East Stroudsburg Area School District
Mathematics Grade 4

Description: The East Stroudsburg Area School District's Elementary Mathematics Planned Course reflects the Common Core Standards, Teachers of Mathematics *Principals and Standards for Mathematics Education,* the Pennsylvania State Standards for Mathematics Education and the Pennsylvania Department of Education Assessment Anchors and Eligible Content. It provides a research-based, sequential framework of content designed to maximize successful mastery of mathematics, use and application of the Standards for Mathematical Practices, as well as the Habits of Mind.

Standards for Mathematical Practices	Habits of Mind
1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	1. Persisting 2. Managing Impulsivity 3. Listening to Others with Empathy and Understanding 4. Thinking Flexibly 5. Metacognition 6. Striving for Accuracy and Precision 7. Questioning and Posing Problems 8. Applying Past Knowledge to New Situations 9. Thinking and Communicating with Clarity and Precision 10. Gathering Data through all Senses 11. Creating, Imagining, and Innovating 12. Responding with Wonderment and Awe 13. Taking Responsible Risks 14. Finding Humor

The Mathematics Curriculum is designed to address the needs of a diverse population of learners. The content builds upon student learning styles and provides for differentiated instruction. Each grade level includes opportunities for enrichment and remediation of concepts, as well as activities for English Language Learners.

Resources are provided to enhance mastery of mathematics vocabulary, basic skills, and problem solving strategies. Technology, communication arts, social studies, science, and children's literature are infused throughout the curriculum. As a result, learners will be offered opportunities to reason, communicate and connect mathematically in the real world.

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In Grade 4, instructional time should focus on three critical areas:

(1) Developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends

(2) Developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers

(3) Understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

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Grade 4 Overview

Operations and Algebraic Thinking

- Use the four operations with whole numbers to solve problems.
- Gain familiarity with factors and multiples.
- Generate and analyze patterns.

Number and Operations in Base Ten

- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations—Fractions

- Extend understanding of fraction equivalence and ordering.
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- Understand decimal notation for fractions, and compare decimal fractions.

Measurement and Data

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- Represent and interpret data.
- Geometric measurement: understand concepts of angle and measure angles.

Geometry

- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

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Scope & Sequence

- **<u>Unit 1: Place Value</u>—starting beginning of September—7 days—Marking Period 1**
  Domain: Number and Operations in Base Ten
  Cluster: Generalize place value understanding for multi-digit whole numbers.

- **<u>Unit 2: Adding and Subtracting Whole Numbers</u>—starting mid-September—7 days—Marking Period 1**
  Domain: Number and Operations in Base Ten
  Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic.

- **<u>Unit 3: Multiplication: Concept, Facts, and Problem Solving</u>—end Sept through beg Oct—10 days—Marking Period 1**
  Domain: Operations and Algebraic Thinking
  Clusters: Gain familiarity with factors and multiples.
  Use the four operations with whole numbers to solve problems.

- **<u>Unit 4: Multiplying by One-Digit Numbers</u>—mid-October—11 days—Marking Period 1**
  Domain: Number and Operations in Base Ten
  Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic.
  Domain: Operations and Algebraic Thinking
  Cluster: Use the four operations with whole numbers to solve problems.

- **<u>Unit 5: Multiplying by Two-Digit Numbers</u>—end Oct through beg Nov—8 days—Marking Period 1**
  Domain: Number and Operations in Base Ten
  Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic.
  Domain: Operations and Algebraic Thinking
  Cluster: Use the four operations with whole numbers to solve problems.

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- **<u>Unit 6: Division Meaning and Facts and Dividing by One-Digit Divisors</u>—early Nov through beg Dec—16 days—MP 2***
  Domain: Number and Operations in Base Ten
  Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic.
  Domain: Operations and Algebraic Thinking
  Cluster: Use the four operations with whole numbers to solve problems.

- **<u>Unit 7: Operations and Algebraic Thinking</u>—finish before winter break**--12 days—Marking Period 3**
  Domain: Operations and Algebraic Thinking
  Clusters: Generate and analyze patterns
  Use the four operations with whole numbers to solve problems.

- **<u>Unit 8: Fraction Equivalence and Ordering</u>—begin upon return from winter break—8 days—Marking Period 3**
  Domain: Number and Operations—Fractions
  Cluster: Extend understanding of fraction equivalence and ordering.

- **<u>Unit 9: Working with Fractions</u>—mid through end January—10 days--Marking Period 3**
  Domain: Number and Operations—Fractions
  Cluster: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

- **<u>Unit 10: Representing and Interpreting Data</u>—end January—3 days--Marking Period 3**
  Domain: Measurement and Data
  Cluster: Represent and interpret data.

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- **<u>Unit 11: Fractions as Decimals</u>—early through mid February—8 days--Marking Period 3**
  Domain: Number and Operations—Fractions
  Cluster: Understand decimal notation for fractions, and compare decimal fractions.

- **<u>Unit 12: Geometry</u>—mid-Feb through mid-March—16 days--Marking Period 3**
  Domain: Geometry
  Cluster: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
  Domain: Measurement and Data
  Cluster: Geometric measurement: understand concepts of angle and measure angles.

- **<u>Unit 13: Measurement</u>—mid-March through beg. April—14 days--Marking Period 3**
  Domain: Measurement and Data
  Cluster: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

  *Unit 6: Meanings of Division (Topic 4 Lessons 1 through 4 and Topic 8 Lessons 1 through 4) *before Thanksgiving* and

  Unit 6: Long Division portion to be finished in 7 days *after Thanksgiving*

  **Unit 7—The problem solving lessons from this unit could be done in isolation at another time, if necessary.

- **<u>Fourth Marking Period Curriculum</u>—after PSSA-end of the school year**
  Under Construction--Ideas include
  - Projects that involve the review and application of skills in real-world problems.
  - A look ahead at fifth grade concepts and skills for which the groundwork might be laid.

- Re-teaching or continued practice of fourth grade skills that need revisiting.
- More time spent with Investigation materials—especially those that support/extend/lead into grade 5.

