cup, and fluid ounce. |  |  |  |  |

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| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Measure using customary units of liquid volume. <br> A2: Estimate liquid volume in customary units. <br> A3: Represent problems with drawings to help solve word problems involving liquid volume. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Notes | Read 293BB-293CC, 293II Careful of which unit is used to identify measuring liquid volume Liquid volume = how much a container can hold Make lots of connections to real life. Make sure you are stating each comparison in an equation in two ways |  |  |  |  |
| 3.3 | Practice multiplications and divisions. | SAB: 167-168 <br> SHC: 167-168 \& AB: 121-122 <br> HR: 151-152 | $\begin{aligned} & \text { MP:1,2,3,4,5,6 } \\ & \text { 3.OA.3, 3.MD.2 } \end{aligned}$ | liter (L), millilite | er (mL), liquid volume |
| Lesson Focus | Use metric units of liquid volume. |  |  |  |  |
| Formative Assessment | Ask students to explain the relationship between a liter and a milliliter. Students should explain that a liter contains $1,000 \mathrm{~mL}$. A liter is much larger than a milliliter. |  |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Measure liquid volume using metric units. <br> A2: Estimate liquid volume in metric units. <br> A3: Represent and solve word problems involving liquid volume. |  |  |  |  |
| Notes | Read 293BB-293CC, 293II Make sure students understand how everyday objects can be measured in mixed units. |  |  |  |  |
| 3.4 | Practice multiplications and divisions. | SAB: 169-174 <br> SHC: 169-174 \& AB: 123-126 <br> HR: 153-154 (portfolio) | $\begin{aligned} & \text { MP: 1,2,3,4,5,6 } \\ & \text { 3.OA.3, 3.MD.2 } \end{aligned}$ |  | weight, pound (lb), ounce (oz), mass, gram (g), kilogram (kg) |
| Lesson Focus | Measure and estimate weight and mass. |  |  |  |  |
| Formative Assessment | Ask students to explain the strategies they use to estimate the weight or mass of an object. Students should explain that they use a benchmark with a similar size. They should include an example of a benchmark for ounce, pound, gram and kilogram in their explanation. |  |  |  |  |

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| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Measure using customary units of weight. <br> A2: Measure using metric units of mass. <br> A3: Estimate weight and mass. |  |  |
| :---: | :---: | :---: | :---: |
| Notes | Read: 293BB-293CC Pay close attention to the operation needed to solve the problem. Discuss ounces and fluid ounces, ounce is weight fluid ounces is a unit of liquid. Mass is the measure of the amount of matter in an object, weight is the measure of the gravitational force. Explain ounces - a unit of weight and fluid ounce -a unit of liquid volume or capacity Try to bring in as many real objects to help students make connections. |  |  |
| 3.5 | Practice multiplications and divisions. | $\begin{aligned} & \hline \text { SAB: } 175-176 \\ & \text { SHC: 175-176 } \\ & \text { Quick Quiz } 1 \\ & \text { Fluency check } 1 \\ & \text { HR: } 155-156 \end{aligned}$ | $\begin{aligned} & \text { MP: 1,3,4,6 } \\ & \text { 3.OA.3, 3.MD. } 2 \end{aligned}$ |
| Lesson Focus | Solve word problems involving liquid volumes or masses using addition, subtraction, multiplication, and division. |  |  |
| Formative Assessment | Ask students to explain how they know whether to add, subtract, multiply, or divide to solve a problem. Students should explain that if the problem asks for a total they would use addition or multiplication. If the groups are equal, it is easier to use multiplication to find the total. If the problem asks for how much more or less a quantity is than another, then subtract. If the problem asks about how many equal groups or how many in each group, dividing will solve the problem. |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Solve word problems involving liquid volumes. <br> A2: Solve word problems involving masses. |  |  |
| Notes | Read: 293BB-293CC, 293II Interpret the problem, Represent situation, Solve problem, Check. Remember to write out the situation In the order in which the word problem is given, then have students decide how to solve using a solution equation. Mathematize the story!! |  |  |

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## Suggest using REVISED QUIZ 1

## Quick Quiz 1-1 Day

Give quiz after teaching lesson 5 - then take this day to reteach/enrich per each quiz item.

This quiz will allow you to see if initial learning took place. If it did not the extra day is spent to spend more time with only those students that need help on the specific items on the quiz, in order to be more successful for the next Big Idea. If kids are doing well, take the time to enrich using the Differentiated Cards, or other higher order thinking activities. This time spent on re-teaching or enrichment will allow for you to keep on pace with not over teaching to only a select few that may need help, it also allows for the enrichment for students who need more of a challenge to go deeper with their understanding. Designated stopping at critical times helps eliminate unorganized re-teaching times during a lesson/activity.

