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|  | **Baldwin-Whitehall School District**  ***UNIT OF INSTRUCTION OVERVIEW*** |

**General Course Information**

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| **Course Title:** | **3rd Grade Mathematics CONTINUED** | | **Course Code:** | |  |
| **Pre-requisites:** | **2nd Grade Mathematics** | **Time Allocated Per Unit:**  ***(Based on 165 days of instruction)*** | | |  |
| **Authors:** | **Dianna Wispolis, Rebecca Wolf, Liz Murray** | | | **Last Updated:** | **6-29-15** |
| **Reviewed by:** | **Andrea Huffman** | | | **Date Entered:** |  |

**Course Description**

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| * *What information would accurately and articulately describe what students will know and be able to do as a result of this course?*   + Is the description worded in such a way that it is engaging and interesting to both students and parents?   + Does the description provide the essential skills and competencies that students will be able to demonstrate upon successful completion of the course?   + Does the description mention the duration of the course?   + Does the description use the title of the course within it?   + Does the description specifically communicate expectations of students? |
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| **Unit Title 1** | **Topic 11: Use Operations with Whole Numbers to Solve Problems** | **Instructional Days Needed** | **7** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |



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| CC.2.1.3.B.1 Apply place value understanding and properties of operations to perform multi-digit arithmetic.   * **M03.A-T.1.1.2:** Add two- and three-digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers.   CC.2.2.3.A.4 Solve problems involving the four operations, and identify and explain patterns in arithmetic.   * **M03.B-O.3.1.2:** Represent two-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers. * **M03.B-O.3.1.3:** Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers. * **M03.B-O.3.1.6:** Create or match a story to a given combination of symbols (+, –, ×, ÷, <, >, and =) and numbers. * **M03.B-O.3.1.7:** Identify the missing symbol (+, –, ×, ÷, <, >, and =) that makes a number sentence true. |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. |



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| * The same number sentence (e.g., 12 - 4 = 8) can be associated with different concrete or real world situations, AND different number sentences can be associated with the same concrete or real world situation. * Numerical quantities and calculations can be estimated by using numbers that are close to the actual values, but easier to compute. |
| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. |



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| * How can addition and subtraction facts help me? * What strategies do I use to find the sum or differences of two whole numbers up to two digits long? * How can using number relationships help me solve addition and subtraction problems for two digit and three-digit numbers? * How can I estimate the answers for operations involving two and three digit numbers? |
| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. |
| * Solve 2 and 3 digit addition and subtraction problems with and without regrouping. * Determine if an answer to a problem is reasonable. * Identify the key words which symbolize when to use addition or subtraction to solve a problem. * Solve one-step word problems using addition or subtraction. * Create number sentences (with one element represented as a letter) after reading a word problem or looking at a picture. * Match a given story to the appropriate number sentence. * Identify the missing symbols needed to solve a given equation |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. |
| * Add two- and three-digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers. * Represent one-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers. * Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers. * Create or match a story to a given combination of symbols (+, –, <, >, and =) and numbers. * Identify the missing symbol (+, –, <, >, and =) that makes a number sentence true. |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). |
| * Pretest * Study guide * Topic Eleven Test |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. |



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| * All vocabulary for Topic 11 has been covered in Topics 8-9. |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com) * Commoncoresheets.com |

