## Hamilton Community Schools Mathematics Curriculum

Scott Foresman - Addison Wesley Mathematics: Grade 4

## 2010/2011 School Year

| Chapter 1 Place Value and Money |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section A- Place Value Section B - Building Number Sense |  |  |  |
| Lesson 1-1: Numbers in the Thousands | To use place value ideas to write multiples of 100 and 1,000 in different ways. | $\begin{aligned} & \text { N.ME.04.01 } \\ & \text { N.ME.04.02 } \\ & \text { N.ME.04.03 } \end{aligned}$ | Vocabulary: expanded form, standard form, word form, digits, period Modeling Numbers in the Thousands Use Words Carefully Place Value Cards (OAISD Manipulative) |
| Lesson 1-3 : Place-Value Patterns | Use place value ideas to write multiples of 100, 1,000, and 10,000 in different ways. | $\begin{aligned} & \hline \text { N.ME.04.02 } \\ & \text { N.ME.04.03 } \end{aligned}$ | Blocks: Fewer or More Compare and Contrast Ways to name Numbers Trading Blocks |
| Lesson 1-5: Comparing and Ordering Numbers | Compare and order numbers through 999,999,999. | N.ME.04.01 | Note: Our goal for all students is numbers to 1,000,000. Only go beyond this number as an extension for advanced learners. Ordering the Numbers Match the Symbol Comparing Places and Values |
| Lesson 1-7: The Size of Numbers | Estimate totals made up of large numbers. | N.ME.04.03 | Building a Million Ways to make a Million |
| Section Assessment |  |  |  |

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\begin{array}{|l|l|l|l|}\hline \text { Reteaching/Enrichment } & & & \\
\hline \begin{array}{l}\text { Section C- } \\
\text { Money and Decimals }\end{array} & \begin{array}{l}\text { Give money amounts in dollars, } \\
\text { dimes, and pennies, and in ones, } \\
\text { tenths, and hundredths. }\end{array} & \text { N.ME.04.15 } & \\
\hline \begin{array}{l}\text { Lesson 1-9: Using Money to } \\
\text { Understand Decimals }\end{array} & \begin{array}{l}\text { Find the value of a given } \\
\text { assortment of bills and coins, and } \\
\text { tell how to make a given money } \\
\text { amount with the fewest bills and/or } \\
\text { coins. }\end{array} & \begin{array}{l}\text { Review of previous Michigan } \\
\text { GLCEs (M.UN.02.07) }\end{array} & \begin{array}{l}\text { Place Value and Money } \\
\text { A Matter of Money } \\
\text { Decimals and Money }\end{array}
$$ <br>
Lesson 1-10: Counting Money <br>
Sorting and Counting <br>

Money Matters\end{array}\right]\)| Vonth |
| :--- |

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| Chapter 2 Adding and Subtracting Whole Numbers and Money |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section A- <br> Addition and Subtraction <br> Number Sense |  |  |  |
| Lesson 2-1: Mental Math: Adding | Compute sums of numbers mentally. | N.FL.04.36 | Note: This section seems like it would be confusing to most students. Both examples, "breaking apart" and "compensation" do not look like the way students would naturally do a problem. I believe the most common way students can picture and do mental addition is to begin with the larger number, add the tens <br> first and then the ones second. <br> For example, $37+52$. Begin with 52 , add 30 to get 82 , then add 7 to get 89 . <br> Base ten blocks and/or number lines should be used to increase understanding and help to describe and record their actions. |
| Lesson 2-2: Mental Math: Subtracting | Compute differences of numbers mentally. | N.FL.04.36 | Vocabulary: difference, compensation (Adjusting) <br> Note: Example A seems to use a similar strategy to the mental addition that was described above. Example B only becomes understandable if you model the <br> shift with a numberline. (With this model, the understanding of subtraction as the difference between two numbers becomes critical. Therefore 41 - 16 is the same as $40-15$. <br> Count On to Find the Missing Number |