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Unit Title/Skill Set: Unit 1. Place Value	**Course Time Prior to Keystone/PSSA:** 7 days
Overview: This unit addresses understanding place value to the millions place (1,000,000), the relationship between places on a place value chart, and comparing, ordering and rounding whole numbers.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl
Unit Essential Questions: What are some ways to represent numbers in the millions? How do digits within a multi-digit whole number relate to each other by their place value? How do you compare numbers through the millions place? How do you compare and order numbers? How do you use place value to round whole numbers?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* **CC.2.1.4.B.1 Apply place value concepts to show an understanding of multi digit whole numbers.** **National Common Core Standards:** http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-in-base-ten/ 4.NBT.1, 4.NBT.2, 4.NBT.3 *Click on the above link, or see Appendix #2 for specific descriptors.*	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/; Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *ISTE found at www.iste.org/standards/nets-for-students.aspx* 13.1, 13.2, 13.3, 13.4 *Career Education and Work found at www.pacareerstandards.com/*: 4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-T.1.1.1 M04.A-T.1.1.2 M04.A-T.1.1.3 M04.A-T.1.1.4	Apply place-value and numeration concepts to compare, find equivalencies, and round	• Read and write whole numbers in standard form through 1,000,000. • Read and write whole numbers in expanded form through 1,000,000. • Read and write whole numbers in word form through 1,000,000. • Demonstrate an understanding that in a multi-digit whole number (through 1,000,000), a digit in one place represents ten times what it represents in the place to its right. Example: Recognize that in the number 770, the 7 in the tens place is 10 times the 7 in the tens place. • Compare two multi-digit numbers through 1,000,000 based on meanings of the digits in each place, using >, =, and < symbols. • Round multi-digit whole numbers (through 1,000,000) to any place.	• Place value • Base ten • Word form • Expanded form • Digit • Estimate • Round • Compare • Greater than • Less than • Equal to	SF Topic 1 Lessons 1, 2, 3A, 3, 4 enVision online Topic Opener and Visual Learning Animations Inv: Landmarks in the Thousands CL: 40909 40912 40922 34138 38010 40925 e-Tools/ Tools 4 Math Place value blocks	Diagnostic enV, Topic Opener (“Review What You Know”) NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation

					<u>Summative</u> Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

East Stroudsburg Area School District
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Resources Key: SF = Scott Foresman-Addison Wesley

enVision Math, Grade 4 (Pearson Education, Inc.@ 2009)

Inv = Investigations in Number, Data and Space, Grade 4 (Dale Seymour Publications @1998)

CL = Compass Learning—from the Instructional Resources link on the district's website

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Unit Title/Skill Set: Unit 2: Adding and Subtracting Whole Numbers	**Course Time Prior to Keystone/PSSA:** 7 days
Overview: Use mental math to add and subtract whole numbers; estimate sums and differences; and use standard algorithms for adding and subtracting whole numbers up to and including 1,000,000; solve one-step and multistep word problems posed with whole numbers and having whole-number answers.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl:
Unit Essential Questions: How can you use mental math to add and subtract? How can you estimate sums and differences of whole numbers? How do you apply base ten concepts to add whole numbers? How do you use base ten concepts to subtract whole numbers? How do you use base ten concepts to subtract across zeros? How can a bar diagram help write and solve an addition or subtraction equation?	**Enrichment: :** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* **CC.2.1.4.B.2** Use place value understanding and properties of operations to perform multi-digit arithmetic CC.2.2.4.A.1 Represent and solve problems involving the four operations. National Common Core Standards: http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-in-base-ten/ *4.NBT.4 Click on the above link, or see Appendix #2 for specific descripto.*	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *ISTE found at www.iste.org/standards/nets-for-students.aspx*: .a, 1.b, 1.c., 2.c, 5.a, 5.b, 6.a, 6.b *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at wwww.pacareerstandards.com/: 13.1, 13.2, 13.3, 13.4* *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-T.2.1.1 M04.A-T.2.1.2 M04.A-T.2.1.3 M04.A-T.2.1.4	• Use place value understanding to add and subtract multi-digit whole numbers and solve addition and subtraction word problems.	• Use mental math to add and subtract whole numbers • Estimate the answer to addition and subtraction problems using whole numbers through six digits. • Fluently add multi-digit whole numbers (limit sums up to and including 1,000,000) using the standard algorithm. • Fluently subtract multi-digit whole numbers (limit subtrahends up to and including 1,000,000) using the standard algorithm. • Solve one-step word problems involving addition and subtraction. • Solve multistep word problems involving addition and subtraction.	• Addition • Addends • Sum • Subtraction • Difference • Mental math • Breaking apart • Counting on • Compensation • Commutative Property of Addition • Associative Property of Addition • Inverse operations	SF Topic 2 Lessons 1, 2, 3, 4, 5, 6, 7 enVision online Topic Opener and Visual Learning Animations CL 40989 40967 40969 e-Tools/ Tools 4 Math	<u>Diagnostic</u> enV, Topic Opener ("Review What You Know" NWEA MAP data enV Placement test <u>Formative</u> Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation <u>Summative</u> Unit Assessment

					enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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Resources Key: SF = Scott Foresman-Addison Wesley, enVision Math, Grade 4 (Pearson Education, Inc.@2