| **Unit Title 2** | **Topic 12: Understand Fractions as Numbers** | **Instructional Days Needed** | **12** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
| CC.2.1.3.C.1: Explore and develop an understanding of fractions as numbers.   * **M03.A-F.1.1.1:** Demonstrate that when a whole or set is partitioned into y equal parts, the fraction 1/y represents 1 part of the whole and/or the fraction x/y represents x equal parts of the whole (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). * **M03.A-F.1.1.2:** Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). * **M03.A-F.1.1.3:** Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator). Example 1: 1/2 = 2/4 Example 2: 4/6 = 2/3 * **M03.A-F.1.1.4:** Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers (limit denominators to 1, 2, 3, 4, 6, and 8). Example 1: Express 3 in the form 3 = 3/1. Example 2: Recognize that 6/1 = 6.   CC.2.3.3.A.2: Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.   * **M03.C-G.1.1.3:** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. Example 1: Partition a shape into 4 parts with equal areas. Example 2: Describe the area of each of 8 equal parts as 1/8 of the area of the shape.   CC.2.4.3.A.1: Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.   * **M03.D-M.1.2.3:** Use a ruler to measure lengths to the nearest quarter inch or centimeter. | | | |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
| * Mathematical relationships among numbers can be represented, compared, and communicated. * Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations. * Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools. | | | |
| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
| - How is mathematics used to quantify, compare, represent, and model numbers?  - How can mathematics support effective communication?  - How are relationships represented mathematically?  - What does it mean to estimate or analyze numerical quantities?  - What makes a tool and/or strategy appropriate for a given task? | | | |
| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
| * Partition shapes into equal parts. * Express the area of each part as a unit fraction of the whole. * Partition and shade shapes to represent a given fraction. * Name the fraction which represents a given picture. * Represent fractions on a number line. * Express whole numbers as fractions. * Create fractions that are equivalent to whole numbers. * Measure length to the nearest ¼ inch. * Measure length to the nearest centimeter. * Record measurement data on a line plot. * Estimate the length of common objects. | | | |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
| * Demonstrate that when a whole or set is partitioned into y equal parts, the fraction 1/y represents 1 part of the whole and/or the fraction x/y represents x equal parts of the whole (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). * Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). * Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator). Example 1: 1/2 = 2/4 Example 2: 4/6 = 2/3   Express whole numbers as fractions, and/or generate fractions that are equivalent to whole numbers (limit denominators to 1, 2, 3, 4, 6, and 8). Example 1: Express 3 in the form 3 = 3/1. Example 2: Recognize that 6/1 = 6.   * Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. Example 1: Partition a shape into 4 parts with equal areas. Example 2: Describe the area of each of 8 equal parts as 1/8 of the area of the shape. * Use a ruler to measure lengths to the nearest quarter inch or centimeter. | | | |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts | | | |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
| * Pretest * Study guide * Topic Twelve Test | | | |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
| * **Fraction** – A symbol, such as ½, used to name a part of a whole or a location on a number line. * **Unit Fraction** – One part of a whole that has been divided into equal parts. * **Numerator** – The number above the fraction bar in a fraction; how many equal parts are described. * **Denominator** – The number above the fraction bar in a fraction; the total number of equal parts. * **Line Plot** – A way to organize data on a number line. * **Nearest Half Inch** – Your measurement ends with ½ or a full inch. * **Nearest Fourth Inch** - Your measurement ends with ¼. ½, ¾ or a full inch. | | | |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com) * Commoncoresheets.com | | | |

| **Unit Title 3** | **Topic 13: Fraction Equivalence and Comparison** | **Instructional Days Needed** | **9** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
| CC.2.1.3.C.1: Explore and develop an understanding of fractions as numbers.   * **M03.A-F.1.1.2:** Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). * **M03.A-F.1.1.3:** Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator). Example 1: 1/2 = 2/4 Example 2: 4/6 = 2/3 * **M03.A-F.1.1.5:** Compare two fractions with the same denominator (limit denominators to 1, 2, 3, 4, 6, and 8), using the symbols >, =, or <, and/or justify the conclusions. | | | |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |

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| * Mathematical relationships among numbers can be represented, compared, and communicated. * Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations. * Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools. |
| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. |
| * How is mathematics used to quantify, compare, represent, and model numbers? * How can mathematics support effective communication? * How are relationships represented mathematically? * What does it mean to estimate or analyze numerical quantity? * What makes a tool and/or strategy appropriate for a given task? |
| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. |
| * Represent fractions on a number line. * Create fractions that are equivalent to whole numbers. * Create equivalent fractions. * Compare 2 fractions with the same denominator. * Justify conclusions when comparing fractions. |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. |
| * Represent fractions on a number line (limit denominators to 2, 3, 4, 6, and 8; limit numerators to whole numbers less than the denominator; and no simplification necessary). * Recognize and generate simple equivalent fractions (limit the denominators to 1, 2, 3, 4, 6, and 8 and limit numerators to whole numbers less than the denominator). Example 1: 1/2 = 2/4 Example 2: 4/6 = 2/3 * Compare two fractions with the same denominator (limit denominators to 1, 2, 3, 4, 6, and 8), using the symbols >, =, or <, and/or justify the conclusions. |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). |
| * Pretest * Study guide * Topic Thirteen Test |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. |
| * **Equivalent Fractions** – Names the same part of a whole number or the same location on a number line. |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com) * Commoncoresheets.com |