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|  |  |  | Note: I recommend only using the first three bullets, with the aid of a numberline, to <br> avoid confusion! <br> For example: $74-28$. Begin with $74-20=54$. Next, think $54-8$ to get 46 . <br> Note: Base ten blocks and/or number lines should be used to increase understanding and help to describe and record their actions. |
| :---: | :---: | :---: | :---: |
| Lesson 2-4: Overestimates and Underestimates | Indicate whether an estimate is an overestimate or an underestimate. | $\begin{aligned} & \text { N.FL.04.34 } \\ & \text { N.FL.04.36 } \end{aligned}$ | Vocabulary: overestimate, underestimate <br> Too Much and Too Little <br> Over or Under? <br> Choose Your Side |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section B- <br> Adding and Subtracting |  |  |  |
| Lesson 2-5: Adding Whole Numbers and Money | Add and subtract whole numbers and money amounts (to five digits). | $\begin{aligned} & \text { N.FL.04.08 } \\ & \text { N.FL.04.32 } \\ & \text { N.FL.04.35 } \end{aligned}$ | Model Addition (See Accessible <br> Algorithms for Addition - OAISD) <br> Add on the Chart (Consider using the "Show all totals" method as described in the Accessible Algorithms handout.) |
| Lesson 2-6: Column Addition | Find the sums of three or more whole numbers or money amounts. | $\begin{aligned} & \hline \text { N.FL. } 04.08 \\ & \text { N.FL.04.32 } \\ & \text { N.FL.04.35 } \end{aligned}$ | Find a Ten (Consider using the "Show all totals" method as described in the Accessible Algorithms handout.) <br> Sentence Completion <br> Columns of Blocks (Use this exactly as described if you want to model the traditional algorithm. You could also use |

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|  |  |  | the blocks to help with the "Show all <br> totals" technique.) |
| :--- | :--- | :--- | :--- |
| Lesson 2-7: Subtracting Whole <br> Numbers and Money | Use the standard algorithm to find <br> difference using whole number <br> amounts and money amounts. | N.FL.04.08 <br> N.FL.04.32 <br> N.FL.04.35 | Vocabulary: inverse operations <br> Model Subtraction (Have students record <br> their actions using the "Expanded <br> Method" described in the Accessible <br> Algorithm for Subtraction handout. <br> Subtract on the Chart (If students do not <br> understand the "Expanded Method", they <br> will then most likely get confused, or <br> make <br> simple mistakes using this more abstract <br> method.) |
| Inverse and More |  |  |  |

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| Chapter 3 Multiplication and Division Concepts and Facts |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section A- <br> Multiplication Concepts and Facts |  |  |  |
| Lesson 3-1: Meanings for Multiplication | Understand the meanings for multiplication. | $\begin{aligned} & \hline \text { N.ME.04.04 } \\ & \text { N.FL.04.10 } \\ & \text { N.MR.04.14 } \end{aligned}$ | Vocabulary: array, factor, product <br> Colorful Arrays (To avoid potential confusion, be sure to write the labels more accurately than shown in the book. The 3 rows should be located on the left side and the 6 columns underneath the diagram.) <br> Speaking of Multiplication... <br> The Last Rectangle (OAISD) |
| Lesson 3-2: Patterns in Multiplying by $0,1,2,5$, and 9 | Identify patterns in multiplying by 0 , $1,2,5$, and 9. | $\begin{aligned} & \text { N.ME.04.05 } \\ & \text { N.FL.04.10 } \\ & \text { N.MR.04.14 } \end{aligned}$ | Vocabulary: multiple, Zero Property of Multiplication, Identity Property of Multiplication, Commutative Property of Multiplication (Note: Understanding these properties is much more important than memorizing their names...These definitions will most likely never appear on a MEAP until middle school.) <br> Pattern for Multiples <br> All Hands |
| Lesson 3-3: Using Known Facts to Find Unknown Facts | Use known multiplication facts to find the products for other facts. | $\begin{aligned} & \hline \text { N.MR. } 04.07 \\ & \text { N.FL.04.10 } \\ & \text { N.MR.04.14 } \\ & \text { N.MR.04.06 } \end{aligned}$ | Vocabulary: Distributive Property <br> Two-Tone Rectangles <br> Break Apart Facts <br> Arranging the Facts <br> (Note: These are all excellent explorations for developing multiplication fluency!) |
| Lesson 3-4: Multiplying by 10, 11, and 12 | Use patterns to multiply with 10, 11 , and 12 as factors | $\begin{aligned} & \hline \text { N.MR.04.07 } \\ & \text { N.FL.04.10 } \end{aligned}$ | Note: This lesson depends way too much on |