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Unit Title/Skill Set: Unit 3: Multiplication: Concept, Facts, and Problem Solving	**Course Time Prior to Keystone/PSSA:** 10 days of time
Overview: Unit 3 involves understanding the concept of multiplication as a comparison, multiplication facts, and problem solving with multiplication.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl: Click here to enter text.
Unit Essential Questions: How is repeated addition of equal groups related to multiplication? How do you find products through repeated addition, and use multiplication properties? How can you use a pattern to solve a problem? How can a bar diagram help solve a problem?	**Enrichment: :** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey-rom ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* CC.2.2.4.A.1 Represent and solve problems involving the four operations. CC.2.2.4.A.2 Develop and/or apply number theory concepts to find factors and multiples.	**Remediation**: Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.k.clogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/operations-and-algebraic-thinking/ *4.0A.1, 4.0A.2, 4.0A..4, 4.0A.5 Click on the above link, or see Appendix #2 for specific descriptors.* *ISTE found at www.iste.org/standards/nets-for-students.aspx*: : 5.a., 5.b, 6.a, 6.b Click on the above link or see Appendix #3 for technology standards. *Career Education and Work found at www.pacareerstandards.com/*: 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.B-0.1.1.1 M04.B-O.1.1.2 M04.B-O.1.1.3 M04.B-O.1.1.4 M04.B-O.2.1.1	Understand multiplication as a comparison. Use numbers and symbols to model the concept of multiplication in expressions and equations. Develop and apply number theory concepts to represent numbers in various ways. (Understand that a whole number is a multiple of its factors.) Use the concept of multiplication to solve word problems.	• Interpret a multiplication equation as a comparison. *(Example: Interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.)* • Represent verbal statements of multiplicative comparisons as multiplication equations. *(Example: Know that the statement 24 is 3 times as many as 8 can be represented by the equation 24 = 3 × 8 or 24 = 8 × 3.)* • Find all factor pairs for a whole number in the interval 1 through 100. • Recognize that a whole number is a multiple of each of its factors. • Determine whether a given whole number in the interval 1 through 100 is a multiple of a given one-digit number. • Determine whether a given whole number in the interval 1 through 100 is prime or composite. • Multiply to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. *Example: Know that 3 × 4 can be used to represent that Student A has 4 objects and Student B has 3 times as many objects, and not just 3 more objects.*	• Multiplication • Array • Product • Multiple factors • Common factor • Composite number • Commutative Property of Multiplication • Zero Property of Multiplication • Identity Property of Multiplication • Distributive Property	SF Topic 3 Lessons 1, 2, 3, 4, 5, 6, 7 SF Topic 8 Lessons 8, 9 enVision online Topic Opener and Visual Learning Animations Inv: Arrays and Shares: Investigations #1 & 2 Packages and Groups: Investigation #1 CL: OA026 OA018 3B025 OA027 3B037 34088 On-line facts practice: Multiflyer Sheppard etc. from district Grade 4 bookmark	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation Summative Unit Assessment enV, Topic Test

					enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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Unit Title/Skill Set: Unit 4: Multiplying by One-Digit Numbers	**Course Time Prior to Keystone/PSSA:** 11 days
Overview: Multiply a whole number of up to four digits by a one-digit whole number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; solve one-step and multistep word problems posed with whole numbers and having whole-number answers.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl: WIDA Grades 3-5 Can Do
Unit Essential Questions: How can you use visual representation to multiply by 10 and 100? What place value patters are seen when you multiply 1 digit by multiples of 10 and 100? How can you use mental math (compatible numbers, break apart, rounding) to multiply? How can you draw a picture and write an equation to solve a problem? How can the answer from one problem help you to answer	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:*http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-in-base-ten/ *4.NBT.3, 4.NBT.5, 4.OA.1, 4.OA.2, 4.OA.3 Click on the above link, or see Appendix #2 for specific descriptors.*	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* CC.2.1.4.B.2 Use place value understanding and properties of operations to perform multi-digit arithmetic. CC.2.2.4.A.1 Represent and solve problems involving the four operations *ISTE found at www.iste.org/standards/nets-for-students.aspx*: 1.b, 2.a *Click on the above link or see Appendix #3 for technology standards* *Career Education and Work found at* 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-t.2 M04.A-2.2.1 M04.A-.2.1.4 M04.B-0.1 M04B-0.1.1.1 M04.B0.1.1.2 M04.B-01.1.3 M04.B-01.1.4	• Use multiplication to solve problems.	• Use place value understanding and mental math to multiply by multiples of 10 and 100 • Use place value understanding and mental math to estimate products. • Use place value understanding to multiply a whole number of up to four digits by a one-digit whole number using grids/arrays or area models. • Use place value understanding to multiply a whole number of up to four digits by a one-digit whole number using the standard algorithm. • Solve multiple step problems involving multiplication.	• Partial Products • Compeation	SF Topic 5 Lessons 1, 2, 3, 4, 5, 6A, 6, 7, 8A, 8 SF Topic 7 Lesson 7 enVision online Topic Opener and Visual Learning Animations Inv: Packages and Groups Investigation #2	<u>Diagnostic</u> enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test <u>Formative</u> Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation <u>Summative</u> Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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Unit Title/Skill Set: : Unit 5: Multiplying by Two-Digit Numbers	**Course Time Prior to Keystone/PSSA:** 8 days
Overview: Multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models; solve one-step and multistep word problems posed with whole numbers and having whole-number answers.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl
Unit Essential Questions: How are mental math strategies used to find products? How can you use models (arrays) to multiply an expanded algorithm? How do you use models and/or a standard algorithm to multiply by 2-digit numbers?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-in-base-ten/ *NBT.5, 4.OA.3 Click on the above link, or see Appendix #2 for specific descriptors.*	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* CC.2.1.4.B.2Use place value understanding and properties of operations to perform multi-digit arithmetic. CC.2.2.4.A.1Represent and solve problems involving the four operations. *ISTE found at www.iste.org/standards/nets-for-students.aspx: www.iste.org/standards/nets-for-students.aspx*: 1.b., 2. *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at:*13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-T.2.12 M04.A-T.2.1.4 M04.B-0.1.1.2 M04.B-0.1.1.3 M04.B-0.1.1.4	• Use multiplication to solve problems.	• Use place value understanding, mental math, grids/arrays or area models to multiply two two-digit numbers that are multiples of 10 (20X40) • Use place value understanding and mental math to estimate products. *(Example: Given 23X38, round and multiply 20X40=80)* • Use place value understanding to multiply 2 two-digit numbers using grids/arrays or area models. (See Topic 7 Lesson 4A) • Use place value understanding to multiply 2 two-digit numbers using the standard algorithm. Estimate the answer to multiplication problems using whole numbers using no more than 2 digits × 1 digit, excluding powers of 10.	• Compatible numbers	SF Topic 7 Lessons 1, 2, 4A, 4, 5, 6, 7 enVision online Topic Opener and Visual Learning Animations	<u>Diagnostic</u> enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test <u>Formative</u> Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation <u>Summative</u> Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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Resources Key: SF = Scott Foresman-Addison Wesley, enVision Math, Grade 4 (Pearson Education, Inc.@ 2009)
Inv = Investigations in Number, Data and Space, Grade 4 (Dale Seymour Publications @1998)
CL = Compass Learning—from the Instructional Resources link on the district's website