Found on OAISD Math Resources K-5

## Big Idea 2: Time and Date

| 3.6 | Practice multiplications and divisions. | SAB: 179-182 <br> SHC: 179-182 \& AB: 127-132 <br> (family Letter included) HR: 157-158 (could be included in student portfolio) | $\begin{aligned} & \text { MP: } 2,3,4,5,6 \\ & \text { 3.MD. } 1 \end{aligned}$ | A.M., P.M. |
| :---: | :---: | :---: | :---: | :---: |
| Lesson Focus | Tell and write time to the minute, quarter hour, and half hour, and hour. |  |  |  |
| Formative Assessment | Show 1:25 on an analog clock. Ask students to say the time in two ways. Then ask them to write the time. Students should say the time as one twenty-five and twenty-five minutes after one. Students should write the time as 1:25. |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Read and write time to the hour, half-hour, quarter-hour, and 5 minutes and describe it in different ways. <br> A2: Read and write time to 5 minutes and to 1 minute. |  |  |  |
| Notes | Read: 293DD-293EE Review what the students know about time already, make sure kids understand analog clock and digital clock. Review the hands on the clock. Folding the clock will help to see half and quarter and not get it mixed up with 25 as the quarter. |  |  |  |

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| 3.7 | Practice multiplications and divisions. | $\begin{aligned} & \text { SAB: } 183-184 \\ & \text { SHC: 183-184 } \\ & \text { HR: 159-160 } \end{aligned}$ | $\begin{aligned} & \text { MP: 3,5,6 } \\ & \text { 3.MD.1 } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: |
| Lesson Focus | Tell and write the time before and after the hour to the nearest minute. |  |  |  |
| Formative Assessment | Write the time 4:37 on the board. Ask students to show the time on a clock. Then have students explain the two different ways the time can be expressed. Students should be able to explain that the time can be expressed as a time after the hour and as a time before the hour; in this case, thirty-seven minutes after 4 or twenty-three minutes before 5. |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Compare the results of different fraction operations. <br> A2: Solve word problems with mixed operations. |  |  |  |
| Notes | Read: 293DD-293EE Careful of past and passed, Past means after, passed means moved by. Remind kids to use the previous hour when they tell minutes after the hour and the next hour when they tell minutes before the hour |  |  |  |
| 3.8 | Practice multiplications and divisions. | $\begin{aligned} & \text { SAB: 185-186 } \\ & \text { SHC: 185-186 } \\ & \text { HR: 161-162(portfolio) } \end{aligned}$ | MP: 1,2,3,4,5,6 <br> 3.MD. 1 | elapsed time |
| Lesson <br> Focus | Find elapsed time. |  |  |  |
| Formative Assessment | Ask students to tell how they would find the elapsed time between 3:15 and 4:45. Students should be able to explain that they can find elapsed time by either counting the hours on a clock and adding the minutes or by using a number line with appropriate time intervals for the problem marked off. |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Determine how much time has passed in hours and minutes and use elapsed time to find start and end time. <br> A2: Solve word problems to determine how much time has passed in hours and minutes. |  |  |  |
| Notes | Read: 293DD-293EE number line - count hours, then use as many 15,10 or 4 count-bys as possible before counting single minutes. Use lots of representations to develop flexibility in their understanding of time concepts Elapsed time is the amount of time that passes between the beginning and end of an activity - using a number line works well. <br> Act it out might help build connections to this concept |  |  |  |

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| 3.9 | Practice multiplications and division. | $\begin{aligned} & \text { SAB: 187-188 } \\ & \text { SHC: 187-188 \& AB: 133-134 } \\ & \text { HR: 163-164 } \end{aligned}$ | MP: 1,3,4,5,6 <br> 3.MD. 1 |
| :---: | :---: | :---: | :---: |
| Lesson Focus | Solve word problems involving addition and subtraction of time intervals in minutes. |  |  |
| Formative Assessment | Ask students to explain how they know to jump forward or backward when adding and subtracting on the number line. Students should explain that if they know the start time and the elapsed time and want to find the end time, they can find the start time and make forward jumps to add the times. If they know the end time and the elapsed time and need to find the start time, they will start with the end time and make backward jumps to subtract to find the start time. |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Add time using a number line diagram. <br> A2: Subtract time using a number line diagram. |  |  |
| Notes | Read: 293DD-293EE <br> This lesson builds from yesterdays So - if lesson 8 was hard - this lesson will present the same tool used just a little differently |  |  |
| 3.10 | Practice multiplications and divisions. | SAB: 189-190 <br> SHC: 189-190 <br> Quick Quiz 2Fluency Check 2 <br> HR: 165-166 | MP: 1,3,4,5,6 <br> 3.MD. 1 |
| Lesson <br> Focus | Solve word problems involving addition and subtraction of intervals of time. |  |  |
| Formative Assessment | Ask students to explain how they would use a clock to add units of time. Students should explain that they start on the start time and add the times counting by hours or minutes around the face. Then look at the time where they end up on the clock. |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Review addition and subtraction of time intervals using a clock and a number line diagram. <br> A2: Solve word problems about intervals of time using different strategies. |  |  |