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|  |  | N.MR.04.14 | abstract thinking for the typical, to low performing math student. I don't understand why they don't use a break model for multiplication. For example, $4 \times 11$ is $4 \times 10$ and $4 \times 1$. Isn't this a main reason why we introduced the distributive property? This also allows students to multiply a whole number to any teen number. Therefore, you may want to try the activity "Build a rectangle-OAISD". |
| :---: | :---: | :---: | :---: |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section BDivision Concepts and Facts/ Section C-Algebra |  |  |  |
| Lesson 3-6: Meanings for Division | Use sharing and repeated subtraction to solve word problems with division. | $\begin{aligned} & \hline \text { N.FL.04.11 } \\ & \text { N.MR.04.14 } \end{aligned}$ | Vocabulary: divide, divisor, dividend, quotient <br> Division Towers <br> Getting Equal Parts <br> Dividing Counters |
| Lesson 3-7: Relating Multiplication and Division | Complete multiplication and division fact families, and write fact families for given numbers. | $\begin{aligned} & \text { N.FL.04.11 } \\ & \text { N.MR.04.13 } \\ & \text { N.MR.04.14 } \end{aligned}$ | Vocabulary: fact family, inverse operations <br> Replacing the Signs <br> Arrays with Counters <br> Note: These first two activities are powerful to generate understanding because of their use of visuals to make the connection between multiplication and division.) <br> Inverse Operations Inverse Operation of Not |
| Lesson 3-8: Division Facts | Divide using a related multiplication fact. | $\begin{aligned} & \hline \text { N.FL.04.11 } \\ & \text { N.MR.04.14 } \end{aligned}$ | A Bowl of Cherries Dividing the Strips Dividing the Cookies Making Groups |
| Lesson 3-9: Special Quotients | Give quotients of zero when the number divided is zero, give a | $\begin{aligned} & \hline \text { N.FL.04.11 } \\ & \text { N.MR.04.14 } \end{aligned}$ | What's My Rule? Can you Divide by 0 ? |

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|  | quotient of 1 when a number is <br> divided by itself, and give the <br> number divided as the quotient <br> when dividing by 1. |  | Operating with 0 and 1 |
| :--- | :--- | :--- | :--- |
| Lesson 3-14: Solving Multiplication <br> and Division Equations | Find the solution to an equation by <br> testing a set of values for the <br> variable. | N.FL.04.12 | Vocabulary: equation <br> Solving Equations with Mental Math <br> Putting People into the Equation |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Chapter Assessment |  |  |  |

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| Chapter 4 Time, Data, and Graphs |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section ATime |  |  |  |
| Lesson 4-1: Telling Time | Tell time to the nearest 1 minute and 5 minutes using analog and digital clocks, and identify times as A.M. or P.M. | Review of previous Michigan GLCEs (M.UN.03.01) | Vocabulary: analog clock, digital clock, A.M., P.M. <br> Showing Time <br> What time is it? <br> A.M. or P.M.? (Note: This is a good discussion to have when introducing the A.M. and P.M. vocabulary cards! |
| Lesson 4-2: Units of Time | Convert among different units of time, and compare measurements of time. | M.TE.04.05 | Vocabulary: second, minute, hour, century, millennium, day, week, month, year, leap year, leap year, decade <br> Note: This GLCE focuses on conversions of time from hours to minutes, minutes to seconds, years to months and weeks to days...in either order! <br> Minutes and Seconds <br> Matching Time <br> Ordering Time |
| Lesson 4-3: Elapsed Time | Find elapsed time, starting time, or ending time, given two of these. | Review of previous Michigan GLCEs (M.UN.03.02) | Elapsed Time <br> The hands of time Watching time pass <br> Note: For each of these activities, you may want to also use a number line to help students calculate elapsed time. <br> See timeline example - OAISD |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |