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Unit Title/Skill Set: Unit 6: Division Meaning and Facts and Dividing by One-Digit Divisors	**Course Time Prior to Keystone/PSSA:** 17 days
Overview: Divide up to four-digit dividends by one-digit divisors with answers written as whole number quotients and remainders; solve one-step and multistep word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/elloverlay.aspx. Generic found at http://www.esasd.net/esl: WIDA Grades 3-5 Can Do
Unit Essential Questions: : How do you use place value and patterns to divide mentally? When and how do you estimate quotients to solve problems? How do you divide using visual models and repeated subtraction? How do you use a standard algorithm to solve for quotients with or without remainders? How can factoring numbers help determine if a number is prime or composite? What	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-in-base-ten/ *NBT.6, 4.OA.2, OA.3, OA.4 Click on the above link, or see Appendix #2 for specific descriptors.*	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* CC.2.1.4.B.2 Use place value understanding and properties of operations to perform multi-digit arithmetic. CC.2.2.4.A.1Represent and solve problems involving the four operations. CC.2.2.4.A.2 Develop and/or apply number theory concepts to find factors and multiples. *ISTE found at www.iste.org/standards/nets-for-students.aspx*: 1.b., 1.c, 2.a *Click on the above link or see Appendix #3 for technology standards* *Career Education and Work found at www.pacareerstandards.com/*: 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

East Stroudsburg Area School District
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Resources Key: SF = Scott Foresman-Addison Wesley, enVision Math, Grade 4 (Pearson Education, Inc.@ 2009)

Assessment Anchors & Eligible Content	**Unit Concepts** What students need to know	**Unit Competencies** What students need to be able to do (skills)	**Content Vocabulary**	**Materials, Resources, & Instructional Activities**	**Assessments**
M04.A-T.2.1.3 M04-B-0.1.1.2 M04-B-0.1.1.3 M04-B-0.1.1.4 M04-B-0.2.1 M04-B-0.2.1.1	• Understand the relationship between multiplication and division. • Use division to solve problems. .	• Interpret whole-number quotients of whole numbers (*Example: Interpret 48 ÷ 8 as the number of objects in each share when 48 objects are partitioned equally into 8 shares, or as a number of shares when 48 objects are partitioned into equal shares of 8 objects each).* • Describe whole-number quotients of whole numbers *(Example: Describe a context in which a number of shares or a number of groups can be expressed as 48 ÷ 8.)* • Relate division and multiplication (fact families) and interpret and/or model division as a multiplication equation with an unknown factor. (*Example: Find 32 ÷ 8 by solving 8 × ? = 32.)* • Use place value understanding and mental math to estimate quotients. • Divide up to four-digit dividends by one-digit divisors with answers written as whole number quotients and/or remainders using grids/arrays or area models. • Divide up to four-digit dividends by one-digit divisors with answers written as whole number quotients and/or remainders using the standard algorithm. • Solve multi-step word problems posed with whole numbers using division. Answers will be either whole numbers or have remainders, and shall include problems with remainders that must be interpreted yielding a final answer that is a whole number.	• Division • Inverse operations • Fact families • Dividend • Divisor • Quotient • Remainder	SF Topic 4 Lessons 1, 2, 3, 4, 5 SF Topic 8 Lessons 1, 2, 3A, 3B, 3C, 3, 4, 5, 6, 7, 8A, 10 enVision online Topic Opener and Visual Learning Animations Inv: Arrays and Shares Investigation #3 Packages and Groups Investigation #3 CL: NBT017 34098 3B032 34107	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & racticeMaster Teacher observation Summative Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

Inv = Investigations in Number, Data and Space, Grade 4 (Dale Seymour Publications @1998)
CL = Compass Learning—from the Instructional Resources link on the district's website

East Stroudsburg Area School District
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Resources Key: SF = Scott Foresman-Addison Wesley, enVision Math, Grade 4 (Pearson Education, Inc.@ 2009)
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Unit Title/Skill Set: Unit 7: Operations and Algebraic Thinking	**Course Time Prior to Keystone/PSSA:** 12 days
Overview: Use the four operations with whole numbers to solve problems and equations.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl: Click here to enter text.
Unit Essential Questions: : How can you use variables to write an expression? How can you find a rule and write an expression for addition, subtraction, multiplication and division? How can you use objects and reasoning to solve a problem? How can you solve equations and make it true? How can you apply problem solving strategies?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* **CC.2.2.4.A.1**Represent and solve problems involving the four operations. **CC.2.2.4.A.4** Generate and analyze patterns using one rule.	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-in-base-ten/ *4.OA.3, 4.OA.5 Click on the above link, or see Appendix #2 for specific descriptors.* *ISTE found at www.iste.org/standards/nets-for-students.aspx*: 1. A, 1.b, 3.b, 4.a, 4.c, *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at www.pacareerstandards.com/*: *www.pacareerstandards.com/*: 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

East Stroudsburg Area School District
Mathematics – Grade 4

Resources Key: SF = Scott Foresman-Addison Wesley, enVision Math, Grade 4 (Pearson Education, Inc.@ 2009)