| **Unit Title 4** | **Topic 14: Solve Time, Mass, and Capacity Problems** | **Instructional Days Needed** | **15** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
| CC.2.4.3.A.1: Solving problems involving measurement and estimation of intervals of time, money, liquid, volumes, masses, and lengths of objects.   * **M03.D-M.1.1.1:** Tell, show, and/or write time (analog) to the nearest minute. * **M03.D-M.1.1.2:** Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less). * **M03.D-M.1.2.1:** Measure and estimate liquid volumes and masses of objects using standard units (cups [c], pints [pt], quarts [qt], gallons [gal], ounces [oz.], and pounds [lb]) and metric units (liters [l], grams [g], and kilograms [kg]). * **M3.B.1.2.2:** Compare and/or order objects according to length, area, or weight. * **M03.D-M.1.2.2:** Add, subtract, multiply, and divide to solve one-step word problems involving masses or liquid volumes that are given in the same units.   CC.2.4.3.A.2: Solving problems involving measurement and estimation of intervals of time, money, liquid, volumes, masses, and lengths of objects.   * **M03.D-M.1.1.1:** Tell, show, and/or write time (analog) to the nearest minute. * **M03.D-M.1.1.2:** Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less).   CC.2.4.3.A.3: Solving problems involving measurement and estimation of intervals of time, money, liquid, volumes, masses, and lengths of objects.   * **M03.D-M.1.1.1:** Tell, show, and/or write time (analog) to the nearest minute. * **M03.D-M.1.1.2:** Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less). | | | |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
| * Time can be expressed to the nearest minute and how much time has passed. * Measures can be estimated by using known referents. * Some attributes of objects are measureable, e.g., length, mass, capacity, and can be quantified. | | | |
| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
| * How do I determine home much time has passed between events? * How do I use a clock to tell time to the nearest minute? * How do you use weight and measurement in your life? * What tools and units are used to measure the attributes of an object? * How do I estimate and measure? * What benchmarks do I use to estimate the weight of common objects? | | | |
| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
| * Tell time to the nearest whole hour, half hour, quarter hour. * Tell time to the nearest minute. * Find elapsed time to the nearest minute (60 minutes or less). * Estimate the length of common objects. * Measure capacity using gallons, quarts, pints, and cups. * Measure capacity using liters and milliliters. * Estimate the capacity of common containers. * Measure weight using pounds and ounces. * Measure weight using grams and kilograms. * Estimate the weight of common containers. * Solve one-step problems involving masses or liquid volumes. * Compare objects according length or weight. * Order objects according to length or weight. | | | |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
| * Tell, show, and/or write time (analog) to the nearest minute. * Calculate elapsed time to the minute in a given situation (total elapsed time limited to 60 minutes or less). * Measure and estimate liquid volumes and masses of objects using standard units (cups [c], pints [pt], quarts [qt], gallons [gal], ounces [oz.], and pounds [lb]) and metric units (liters [l], grams [g], and kilograms [kg]). * Compare and/or order objects according to length, area, or weight. * Add, subtract, multiply, and divide to solve one-step word problems involving masses or liquid volumes that are given in the same units. | | | |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts | | | |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
| * Pretest * Study guide * Topic Fourteen Posttest | | | |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
| * **A.M.** – Time between midnight and noon. * **P.M**. – Tune between noon and midnight. * **Elapsed Time** – Total amount of time that passes from the starting time to the ending time. * **Time Interval** – An amount of time. * **Capacity** – The amount a container can hold measured in liquid units. * **Liter (L)** – A metric unit of capacity. * **Milliliter (mL)** – A metric unit of capacity; about 20 drops of water. * **Mass** – The amount of matter in an object. * **Kilogram (kg)** – A metric unit of mass; about the mass of a textbook. * **Gram (g)** – A metric unit of mass; about the mass of a paperclip. | | | |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com) * Commoncoresheets.com | | | |