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| Section B- <br> Reading and Making Graphs Section CInterpreting Data |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson 4-8: Bar Graphs | Read, interpret, and make bar graphs. | D.RE. 04.01 D.RE.04.03 | Vocabulary: bar graph, scale, interval <br> A graph act <br> Long, not tall <br> The bar-graph plan |
| Lesson 4-11: Problem-Solving Strategy: Make a Graph | Use data in tables and tally charts to make line graphs, bar graphs, and pictographs to solve problems. | D.RE. 04.01 D.RE.04.03 | Note: The GLCEs only refer to tables and bar graphs. Any problems referring to line graphs are an extension and can be used as extensions for the appropriate students. <br> From a table to a graph Graph it and discuss |
| Lesson 4-12: Median, Mode, and Range | Find the median, mode, and range for a given set of data. | D.RE.04.02 | Vocabulary: median, mode, range <br> Note: Median and range are $4^{\text {th }}$ grade terms...mode is a $5^{\text {th }}$ grade GLCE! <br> Pet summary <br> Summarizing data |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Chapter Assessment |  |  |  |

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| Chapter 5 Multiplying by One-Digit Numbers |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section A- <br> Multiplication and Number Sense |  |  |  |
| Lesson 5-1: Multiplying by Multiples of 10,100 , or 1000 | Multiply any number by 10,100 , or 1,000. | $\begin{aligned} & \hline \text { N.MR. } 04.07 \\ & \text { N.FL.04.36 } \\ & \text { N.MR.04. } 14 \end{aligned}$ | Vocabulary: product <br> Model multiplication <br> Whose product is greatest <br> Note:"Finding products" may be too abstract as the first exposure in this chapter. |
| Lesson 5-2: Estimating Products | Use rounding and compatible numbers to estimate products. | N.FL. 04.34 N.FL.04.35 N.FL.04.36 | Vocabulary: rounding, compatible numbers, underestimate, overestimate <br> Using rounding to estimate products Compatible or not compatible Compatible numbers |
| Lesson 5-3: Mental Math | Mentally multiply two-digit numbers by one-digit numbers by using the Distributive Property. | N.ME.04.09 N.MR.04.14 N.FL.04.36 | Vocabulary: breaking apart, compatible numbers <br> Note: This section is setting the stage for <br> multiplying multi-digit numbers and further growth in algebra. Please don't let the title "Mental Math" lead you to believe that this should be done in your <br> head. Having students talk and write about what they are doing will go along way in their journey to computational fluency. <br> Breaking apart <br> Tens and ones in mental math (Note: I suggest only using partial products as the primary strategy for this section. To throw in stubtraction at this point |

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|  |  |  | may get too confusing for many students.) |
| :---: | :---: | :---: | :---: |
| Lesson 5-4: Using Arrays to Multiply | Make arrays with place-value blocks to find products. | $\begin{aligned} & \text { N.ME.04.09 } \\ & \text { N.FL.04.10 } \\ & \text { N.MR.04.14 } \end{aligned}$ | Products with place-value blocks Writing partial products (Note: This exploration is providing students the opportunity extend their understanding from concrete (in chapter 3) to a more abstract representation using rectangles to multiply two-digit numbers. Please see the power point slide in your resource pages. Also, students may naturally want to write the tens partial product first because when represented, they see the tens first (going left to right). This is totally acceptable and actually how my brain prefers to record multiplication, for what it's worth!) |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section BMultiplying |  |  |  |
| Lesson 5-5: Multiplying Two-Digit and One-Digit Numbers | Use the standard algorithm to multiply two-digit numbers by one-digit numbers. | $\begin{aligned} & \text { N.FL. } 04.10 \\ & \text { N.MR. } 04.14 \\ & \text { N.FL. } 04.35 \end{aligned}$ | Note: Please let students know that this is a short cut to recording all of the values and it is totally appropriate to use the partial products algorithm in place of this standard algorithm. If a student can perform multiplication of multi-digit numbers in lesson 5-4, they have demonstrated procedural fluency. <br> Regrouping tens (Note: For some reason, the picture of base 10 blocks in <br> this activity does not represent the problem like our students did in lesson 5-4. Please continue to build rectangular arrays so that when |