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| Notes | Read: 293DD-293EE, 293II label all parts to help identify the start time, time known and end time <br> Again this builds from lesson 8 and 9. The number line is just a clock stretched out in a straight line - see if kids can <br> figure this out - try not to tell them by putting the answer in your question. Story problems help connect the concept |
| :--- | :--- | :--- |

## Quick Quiz 2-1 Day

Give quiz after teaching lesson 10 - then take this day to reteach/enrich per each quiz item.

This quiz will allow you to see if initial learning took place. If it did not the extra day is spent to spend more time with only those students that need help on the specific items on the quiz, in order to be more successful for the next Big Idea. If kids are doing well, take the time to enrich using the Differentiated Cards, or other higher order thinking activities. This time spent on re-teaching or enrichment will allow for you to keep on pace with not over teaching to only a select few that may need help, it also allows for the enrichment for students who need more of a challenge to go deeper with their understanding. Designated stopping at critical times helps eliminate unorganized re-teaching times during a lesson/activity.

Quiz found on Think Central and OAISD Math Resources K-5
Big Idea 3: Pictographs, Bar Graphs, and Line Plots

| 3.11 | Practice multiplications and divisions | SAB: 191-198 <br> SHC: 191-198 \& AB: 135-138 <br> HR: 167-168(could be included in student portfolio) | $\begin{aligned} & \text { MP: 1,2,3,4,6 } \\ & \text { 3.MD. } 3 \\ & \text { 3.NBT. } 2 \end{aligned}$ | vertical axis, horizontal axis, vertical bar graph, horizontal bar graph, pictograph, axes, scale, key |
| :---: | :---: | :---: | :---: | :---: |
| Lesson Focus | Draw scaled pictographs and bar graphs and solve comparison problems using data in pictographs and bar graphs. |  |  |  |
| Formative Assessment | Ask students to explain how they determine what a bar on a bar graph represents and to give an example using the graph about career choices on SAB 198. Students should explain that you can tell what a bar represents by looking at the title and the labels. For example, the bar next to Doctor represents the number of students who chose a doctor for their future career. Looking at the end of the bar and following the line to the scale shows that 60 students chose Doctor as their future career. |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Read, interpret, and create pictographs. <br> A2: Read, interpret, and create bar graphs. <br> A3: Solve word problems using information in pictographs and bar graphs. |  |  |  |

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| Notes | Read: 293FF-HH Repeated reasoning - using multiplication concepts to understand pictographs <br> Pictograph = more than one object is a picture Picturegraph - one to one correspondence Use the letter $T$ to help understand horizontal and vertical (Again making connections to knowns) Comparison problems do not give a total, they ask for one of the amounts and want to know which is more or less, you want to try to get the bars to be the same size. Releasing the responsibility to students in this lesson. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 3.12 | Practice multiplications and divisions. | $\begin{aligned} & \text { SAB: 199-202 } \\ & \text { SHC: 199-202 \& AB: } 139 \\ & \text { HR: 169-170 } \end{aligned}$ | $\begin{aligned} & \text { MP: 1,3,4,6,7 } \\ & \text { 3.MD. } 3 \end{aligned}$ | bar graph, axes, horizontal axis, vertical axis, scale |
| Lesson Focus | Analyze data to create horizontal and vertical bar graphs. |  |  |  |
| Formative Assessment | Ask students to explain how they draw a bar graph. Students should include in their description that they first decide what the bars on the graph represent and then determine how to label the scale to best display the data. |  |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Interpret bar graphs with scales that include multidigit numbers. <br> A2: Represent multidigit data tables with bar graphs. |  |  |  |
| Notes | Read: 293FF-293HH Review horizontal and vertical <br> Learning unfolding - students are practicing to become fluent here - these are all based on skills previously taught |  |  |  |
| 3.13 | Practice multiplications and divisions. | $\begin{aligned} & \text { SAB:203-204 } \\ & \text { SHC: 203-204 \& AB: 141- } \\ & 142 \\ & \text { HR: 171-172 (portfolio) } \end{aligned}$ | $\begin{aligned} & \text { MP: 1,3,4,5,6 } \\ & \text { 3.MD. } 4 \end{aligned}$ | frequency table, line plot, tally chart |
| Lesson Focus | Construct and analyze frequency tables and line plots. |  |  |  |
| Formative Assessment | Ask students to name the different ways they have learned to represent and organize data to show how often something occurs and how they are different. Students should be able to explain that they can represent data in tally charts or frequency tables and in line plots. They should include in their explanation that while the tables use tally marks or number to show how often something occurs, the line plot uses dots placed above a number line. |  |  |  |