| **Unit Title 5** | **Topic 15: Attributes of Two-Dimensional Shapes** | **Instructional Days Needed** | **7** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
| CC.2.2.3.A.1: Identify, compare, and classify shapes and their attributes.   * **M03.C-G.1.1.1:** Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category. Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides. Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures. * **M03.C-G.1.1.2:** Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories.   CC.2.4.3.A.5: Determine the area of a rectangle and apply the concept to multiplication and to addition.   * **M03.D-M.3.1.1:** Measure areas by counting unit squares (square cm, square m, square in., square ft, and non-standard square units). * **M03.D-M.3.1.2:** Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. | | | |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
| * Measures can be estimated by using known referents. * Some attributes of objects are measureable, e.g., length, mass, capacity, and can be quantified. * Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. | | | |
| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
| * How can patterns be used to describe relationships in mathematical situations? * How can recognizing repetition or regularity assist in solving problems more efficiently? * How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving? * How can geometric properties and theorems be used to describe, model, and analyze situations? * How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems? | | | |
| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
| * Draw examples of polygons. * Describe the attributes of various polygons. * Compare and contrast polygons. * Categorize polygons by shared attributes. * Measure area by counting unit squares * Multiply side lengths to find the area of polygons. * Measure perimeter by adding the given sides. * Find the unknown side length using perimeter. * Create rectangles with the same perimeter and different areas. * Create rectangles with the same area and different perimeters. | | | |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
| * Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category. Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides. Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures. * Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories. * Measure areas by counting unit squares (square cm, square m, square in., square ft, and non-standard square units). * Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. * Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problem. | | | |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts | | | |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
| * Pretest * Study Guide * Topic Fifteen Posttest | | | |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
| * **Side –** The straight edge of a polygon. * **Polygon** – A closed figure made up of straight line segments. * **Angle** – Formed when 2 sides meet. * **Quadrilateral** – A polygon with exactly 4 sides. * **Trapezoid** – A quadrilateral with only 1 pair of parallel sides. * **Parallelogram** – A quadrilateral with 2 pairs of parallel sides. * **Parallel Sides** – Go in the exact same direction; if the sides cross when you make them longer, they are not parallel. * **Vertex** – The point where 2 sides meet. * **Right Angle** – Forms a square corner. * **Rectangle** – A parallelogram with 4 right angles. * **Square** – A parallelogram with 4 right angles and all sides the same length. * **Rhombus** – A parallelogram with all sides the same length. * **Concave** – A polygon that has one or more angles pointing inward. * **Convex** - A polygon that has all angles pointing outward. | | | |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com)   Commoncoresheets.com | | | |

| **Unit Title 6** | **Topic 16: Solve Perimeter Problems** | **Instructional Days Needed** | **9** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
| CC.2.4.3.A.6: Solve problems involving perimeters of polygons and distinguish between linear and area measures.   * **M03.D-M.4.1.1:** Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problem.   CC.2.4.3.A.5: Determine the area of a rectangle and apply the concept to multiplication and to addition.   * **M03.D-M.3.1.1:** Measure areas by counting unit squares (square cm, square m, square in., square ft, and non-standard square units). * **M03.D-M.3.1.2:** Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. | | | |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
| * Measures can be estimated by using known referents. * Some attributes of objects are measureable, e.g., length, mass, capacity, and can be quantified. * Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. | | | |
| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
| * How can patterns be used to describe relationships in mathematical situations? * How can recognizing repetition or regularity assist in solving problems more efficiently? * How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving? * How can geometric properties and theorems be used to describe, model, and analyze situations? * How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems? | | | |
| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
| * Find the unknown side length using perimeter. * Create rectangles with the same perimeter and different areas. * Create rectangles with the same area and different perimeters. | | | |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
| * Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, exhibiting rectangles with the same perimeter and different areas, and exhibiting rectangles with the same area and different perimeters. Use the same units throughout the problem. | | | |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts | | | |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
| * Pretest * Study Guide * Topic Sixteen Posttest | | | |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
| * **Perimeter** – The distance around a figure. * **Equilateral Triangle** – A triangle with 3 equal sides. | | | |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com) * Commoncoresheets.com | | | |

| **Unit Title 7** |  | **Instructional Days Needed** | **???** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |