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|  |  |  | students draw rectangles, they better connect the pictures to the blocks.) <br> Multiplying on the grid (Note: Please use picture representation to help students understand the short cuts in this standard algorithm.) |
| :---: | :---: | :---: | :---: |
| Lesson 5-6: Multiplying Three-Digit and One-Digit Numbers | Use the standard algorithm to multiply three-digit numbers by one-digit numbers. | $\begin{aligned} & \text { N.FL.04.10 } \\ & \text { N.MR.04.14 } \\ & \text { N.FL. } 04.35 \end{aligned}$ | Modeling three-digit by one-digit Multiplication (Note: This is where base 10 blocks get really bulky. You may want to have your students draw pictures as they did in the previous lessons. The only difference will be a third rectangle that represents the "hundreds" place in the expanded notation.) <br> Zeros in the tens place (Note: Please use drawings of rectangles and the partial products method to show $207 \times 3$ as $(200+7) \times 3$.) |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section CApplying Multiplication |  |  |  |
| Lesson 5-9: Multiplying Money | Calculate products involving amounts of money. | N.FL.04.33 | Note: Money can be represented easily with base ten blocks, so students might <br> be better served by drawing rectangles and using the partial products algorithm exactly as they have been doing throughout this entire chapter. Please see the example in your resource packet. Unfortunately, the |

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$\left.\begin{array}{|l|l|l|l|}\hline & & & \begin{array}{l}\text { examples on page 286 require } \\ \text { students to memorize the rule about } \\ \text { decimal placement without actually } \\ \text { understanding the concept. }\end{array} \\ \text { Multiplying with dollars and cents (Note: } \\ \text { You may want to use rectangles to } \\ \text { compare whole number multiplication } \\ \text { with decimal multiplication.) }\end{array}\right\}$

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| Chapter 6 Multiplying by Two-Digit Numbers |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section A- <br> Multiplication Number Sense |  |  |  |
| Lesson 6-1: Multiplying by Multiples of Tens | Multiply mentally any two-digit number by a multiple of 10,100 , or 1,000. | $\begin{aligned} & \hline \text { N.MR. } 04.07 \\ & \text { N.FL. } 04.36 \end{aligned}$ | Make a table Highlighting zeros and basic facts |
| Lesson 6-2: Estimating Products | Use rounding and place value to estimate products of larger numbers. | $\begin{aligned} & \hline \text { N.FL. } 04.34 \\ & \text { N.FL.04.35 } \\ & \text { N.FL.04.36 } \end{aligned}$ | Vocabulary: compatible numbers, underestimate, overestimated, range <br> Estimating up and down |
| Lesson 6-3: Using Arrays to Multiply | Use arrays to find products involving two-digit factors. | N.FL.04.10 N.MR.04.14 | Vocabulary: partial products <br> Multiplying with place-value blocks (Note: After doing this with a couple problems, you may want to have them transition to drawing rectangles to represent the multiplication problems.) Color-coding partial products |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section BMultiplying |  |  |  |
| Lesson 6-5: Multiplying by Two-Digit Numbers | Use the partial products and the standard algorithm for multiplying with two-digit factors. | N.FL.04.10 <br> N.FL. 04.35 <br> N.MR.04.27 | From Arrays to paper and pencil Think it through |
| Lesson 6-6: Multiplying Greater Numbers | Use the standard algorithm to multiply two-digit numbers by three- or four-digit numbers. | $\begin{aligned} & \text { N.FL. } 04.10 \\ & \text { N.FL.04.35 } \\ & \text { N.FL.04.35 } \end{aligned}$ | Note: Just like in section 5-5, please remember that thisis just a short cut to recording all of the values and it is totally appropriate to use the partial products algorithm in place of this standard algorithm. If a student can perform multiplication of multi-digit numbers using the partial products |

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|  |  |  | algorithm, using the standard <br> algorithm <br> will get them to the same answer, they <br> will only do less writing. <br> Partial products <br> Multiplying on grid paper |
| :--- | :--- | :--- | :--- |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Chapter Assessment |  |  |  |