Assessment Anchors & Eligible Content	**Unit Concepts** What students need to know	**Unit Competencies** What students need to be able to do (skills)	**Content Vocabulary**	**Materials, Resources, & Instructional Activities**	**Assessments**
M04.B-O.1 M04.B-O.1.1 M04.B-O.1.1.3 M04.B-O.1.1.4 M04.B-O.3.1 M04.B-O.3.1.1 M04.B-O.3.1.2 M04.B-O.3.1.3	Recognize, describe, extend, create, and replicate a variety of patterns. Use numbers and symbols to model the concepts of expressions and equations.	• Generate a number or shape pattern that follows a given rule. (Example: Given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms alternate between odd and even numbers.) • Identify apparent features of the pattern that were not explicit in the rule itself. (Example: Given the rule "increase the number of sides by 1" and starting with a triangle, observe that the tops of the shapes alternate between a side and a vertex.) • Determine the missing elements in a function table (limit to +, –, or × and to whole numbers or money). • Determine the rule for a function given a table (limit to +, –, or × and to whole numbers). • Identify the missing symbol (+, –, ×, ÷, =, <, >) that makes a number sentence true (single-digit divisor only). • Represent multi-step word problems (posed with whole numbers using the four operations) using equations with a symbol or letter standing for the unknown quantity.	• Pattern • Repeating pattern • Term (of a sequence) • Table • Rule • Function • Equation • Unknown • Odd • Even • Increase • Decrease • Variable • Algebraic Expression • Solution	SF Topic 6 Lessons 1, 2, 3, 4 SF Topic 18 Lessons 1, 2, 3, 5 SF Topic 14- 9 SF Topic 15-5 SF Topic 1-7 SF Topic 13-7 enVision online Topic Opener and Visual Learning Animations Inv: Mathematical Thinking at Grade 4 Investigation #3 CL: 40894 40897 40919 40931 40942	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation Summative Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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East Stroudsburg Area School District
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Unit Title/Skill Set: Unit 8: Fraction Equivalence and Ordering	**Course Time Prior to Keystone/PSSA:** 8 days
Overview: Extend understanding of fraction equivalence and comparing and ordering fractions.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/elloverlay.aspx. Generic found at http://www.esasd.net/esl:
Unit Essential Questions: : How can you find two fractions that name the same part of a whole with/without using a visual model? How do you write fractions in simplest form? How can you write improper fractions and mixed number from a visual representation? How can fractions be ordered and compared with/without visual representation? How do you write a good math explanation?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads* CC.2.1.4.C.1 Extend the understanding of fractions to show equivalence and ordering	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-fractions/ *4.NF.1, 4.NF.2, 4.NF.3, 4.MD.4 Click on the above link, or see Appendix #2 for specific descriptors.* *ISTE found at www.iste.org/standards/nets-for-students.aspx*: 1.a, 1.b, 3.b, 4.a, 4.c . *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at www.pacareerstandards.com/*: 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

East Stroudsburg Area School District
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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-F.1 M04.A-F.1.1 M04.A-F.1.1.1 M04.A-F.1.1.2	• Find equivalencies and compare fractions.	• Recognize equivalent fractions. • Generate equivalent fractions. • Compare two fractions with different numerators and different denominators (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100) using the symbols >, =, or <, and justify the conclusions. • Use common denominators and equivalent fractions to order fractions with unlike denominators. (Ordering is listed under PA eligible content, however, I could not find specifics on ordering fractions, so I took this objective from SF 10-8)	• Fraction • Denominator • Numerator • Benchmark Fraction • Equivalent Fractions	SF Topic 10 Lessons 4, 5A, 5, 6, 7, 8, 9 enVision online Topic Opener and Visual Learning Animations Inv: Different Shapes, Equal Pieces Compass Learning: 40977	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation Summative Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

East Stroudsburg Area School District
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Unit Title/Skill Set: Unit 9: Working with Fractions	**Course Time Prior to Keystone/PSSA:** 10 days
Overview: Unit 9 includes composing and decomposing fractions; adding and subtracting fractions and mixed numbers with like denominators; multiplying a fraction by a whole number; and solving word problems involving fractions.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/ellloverlay.aspx. Generic found at http://www.esasd.net/esl: Click here to enter text.
Unit Essential Questions: How can we use addition to represent a fraction in a variety of ways? How can you add and subtract fractions with like denominators? How can we draw a picture to solve a problem? How can you use different ways to add and subtract mixed numbers with/without using models? How can you describe a fraction using a unit fraction? How can you multiply fractions by a whole number with/without using models?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* CC.2.1.4.C.2 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-fractions/ *ISTE found at www.iste.org/standards/nets-for-students.aspx*: : 1. a., 1.b, 3.b, 4.a, 4.c *Click on the above link or see Appendix #3 for technology standards* *Career Education and Work found at www.pacareerstandards.com/*: 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-F.2.1 M04.A-F.2.1. M04.A-F.2.1.3 M04.A-F.2.1.4 M04.A-F.2.1. M04.A-F.2.1.6 M04.A-F.2.1.7	• Compose (build) and decompose (take apart) fractions from unit fractions by applying and extending previous understandings of operations (addition, subtraction and multiplication) on whole numbers.	• Add and subtract fractions with a common denominator (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100; answers do not need to be reduced; no improper fractions as the final answer). • Decompose a fraction or a mixed number into a sum of fractions with the same denominator (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100), recording the decomposition by an equation. (*Example: 3/8 = 1/8 + 1/8 + 1/8 OR 3/8 = 1/8 + + 2/8)* • Justify decompositions (for example, by using a visual fraction model). *(Example: 2 1/12 = 1 + 1 + 1/12)* • Add and subtract mixed numbers with a common denominator (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100; no regrouping with subtraction; fractions do not need to be reduced; no improper fractions as the final answers). • Solve word problems involving addition and subtraction of fractions referring to the same whole or set and having like denominators (denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100).	• Unit fraction • Compose • Decompose • Common Denominator • Whole number • Mixed number	SF Topic 11 Lessons 1A, 1, 4, 5A,5B, 5C, 5D, 5E, 5F enVision online Topic Opener and Visual Learning Animations Compass Learning: 41003	<u>Diagnostic</u> enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test <u>Formative</u> Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation <u>Summative</u> Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

East Stroudsburg Area School District
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CL = Compass Learning—from the Instructional Resources link on the district's website