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| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Analyze frequency tables and line plots. <br> A2: Make a line plot using a set of data that includes fractions. |  |  |
| :---: | :---: | :---: | :---: |
| Notes | Read: $293 \mathrm{FF}-293 \mathrm{HH} \quad$ Line plots also called dot plots. Can use dots or $x$ 's. All about frequency here - help understand what $1 / 2$ is!!! |  |  |
| 3.14 | Practice multiplications and divisions. | $\begin{aligned} & \text { SAB: 205-206 } \\ & \text { SHC: 205-206 } \\ & \text { HR: 173-174 } \\ & \text { Quick Quiz from lesson } 15 \end{aligned}$ | $\begin{aligned} & \text { MP: 1,3,6,8 } \\ & \text { 3.OA.3, 3.MD.3, 3.MD.4 } \end{aligned}$ |
| Lesson Focus | Solve word problems using data in line plots and scaled bar graphs. |  |  |
| Formative Assessment | Ask students to describe how they can use data in a bar graph or a line plot to solve word problems. Students should be able to explain that they have to understand what the problem is asking them to do. Then they have to find the correct data in the bar graph or line plot and determine what operation to use. After solving the problem they need to check their work for reasonableness of the answer and that they have answered the question asked. |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: Solve one and two step word problems using data in a scaled bar graph. <br> A2: Solve word problems using data in a line plot. |  |  |
| Notes | Read: 293II Students will have different ways to get to the answers Watch for students thinking the number on the line instead of the number of dots... the number line numbers are like categories in a pictograph or bar graph |  |  |
| Give | Quick <br> uiz after teaching le | Suggest using <br> iz 3 (found at the end n 14 - then take thi | VISED QUIZ 3 <br> fesson 15) - 1 Day ay to reteach/enrich |

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| 3.15 | SAB: 207-208 <br> SHC: 207-208 \& AB: 143-144 <br> Quick Quiz 3 but give after <br> lesson 14 <br> Fluency check 3 <br> HR: 175-176 (could be included in student portfolio) | $\begin{aligned} & \text { MP: 1,2,3,4,5,6,7,8 } \\ & \text { 3.MD.1, 3.MD. } 4 \end{aligned}$ |  |
| :---: | :---: | :---: | :---: |
| Lesson <br> Focus | Use the Common Core Content Standards and Practices in a variety of real world problem solving situations. |  |  |
| I CAN... <br> Learning Targets | Instructional Strategies: <br> Student Outcome: <br> A1: 1. Makes sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 4. Model with mathematics. 5. Use appropriate tools strategically. <br> A2: 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. <br> A3: 3. Construct a viable argument and critique the reasoning of others. 6. Attend to precision. |  |  |
| Notes | Read: 293JJ $\quad 1 / 4$ and $1 / 2$ can be worked on with this lesson |  |  |
|  | Unit 3 <br> Balanced Assessment Reso | rces and Pro |  |

The balanced assessment protocols allow to check back on previous units to determine if students are maintaining the prior knowledge and/or allow students another chance to demonstrate mastery of prior unit content.

## Unit 3 Test and Review - Suggested to SKIP Unit 3 test

This unit test is considered optional - if you replace it with the Interim Assessment. Please use your discretion or your district assessment plan on administering this test.

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## Interim Assessment

This covers content over Unit 1, 2, and 3. There are a few questions over Units 1-2 and a large majority of questions from Unit 3. The interim assessment is found online (an A and B test of equal rigor are available to adhere to the Mastery Learning Loop) through InQwizIT, or a paper copy is found on OAISD Math Resources K-5.
Data results from the Interim Assessment might offer standards to be addressed through additional Math Rtl time (re-teaching opportunities).

## Performance Task

Use the Unit 2 Performance Task to incorporate the balanced assessment review of a higher depth of knowledge to check students understanding of the application of the prior unit's concepts and strategies.
This performance task might be taught as a whole group, small group or in pairs. The requirements of taking a task might still be new to students so you may want to take one day to both review the rubrics and strategies to thoroughly answer all parts of the task. The role of the teacher to facilitate the Math Talk will be a critical piece to having the students take ownership of their learning and ability to complete the Performance Task.