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| Chapter 7 Dividing |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section ADivision Number Sense |  |  |  |
| Lesson 7-1: Using Patterns to Divide Mentally | Divide multiples of 10, 100, and 1,000 by a one-digit number. | $\begin{aligned} & \hline \text { N.FL. } 04.36 \\ & \text { N.MR.04.14 } \end{aligned}$ | Vocabulary: quotient (p.146) <br> Pattern models <br> Colors and patterns <br> Beat the calculator |
| Lesson 7-2: Estimating Quotients | Estimate quotients. | N.FL.04.36 | Vocabulary: compatible numbers (p.258), overestimate (p.72), underestimate (p.72) <br> Note: This could be a challenging section due to it's abstractness. Therefore, I'm not sure how long you want to spend on a topic that is not assessable at the state level and does not necessarily have to be mastered before the next section. <br> Under cover <br> Multiply to divide |
| Lesson 7-3: Dividing with Remainders | Use models to find quotients and remainders. | $\begin{aligned} & \text { N.FL.04.11 } \\ & \text { N.MR. } 04.13 \\ & \text { N.MR. } 04.14 \end{aligned}$ | Vocabulary: remainder <br> Class groupings <br> Finding a remainder <br> Remainder report |
| Lesson 7-4: Two-Digit Quotients | Use models and the standard algorithm to divide 2-digit numbers by 1-digit numbers. | $\begin{aligned} & \hline \text { N.FL.04.11 } \\ & \text { N.MR.04.13 } \end{aligned}$ | Divide and share (Note: This activity might be more helpful if students use the base ten blocks to build a rectangle.) <br> Activity 3a and 3b: Build a rectangle division (OAISD) |
| Section Assessment |  |  |  |

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| Reteaching/Enrichment |  |  |  |
| :--- | :--- | :--- | :--- |
| Section B- <br> Dividing by One-Digit Divisors |  |  |  |
| Lesson 7-5: Dividing Two-Digit <br> Numbers | Use a standard algorithm to divide <br> a two-digit number by a one-digit <br> number. | N.FL.04.11 <br> N.MR.04.13 | Show and tell <br> Quotient comparing - Partner games <br> (OAISD) Note: You may want to have <br> students show their work on scratch <br> paper and turn it in with their recording <br> sheets. Some students may still |
| (p.146), quotient (p.146) |  |  |  |

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| Reteaching/Enrichment |  |  |  |
| :--- | :--- | :--- | :--- |
| Chapter Assessment |  |  |  |

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| Chapter 8 Geometry and Measurement |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Section A- <br> Solids and Plane Figures |  |  |  |
| Lesson 8-1: Relating Solids and Plane Figures | A plane figure has two dimensions: length and width; and a solid figure has three dimensions: length, width, and height. | G.SR. 04.03 | Vocabulary: plane figure, solid figure, cube, edge, face, vertex, rectangular prism, pyramid, triangular prism, rectangular pyramid, square pyramid, sphere, cylinder, cone, net |
| Lesson 8-2: Polygons | Identify and classify polygons. | G.GS.04.02 | Vocabulary: polygon, side, vertex (p. 434), triangle, quadriateral, pentagon, hexagon, octagon |
| Lesson 8-3: Lines, Line Segments, Rays, and Angles | Identify important geometric terms relating to lines, parts of a line, and angles. | M.TE.04.10 G.GS.04.01 | Vocabulary: point, line, line segment, ray, angle, vertex ( $p$. 434), right angle, acute angle, parallel lines, intersecting lines, perpendicular lines |
| Lesson 8-4: Triangles and Quadriaterals | Classify triangles and quadrilaterals. | G.GS.04.02 | Vocabulary: equilateral triangle, isosceles triangle, scalene triangle, right triangle, acute triangle, obtuse triangle, rectangle, square, trapezoid, parallelogram, rhombus |
| Lesson 8-5: Circles | Identify geometric terms relating to circles. | G.GS.04.02 | Vocabulary: circle, center, radius, diameter, chord |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section BGeometry and Transformations |  |  |  |
| Lesson 8-6: Congruent Figures and Motions | Identify congruent figures, and determine the slide (transformation), flip (reflection), or turn (rotation) image of a figure. | G.TR. 04.05 | Vocabulary: slide (translation), flip (reflection), turn (rotation), congruent figures |
| Lesson 8-7: Symmetry | Identify and make symmetrical figures, and draw a line or lines of | G.TR. 04.04 | Vocabulary: symmetric, line of symmetry |