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Unit Title/Skill Set:: Unit 10: Representing and Interpreting Data	**Course Time Prior to Keystone/PSSA:** 3 days
Overview: Unit 10 focuses on line plots and also includes translating information from one type of display to another (table, chart, bar graph, or pictograph).	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/elloverlay.aspx. Generic found at http://www.esasd.net/esl:
Unit Essential Questions: How can you organize data in a line plot? How can you use line plots to solve problems? How can you use a graph to solve a problem?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* **CC.2.4.4.A.4** Represent and interpret data involving fractions using information provided in a line plot. **CC.2.4.4.A.2** Translate information from one type of data display to another.	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/measurement-and-data/ *ISTE found at www.iste.org/standards/nets-for-students.aspx*:1.c, 3.b, 4.a, 4.c *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at www.pacareerstandards.com/*: 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

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Mathematics – Grade 4

Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.D-M.2.1 M04.D-M.2.1.1 M04.D-M.2.1.2 M04.D-M.2.1.3	• Represent and interpret data and solve problems using line plots. • Translate information between various displays.	• Make a line plot to display a data set of measurements in fractions of a unit (e.g., intervals of 1/2, 1/4, or 1/8). • Solve problems involving addition and subtraction of fractions by using information presented in line plots (line plots must be labeled with common denominators, such as 1/4, 2,4, 3/4). • Translate information from one type of display to another (table, chart, bar or graph, or pictograph).	• Line plot • Bar graph • Pictograph • Table • Chart • Data	SF Topic 17 Lesson 4A, 10 Teachers may also adapt materials from Topic 17 Lessons 1& 2 to translate information from one type of display to another enVision online Visual Learning Animations Inv: Three Out of Four Like Spaghetti Investigation #2 Looking at Data in categories Compass Learning: 34104 34086 40874	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher observation Summative Unit Assessment enV, Topic Test enV, Free Response Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

East Stroudsburg Area School District
Mathematics – Grade 4

Resources Key: SF = Scott Foresman-Addison Wesley, enVision Math, Grade 4 (Pearson Education, Inc.@ 2009)

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East Stroudsburg Area School District
Mathematics – Grade 4

Unit Title/Skill Set:: Unit 11: Fractions as Decimals	**Course Time Prior to Keystone/PSSA:** 8 days
Overview: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100; use decimal notation for fractions with denominators 10 or 100; compare two decimals to hundredths.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/elloverlay.aspx. Generic found at http://www.esasd.net/esl:
Unit Essential Questions: What are some ways to represent decimals? How do you compare decimals using place value and models? How can you locate mixed numbers and decimals on a number line? How can you draw a picture to solve a problem?	**Enrichment** :Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odysssey-from ESASD Instructional Resources link. Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads* CC.2.1.4.C.3 Connect decimal notation to fractions, and compare decimal fractions (base 10 denominator, e.g., 19/100).	**Remediation** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Reteaching Master." Compass Learning Odyssey-from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/number-and-operations-fractions/ *4.NF.5, 4.NF.6, 4.NF.7, MD.2, 4.OA.3 Click on the above link, or see Appendix #2 for specific descriptors.* *ISTE found at www.iste.org/standards/nets-for-students.aspx*1.b, 6.a, 6.b *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at* 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

East Stroudsburg Area School District
Mathematics – Grade 4

Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.A-F.3 M04.A-F.3.1 M04.A-F.3.1.1 M04.A-F.3.1.2 M04.A-F.3.1.3	• Understand decimals as fractions with denominators of multiples of ten. • Use operations to solve problems involving decimals, including converting between fractions and decimals (may include word problems).	• Add two fractions with respective denominators 10 and 100. (*Example: Express 3/10 as 30/100, and add 3/10 + 4/100 = 30/100 + 4/100 = 34/100.)* • Use decimal notation for fractions with denominators 10 or 100. (*Example: Rewrite 0.62 as 62/100 and vice versa.)* • Compare two decimals to hundredths using the symbols >, =, or <, and justify the conclusions	• Decimal point • Tenths • Hundredths	SF Topic 12 Lessons 1, 2, 3, 4, 5A, 6 SF Topic 1 Lesson 7A enVision online Topic Opener and Visual Learning Animations Inv Money, Miles and Large Numbers Investigations #1 & 2 CL: 34174 34187 41022 41025 4B038 4B039	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Reteaching & Practice Masters Teacher Observation Summative Unit Assessment enV, Topic Test enV, Free Response Test Masters enV, Performance Assessment enV, Cumulative tests enV, Online Test Generator

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East Stroudsburg Area School District
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Unit Title/Skill Set: Unit 12: Geometry	**Course Time Prior to Keystone/PSSA:** 16 days
Overview: Unit 11 includes the study of points, lines, line segments, rays, types of angles, measurement of angles, perpendicular and parallel lines, right triangles, lines of symmetry, two-dimensional figures, and finding area and perimeter.	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/elloverlay.aspx. Generic found at http://www.esasd.net/esl:
Unit Essential Questions: How do we discuss, analyze, and classify geometric figures? How do we use area and perimeter to solve real world problems? How do we measure angles?	**Enrichment:** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads* CC.2.3.4.A.1 Draw lines and angles and identify these in two-dimensional figures. CC.2.3.4.A.2 Classify two dimensional figures by properties of their lines and angles CC.2.3.4.A.3 Recognize symmetric shapes and draw lines of symmetry. CC.2.4.4.A.6 Measure angles and use properties of adjacent angles to solve problems.	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Re-teaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey—from ESASD Instructional Resources link Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* http://www.corestandards.org/the-standards/mathematics/grade-4/geometry/ 4.G.1, 4.G.2, 4.G.3, 4.MD.5, 4.MD.6, 4.MD.7 *Click on the above link, or see Appendix #2 for specific descriptors.* *ISTE found at www.iste.org/standards/nets-for-students.aspx*: 1.a, 1.b, 3.b, 4.a, 4.c *Click on the above link or see Appendix #3 for technology standards.* *Career Education and Work found at www.pacareerstandards.com/:* 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