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| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. |
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| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. |
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| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. |
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| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. |
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| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. |
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| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). |
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| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. |
|  |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. |
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| **Unit Title 8** | **Topic 8: Use Strategies and Properties to Add and Subtract** | **Instructional Days Needed** | **???** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
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| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
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| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
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| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
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| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
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| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts | | | |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
| * Pretest * Study Guide * Topic Eight Posttest | | | |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
| * Identity (Zero) Property of Addition: the sum of any number and zero is that same number * Round: Use the multiple of ten or hundred that is nearest to a number. * Inverse Operations: two operations that undo each other. * Commutative (Order)Property of Addition: Numbers that can be added in any order and the sum will be the same. * Associative (Grouping) Property of Addition: Addends can be regrouped and the sum will be the same. * Compatible Numbers: Numbers that are easy to add, subtract, multiply, or divide mentally. * Place Value: The value given to the place a digit has in a number. | | | |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com) * Commoncoresheets.com | | | |

| **Unit Title 9** | **Topic 9: Fluently Add and Subtract within 1000** | **Instructional Days Needed** | **???** |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
| CC.2.1.3.B.1 Apply place value understanding and properties of operations to perform multi-digit arithmetic.   * **M03.A-T.1.1.2:** Add two- and three-digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers.   CC.2.2.3.A.4 Solve problems involving the four operations, and identify and explain patterns in arithmetic.   * **M03.B-O.3.1.2:** Represent two-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers. * **M03.B-O.3.1.3:** Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers. * **M03.B-O.3.1.5:** Identify arithmetic patterns (including patterns in the addition table or multiplication table) and/or explain them using properties of operations. Example 1: Observe that 4 times a number is always even. Example 2: Explain why 6 times a number can be decomposed into three equal addends. * **M03.B-O.3.1.6:** Create or match a story to a given combination of symbols (+, –, ×, ÷, <, >, and =) and numbers. * **M03.B-O.3.1.7:** Identify the missing symbol (+, –, ×, ÷, <, >, and =) that makes a number sentence true. | | | |
| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
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| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
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| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
| * Demonstrate the relationship and properties between addition and subtraction facts by using fact families. * Solve 2 and 3 digit addition and subtraction problems with and without regrouping. * Determine if an answer to a problem is reasonable. * Describe the patterns related to numbers on the addition chart. * Identify the key words which symbolize when to use addition or subtraction to solve a problem. * Solve one-step word problems using addition or subtraction. * Create number sentences (with one element represented as a letter) after reading a word problem or looking at a picture. * Match a given story to the appropriate number sentence. * Identify the missing symbols needed to solve a given equation | | | |
| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
| * Round two- and three-digit whole numbers to the nearest ten or hundred, respectively. * Add two- and three-digit whole numbers (limit sums from 100 through 1,000) and/or subtract two- and three-digit numbers from three-digit whole numbers. * Represent one-step word problems using equations with a symbol standing for the unknown quantity. Limit to problems with whole numbers and having whole-number answers. * Assess the reasonableness of answers. Limit problems posed with whole numbers and having whole-number answers. * Identify arithmetic patterns (including patterns in the addition table) and/or explain them using properties of operations. Observe that 4 times a number is always even. * Create or match a story to a given combination of symbols (+, –, <, >, and =) and numbers. * Identify the missing symbol (+, –, <, >, and =) that makes a number sentence true. | | | |
| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
| * Whole group instruction * Small group instruction * Homework * Learning games * Math notebooks/dictionary * Academic prompts | | | |
| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
| * Pretest * Study Guide * Topic Eight Posttest | | | |
| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
| * Conjecture: a statement that is believed to be true, but has not been proved. * Regroup: you are naming whole numbers in a different way using place value. | | | |
| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
| * Envisions 2.0 * Investigations * - Websites ( * [http://studyjams.scholastic.com/studyjams/jams/math/index.htm](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher) * [superteacher](http://studyjams.scholastic.com/studyjams/jams/math/index.htmsuperteacher)worksheets.com * <http://www.mathfactcafe.com/> * Youtube * sharemylesson.com * <http://www.ixl.com/standards/pennsylvania/math/grade-3> * [www.mathworksheets4kids.com](http://www.mathworksheets4kids.com)   Commoncoresheets.com | | | |