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|  | symmetry. |  |  |
| :--- | :--- | :--- | :--- |
| Section C- <br> Perimeter, Area |  |  |  |
| Lesson 8-10: Perimeter | Find the perimeter of a polygon by <br> adding the lengths of the sides or <br> by using a formula. | M.TE.04.06 <br> M.TE.04.07 <br> M.TE.04.08 <br> M.PS.04.09 | Vocabulary: perimeter |
|  |  | Find the area of rectangles and <br> irregular rectangular shapes by <br> counting square units or by using a <br> formula. | M.TE.04.06 <br> M.TE.04.07 <br> M.TE.04.08 <br> M.PS.04.09 <br> M.TE.04.04 <br> M.PS.04.11 |
| Lesson 8-11: Area |  |  | Vocabulary: area |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Chapter Assessment |  |  |  |

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| Chapter 9 Fraction Concepts |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Sectin AUnderstanding Fractions |  |  |  |
| Lesson 9-1: Parts of a Region | Identify and draw fractional parts of a region. | Review of previous Michigan GLCEs | Vocabulary: fraction, numerator, denominator |
| Lesson 9-2: Parts of a Set | Identify fractional parts of sets or groups and divide sets to show fractional parts. | N.ME.04.20 | Vocabulary: fraction (p.500), numerator (p.500), denominator (p.500) |
| Lesson 9-3: Fractions, Length, and the Number Line | Locate and name fractions on a number line. | N.ME.04.22 |  |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section BFraction Relationships |  |  |  |
| Lesson 9-6: Equivalent Fractions | Identify fractions that are equivalent and find fractions equivalent to a given fraction using models and/or a computational procedure. | $\begin{aligned} & \hline \text { N.MR.04.21 } \\ & \text { N.MR.04.23 } \end{aligned}$ | Vocabulary: equivalent fractions, numerator (p.500), denominator (p.500) |
| Lesson 9-7: Fractions in Simplest Form | Express fractions in simplest form. | Enrichment skill | Vocabulary: common factor, simplest form |
| Lesson 9-8: Using Number Sense to Compare Fractions | Determine which of two fractions is greater (or less). | N.MR.04.26 |  |
| Lesson 9-9: Comparing and Ordering Fractions | Compare fractions using >, <, and $=$, and order fractions. | $\begin{aligned} & \hline \text { N.MR.04.22 } \\ & \text { N.MR.04.26 } \end{aligned}$ |  |
| Section Assessment |  |  |  |

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| Reteaching/Enrichment |  |  |  |
| :--- | :--- | :--- | :--- |
| Section C- <br> Extending Fraction Concepts |  |  | ( |
| Lesson 9-10: Mixed Numbers and <br> Improper Fractions | Read, write, and show mixed <br> numbers, express mixed numbers <br> as improper fractions, and <br> improper fractions as mixed <br> numbers. | N.MR.04.24 <br> N.MR.04.25 |  |
| Lesson 9-11: Comparing Mixed <br> Numbers | Compare mixed numbers. | N.MR.04.22 <br> N.MR.04.26 |  |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Chapter Assessment |  |  |  |

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| Chapter 10 Fraction Operations and Customary Measurement |  |  |  |
| :---: | :---: | :---: | :---: |
| Lesson | Objective | GLCE | Comments |
| Professional Development |  | N.MR.04.30 |  |
| Section A- <br> Adding Fractions <br> Section B- <br> Sebtracting Fractions |  |  |  |
| Lesson 10-2: Adding Fractions with Like Denominators | Add fractions with like denominators, using models and paper and pencil. | N.MR.04.27 <br> N.FL. 04.35 <br> N.MR.04.29 | Vocabulary: simplest form |
| Lesson 10-3: Adding Fractions with Unlike Denominators | Add fractions with unlike denominators using models and paper and pencil | N.MR.04.27 <br> N.MR.04.28 <br> N.FL. 04.35 <br> N.MR.04.27 | Vocabulary: factor |
| Lesson 10-4: Subtracting Fractions with Like Denominators | Subtract fractions with like denominators using models and paper and pencil. | N.MR.04.27 |  |
| Lesson 10-5: Subtracting Fractions with Unlike Denominators | Subtract fractions with unlike denominators using models and paper and pencil | N.MR. 04.27 N.MR.04.28 |  |
| Section Assessment |  |  |  |
| Reteaching/Enrichment |  |  |  |
| Section CCustomary Measurement |  |  |  |
| Lesson 10-7: Length and Customary Units | Estimate and measure length to the nearest inch, and choose the most appropriate customary unit of length for a given object or distance. | M.UN. 04.01 | Vocabulary: customary units of measure, inch (in.), foot (ft), yard (yd), mile (mi) |