East Stroudsburg Area School District
Mathematics – Grade 4

Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.C-G.1 M04.C-G.1.1 M04.C-G.1.1.1 M04.C-G.1.1.2 M04.C-G.1.1.3 M04.D-M.1 M04.D-M.1.1.3	• List properties, classify, draw and identify geometric figures in two dimensions. • Solve problems involving area and perimeter	• Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. • Identify the above in two-dimensional figures. • Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. • Recognize right triangles as a category, and identify right triangles. • Apply the area and perimeter formulas for rectangles in real-world and mathematical problems (may include finding a missing side length). Whole numbers only. The formulas will be provided. • Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into	• Point • End point • Line • Line segment • Parallel lines • Perpendicular lines • Intersecting lines • Ray • Angle • Right angle • Acute angle • Obtuse angle • Straight angle • Two-dimensional figure • Plane figure • Polygon • Side • Vertex • Triangle • Right triangle • Acute triangle	SF Topic 9 Lessons 1, 2, 4, 5, 6, 7 Topic 14 Lessons 1, 2, 6, 7A (area & perimeter) Topic 19 Lesson 5 (symmetry) enVision online Topic Opener and Visual Learning Animations Inv <u>Mathematical Thinking at Grade 4:</u> Investigation #4: Making Geometric Patterns (symmetry) Compass Learning: 34049 34051 40823	<u>Diagnostic</u> enV, Topic Opener (“Review What You Know”) NWEA MAP data enV Placement test <u>Formative</u> Teacher-made quizzes/tests enV, Quick Check enV, Re-teaching & Practice Masters Teacher observation <u>Summative</u> Unit Assessment enV, Topic Test enV, Free Response

		mirroring parts. • Identify line-symmetric figures and draw lines of symmetry (up to two lines of symmetry). • Measure angles in whole-number degrees using a protractor. • With the aid of a protractor, sketch angles of specified measure. • Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems. (Angles must be adjacent and non-overlapping.)	• Obtuse triangle • Quadrilateral • Rhombus • Trapezoid • Parallelogram • Rectangle • Square • Pentagon • Hexagon • Octagon • Area • Perimeter • Symmetric • Line of Symmetry • Degree • Unit angle • Angle measure • Protractor	40825 34076 40830 40833 20086 34177 34180 40971 40974 20084 20085 SF Topic 9 Lessons 3A, 3B, 3, 4A (measuring angles) Compass Learning: 56265 56002	Test masters enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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East Stroudsburg Area School District
Mathematics – Grade 4

Unit Title/Skill Set:: Unit 13: Measurement	**Course Time Prior to Keystone/PSSA:** 14 days
Overview: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. (…includes customary and metric units for length, capacity, and weight; time, elapsed time, money; includes problems involving simple fractions or decimals; includes representing measurement quantities using diagrams such as number line diagrams that feature a measurement scale.)	**ELL Differentiation:** Math & LA specific found at www.pdesas.org/module/sas/curriculumframework/elloverlay.aspx. Generic found at http://www.esasd.net/esl:
Unit Essential Questions: : How do you estimate and measure customary and metric length? How do you measure capacity with customary and metric units? How do you measure weight/mass? How can you change customary/metric units? How do you compare units of time and find elapsed time? How can you solve problems by working backward? How can the relationships between quantities in a measurement problem be represented using a diagram?	**Enrichment: :** Pearson SuccessNET on-line Teacher's Edition—Click on appropriate "Topic" to open window to select "Enrichment" link. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Advanced" Level and "Leveled Homework Enrichment Master." Compass Learning Odyssey—from ESASD Instructional Resources link. Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
PA & National Content Standard(s): *State found at www.pdesas.org/standard/standardsdownloads:* http://www.corestandards.org/the-standards/mathematics/grade-4/measurement-and-data/ 4.MD.1, 4.MD.2, 4.OA.3 *Click on the above link, or see Appendix #2 for specific descriptors.*	**Remediation:** Pearson SuccessNET on-line Teachers Edition—Click on "Printable Resources" and scroll down to "Math Diagnosis and Intervention" or see hard copy kit. For each SF lesson, see Teacher's Manual "Differentiated Instruction" Chart "Intervention" Level and "Leveled Homework Re-teaching Master." See "Differentiated Instruction" Chart "Intervention" in Teacher's Manual for each lesson. Compass Learning Odyssey-from ESASD Instructional Resources link. Cool Math http://www.coolmath.com/ Khan Academy http://www.khanacademy.org/ Kid's College http://www.kclogin.com/main/go.php
Connecting to Common Core and Other Standards: *Common Core found at www.corestandards.org/:* CC.2.4.4.A.1 Solve problems involving measurement and conversions from a larger unit to a smaller unit. *ISTE found at www.iste.org/standards/nets-for-students.aspx*: 1a, 1.c, 3.b, 4.a, 4.c *Click on the above link or see Appendix #3 for technology standards* *Career Education and Work found at* 13.1, 13.2, 13.3, 13.4 *Click on the above link and the "Getting Started" links for grades 3&5, or see Appendix #4.*	**IEP/GIEP:** Refer to individual student's educational plan under specially designed instruction.

East Stroudsburg Area School District
Mathematics – Grade 4

Assessment Anchors & Eligible Content	Unit Concepts What students need to know	Unit Competencies What students need to be able to do (skills)	Content Vocabulary	Materials, Resources, & Instructional Activities	Assessments
M04.D-M.1 M04.D-M.1.1.1 M04.D-M.1.1.1 M04.D-M.1.1.2 M04.D-M.1.1.4	• Solve problem involving length, weight (mass), liquid volume and time.	• Know relative sizes of measurement units within one system of units including standard units (in., ft, yd, mi, oz., lb., c, pt, qt, gal), metric units (cm, m, km; g, kg, mL, L), and time (sec, min, hr, day, wk, mo, yr). *(Example: Know that 1 kg is 1,000 times as heavy as 1 g.)* • Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. A table of equivalencies will be provided. *(Example: Express the length of a 4-foot snake as 48 in.)* • Identify time (analog or digital) as the amount of minutes before or after the hour. (*Example 1: 2:50 is the same as 10 minutes before 3:00. Example 2: Quarter past six is the same as 6:15.)* • Use the four operations to solve word problems involving distances, intervals of time (such as elapsed time), liquid volumes, masses of objects; money, including problems involving simple fractions or decimals; and problems that require expressing measurements given in a larger unit in terms of a smaller unit.	• Measure • Measurement • Standard Units • Metric Units • Distance • Length • Inch • Foot • Yard • Mile • Millimeter • Centimeter • Decimeter • Meter • Kilometer • Capacity • Fluid ounce • Cup • Pint • Quart • Gallon • Milliliter • Liter	SF Topic 16 Lessons 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12A, 12 enVision online Topic Opener and Visual Learning Animations Inv Money, Miles, and Large Numbers: Investigation #3 CL: 20099 20151 20114 20101 20103 40945 41011 40848 40862 40863	Diagnostic enV, Topic Opener ("Review What You Know") NWEA MAP data enV Placement test Formative Teacher-made quizzes/tests enV, Quick Check enV, Re-teaching & Practice Masters Teacher observation Summative Unit Assessment enV, Topic Test enV, Free Response Test masters