| **Unit Title 10** |  | **Instructional Days Needed** |  |
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| **Competencies/Academic Standards**   * *What relevant goals (e.g., content standards, course or program objectives, learning outcomes) will this design address?*   + Select specific standards or assessment anchors that address the core of instruction.   + Use Common Core, PA Academic Standards, Keystone Assessment Anchors, etc., as appropriate. | | | |
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| **Big Ideas:**  Students will understand that:   * *What are the big ideas?* * *What specific understandings about them are desired?* * *What misunderstandings are predictable?*   + Big ideas help students make sense of confusing experiences and seemingly isolated facts.   + Write big ideas in statement form, each with a new bullet point. | | | |
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| **Essential Questions:**   * *What provocative questions will foster inquiry, understanding, and transfer of learning?*   + Essential questions are always written in question format.   + Essential questions should be overarching in nature and written in language that is readily understandable.   + Please list only 2-3 essential questions in a unit of instruction.   + Use SAS to help identify the standards, anchors and eligible content that are aligned to the unit’s essential questions.   + List each question in bulleted form. | | | |
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| **Essential Skills/Objectives:**  Students will be skilled at:   * *What should students eventually be able to do as a result of such knowledge?*    + Essential skills/objectives should be written in statement form.   + Essential skills/objectives should contain verbs from Webb’s Depth of Knowledge and lead to higher order thinking.   + List each skill on a new line with a bullet point. | | | |
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| **Knowledge:**  Students will know:   * *What key knowledge will students acquire as a result of this unit?*   + Knowledge statements should be written in sentence form.   + Knowledge statements should contain nouns and key information from the unit.   + List each concept on a new line with a bullet point. | | | |
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| **Learning Activities**  Students will work toward mastery of the desired outcomes by participating in:   * *Through what activities (academic prompts, observations, Socratic seminars, research, homework, journals, etc.) will students be able work toward achievement of the desired results?*   + Select the types of activities that would best enable students to work toward achievement of the desired results throughout the unit.   + List each activity on a separate line as a bullet point. | | | |
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| **Performance Tasks/Major Assessments:**  Students will demonstrate understanding:   * *Through what authentic performance tasks will students demonstrate the desired understandings?* * *What type of assessment would best measure knowledge (i.e. Summative, Formative etc.)?* * *By what criteria will performances of understanding be judged?*   + Select the type of assessment that would best measure student knowledge and skills.   + Write a brief description of the assessment.   + Attach/upload a copy of the common major assessments for the unit of instruction.   + Attach/upload a copy of the tool that would be used to evaluate student performance (rubric, etc.). | | | |
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| **Essential Vocabulary & Definitions:**   * *Which essential vocabulary words should every student be able to use?*    + Limit Essential Vocabulary to a maximum of 10 words per unit.   + Use primarily Tier 3 Vocabulary in your list.   + List each Essential Vocabulary term on a separate line as a bullet point. | | | |
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| **Instructional Materials, Equipment, and Technologies**   * *What resources (textbooks, supplemental materials, shared resources, software, technology, etc.) best support learning in this unit?* * *What items or strategies will be used for differentiation?*   + List any instructional materials and resources that will be used to support learning in this unit.   + For print works, audio and video materials, software, etc., list the item in MLA format.   + List each resource on a separate line as a bullet point. | | | |
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