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| Lesson 10-8: Fractions of an Inch | Measure and draw lengths to the <br> nearest half, quarter, or eighth of <br> an inch. | M.UN.04.01 <br> M.PS.04.02 |  |
| :--- | :--- | :--- | :--- |
| Lesson 10-9: Capacity and <br> Customary Units | Choose the most appropriate <br> customary unit of capacity for a <br> given container, and estimate and <br> measure capacity using customary <br> units. | M.UN.04.01 | Vocabulary: capacity, teaspoon <br> (tsp), tablespoon (tbsp), fluid ounce <br> (fl oz), cup (c), pint (pt), quart (qt), <br> gallon (gal) |
| Lesson 10-10: Weight and <br> Customary Units | Choose the most appropriate <br> customary unit of weight for a <br> given object, and estimate and <br> measure weight using customary <br> units. | M.UN.04.01 | Vocabulary: ounce (oz), pound (lb), <br> ton (T) |
| Lesson 10-11: Changing Units and <br> Comparing Measures | Change units of length, capacity, <br> and weight to equivalent units and <br> compare measures. <br> Note: Use a conversion chart with | M.TE.04.05 |  |
| measurement conversions. |  |  |  |

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| Chapter 11 Decimals and Metric Measurement |  |  |  |
| :--- | :--- | :--- | :--- |
| Lesson | Objective | GLCE | Comments |
| Section A- <br> Understanding Decimals |  |  |  |
| Lesson 11-1: Decimals and <br> Fractions | Relate decimals to common <br> fraction benchmarks, and write <br> decimals in 10ths and 100ths. | N.ME.04.16 <br> N.MR.04.19 | Vocabulary: hundredths, tenths, <br> equivalent |
| Lesson 11-2: Decimal Place Value | Write decimals in tenths and <br> hundredths. | N.ME.04.15 <br> N.ME.04.17 <br> N.ME.04.18 | N.ME.04.18 |
| Lesson 11-3: Comparing and <br> Ordering Decimals | Write, compare, and order <br> decimals to hundredths. | Vocabulary: place-value, expanded <br> form, standard form, word form |  |
| Lesson 11-4: Rounding Decimals | Round decimals to the nearest <br> whole number and tenth. | Enrichment skill |  |
| Section Assessment | Note: Good reminder of rounding. |  |  |
| Reteaching/Enrichment | Gend |  |  |
| Section B- <br> Adding and Subtracting <br> Decimals | Add, subtract, and estimate with <br> decimals in tenths, hundredths, <br> and combinations of whole <br> numbers, tenths, and hundredths. | N.FI.04.32 <br> N.FL.04.35 |  |
| Lesson 11-7: Adding and <br> Subtracting Decimals |  |  |  |
| Reteaching/Enrichment |  |  |  |

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| Section C- <br> Metric Measurement |  |  |  |
| :--- | :--- | :--- | :--- |
| Lesson 11-9: Length and Metric <br> Units | Estimate and measure length <br> metric units, and choose the most <br> appropriate metric unit of length for <br> an object or distance. | M.UN.04.01 | Vocabulary: millimeter (mm) <br> centimeter (cm), decimeter (dm), <br> meter (m), kilometer (km) |
| Lesson 11-10: Capacity and Metric <br> Units | Estimate and measure capacity in <br> milliliters and liters, and choose the <br> most appropriate metric unit for the <br> capacity of a container. | M.UN.04.01 |  |
| Lesson 11-11: Mass and Metric <br> Units | Estimate and measure mass in <br> grams and kilograms, and choose <br> the most appropriate metric unit of <br> mass for an object. | M.UN.04.01 | Vocabulary: liter (L), milliliter (mL) |
| Lesson 11-12: Changing Units and | Change units of length, capacity, <br> and mass to equivalent units and <br> compare measures. | M.TE.04.05 |  |
| Comparing Measures | Vocabulary: mass, gram (g), <br> kilogram (kg) |  |  |
| Secteaching/Enrichment | Read temperatures above and <br> below zero on Fahrenheit and <br> Celsius thermometers, and <br> determine appropriate <br> temperatures for given activities. | M.UN.04.03 |  |
| Chapter Assessment |  |  |  |

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