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| GRADE 3 |  |
| :--- | :--- | :--- |
| Math Rtl Grade 2 CCSS MX Teacher Edition |  |

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|  | Unit 4 Lesson 11 Game subtraction |
| :---: | :---: |
| Grade 3 CCSS MX Teacher Edition |  |
| Multiply numbers from 0-10 3.0A.7a | Unit 1 Lesson 1 All Activities <br> Unit 1 Lesson 2 All Activities <br> Unit 1 Lesson 3 Activities $3 \& 4$ area model <br> Unit 1 Lesson 11 Activity $1 \& 2$ methods <br> Unit 1 Lesson 15 Activity 4 associative property <br> Unit 2 Lesson 1 Activity $1 \& 2$ Strategies for 6 s <br> Unit 2 Lesson 3 Activity 3 Strategies for 8s <br> Unit 2 Lesson 5 Activity 2 Strategies for 7s |
| Multiplication and Division Games | Unit 1 Lesson 17 Activity 2 Unit 2 Lesson 7 Activity 2 |
| Divide numbers by 1 to 10 3.0A.7b | Unit 1 Lesson 4 Activity $2 \& 3$ <br> Unit 1 Lesson 11 Activity 2 strategy cards <br> Unit 1 Lesson 15 Activity 4 division rules |

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## To transition from students' Grade 2 experiences with fraction names as equal shares, I suggest adding this step at the beginning of Unit 3 Lesson 1 Activity 2:

- Lead this activity with students using the top ruler on M125, the ruler with inches, after it has been cut from the page.
- Use an extra copy of the top ruler and project it so students can see it (or draw a big ruler where students can see it).
- Cover all but the first inch of the ruler and say: What shape is this? [A rectangle.]
- Remember in Grade 2 when you divided a rectangle into two equal parts? Do you remember what you called each part? [a half or halves]
- So I am dividing this rectangle into two equal parts vertically (do so). What do I call each part? [a half or one half]
- Now in Grade 3 you are going to learn how to write the math symbol that says one half. It is written like this: One over two (write $1 / 2$ vertically as on the other rulers) to show that there is one of two equal parts.
- Look at your other rulers. Which ruler has this symbol for $1 / 2$ written on it? (Help students pull out the ruler that has $1 / 2$ between each whole number of inches.)
- How did we find this $1 / 2$ in each little rectangle? [We divided each little rectangle into two equal parts and wrote $1 / 2$ there where we made the dividing line.]


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- Let's check that these are really halves. In the first rectangle fold along the $1 / 2$ line. Did you make two equal parts of that rectangle? [Yes. Now I see why we can write $1 / 2$ for each rectangle.]
- Could we fold to make two equal parts each of the rectangles between the two numbers on the ruler? (Fold one more if you want, but do not fold all of them because of time.)
- So how does this ruler with halves work? Put your inch ruler above your halves ruler.
- Where is $1 \frac{1}{2}$ inches on the ruler with halves? [Slide a finger along the whole 1 inch and then one more half, the half past 1 inch.]
- Can you see how $11 / 2$ inches are made from one whole inch (slide your finger along the one inch length) plus the $1 / 2$ inch (slide your finger along the $1 / 2$ inch length)?
- Remember that rulers measure lengths, not those points that have number on them.
- Show me $31 / 2$ inches by sliding your finger along your ruler with halves. This length is made by what? [3 whole inches plus $1 / 2$ an inch]
- Do a couple more inch examples with finger sliding, such as $71 / 2$ inches and $101 / 2$ inches.
- Repeat the whole activity for fourths.


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- Fold the first 1 inch on the inch ruler into 4 equal parts to make fourths. Elicit why we write this as $1 / 4$ [Because it is 1 of 4 equal parts].
- Elicit why the first inch on the fourths ruler has $1 / 4,2 / 4,3 / 4$. [Because these are 1 or 2 or 3 of the 4 equal parts.]
- Why do you not see a 4/4? [Because $4 / 4$ is one whole inch, which we label with 1.]
- Do some finger sliding to find different lengths on the ruler, emphasizing that the length is some whole inches plus some fourths.

The crucial aspect of understanding rulers is to see the numbers on them as lengths from the beginning (or from 0 if the ruler has a 0 ).

The numbers on rulers (and on number lines and on bar graph scales) pull students' eyes to the numbers, and they make errors and do not understand the crucial length units.
That is why they are asked to circle the length units and fractions on page 159: to be sure that they are seeing each inch length and each fraction length.