			• Mass • Weight • Ounce • Pound • Ton • Gram • Kilogram • Analog clock • Digital clock • Quarter past • Half past • Quarter to • Second • Minute • Hour • Day • Week • Month • Year • Elapsed time • Conversion		enV, Performance Assessment enV, Cumulative Tests enV, Online Test Generator

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Grade 4 – APPENDIX #1

- *Where do I find what the **eligible content** will be on the PSSA starting in 2014?* *(This document also lists as references the PA State Common Core Standards)*
- *Where do I find where **the emphasis has shifted** from the old to new standards and eligible content?*

Go to
http://www.pdesas.org/Standard/CommonCore

Scroll down to
Mathematics Assessment Anchors and Eligible Content (Draft Versions)
Click on Grade 4

From this same site, scroll down further to
Mathematics Emphasis Guides and Cluster Matrices
Click on Grade 4

- *Where do I find the **National Common Core Standards**?*

See the "Forward" document that precedes the curriculum guide pages for the "three critical areas" and an overview of domains and clusters. For additional information,
Go to
http://www.corestandards.org
Scroll down and click on "Mathematics Standards."

- *Where do I find lessons such as SF Topic 1 **Lesson 1-3a**? (These lessons, which end with a letter, are listed as resources from the enVisions series and are additional lessons that the publisher has added to align our textbook with the new National Common Core Standards.)*

From "Instructional Resources" on the district's website www.esasd.net
Click on **Pearson SuccessNet**
https://www.pearsonsuccessnet.com/snpapp/login/login.jsp
Log in with your teacher name and password.
Click on **"Teacher Resources."**
Click on Transitioning to Common Core with enVisionMATH

- *Where do I find enVision online Topic Opener and Visual Learning Animations?*

From "Instructional Resources" on the district's website www.esasd.net
Click on **Pearson SuccessNet**
https://www.pearsonsuccessnet.com/snpapp/login/login.jsp
Log in with your teacher name and password.
Click on the "Premium" button.
Each topic has an "Opener" video (Click "view."), and each lesson has visual learning animations. For further information, click on Teacher Resources button from the Pearson SuccessNet Home Page and click on the "envision Math Digital Implementation Guide."

- *Where do I find **e-Tools** or **Tools 4 Math**?*

Most district laptops have an icon for e-Tools on the dock. If not…
From "Instructional Resources" on the district's website www.esasd.net
Click on **Pearson SuccessNet**
https://www.pearsonsuccessnet.com/snpapp/login/login.jsp
Log in with your teacher name and password.
Click on either the Teacher's Edition or Student's Edition.
Click on the red gear with the blue "e."

Note: enVisions has their own version, called "**Tools 4 Math**"
Once you are in Pearson SuccessNet, click on "**Premium**" then as you click on any video, you will see a cube with a "4" at the top of the screen. Click it, and scroll to access the various tools. (A Tools4Math Step By Step guide is located within Pearson SuccessNet—click on Teacher Resources.)

- *Where do I find the animated **glossary**?*

From "Instructional Resources" on the district's website www.esasd.net
Click on **Pearson SuccessNet**
https://www.pearsonsuccessnet.com/snpapp/login/login.jsp
Log in with your teacher name and password.
Click on either the Teacher's Edition or Student's Edition.
Click on the orange circle with the "g."

GRADE 4 MATH APPENDIX #2 -- NATIONAL COMMON CORE STANDARDS

From http://www.corestandards.org/the-standards/mathematics/grade-4/introduction/

In Grade 4, instructional time should focus on three critical areas:

(1). Developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends.

(2). Developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers.

(3). Understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1). Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2). Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3). Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Operations & Algebraic Thinking

Use the four operations with whole numbers to solve problems.

4OA.1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a Statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

4.OA.2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

4.OA.3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain familiarity with factors and multiples.

4.OA.4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Generate and analyze patterns.

4.OA.5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Number & Operations in Base Ten[1]

Generalize place value understanding for multi-digit whole numbers.

4.NBT.1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*

4.NBT.2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

4.NBT.3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4.NBT.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4.NBT.5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.NBT.6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

[1]Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

Number & Operations—Fractions[1]

Extend understanding of fraction equivalence and ordering.

4.NF.1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2. Compare two fractions with different numerators and different denominators, *e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.*

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

4.NF.3. Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.

- Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
- Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, *e.g., by using a visual fraction model*. . *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*
- Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
- Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators*, e.g., by using fraction models and equations to represent the problem.*
- Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, *e.g., by using visual fraction models and equations to represent the problem.*

4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

- Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*
- Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.).*
- Solve word problems involving multiplication of a fraction by a whole number, e.g., *by using visual fraction models and equations to represent the problem. For example, if each if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

Understand decimal notation for fractions, and compare decimal fractions.

4.NF.5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[2] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*

4.NF.6. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite*

0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

4.NF.7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, *e.g., by using a visual model.*

[1] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

[2] Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

Measurement & Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36).*

4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Represent and interpret data.

4.MD.4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

Geometric measurement: understand concepts of angle and measure angles.

4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

- An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.
- An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

4.MD.6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.MD.7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, *e.g., by using an equation with a symbol for the unknown angle measure.*

Geometry

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

4.G.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Grade 4 – APPENDIX #3 ISTE STANDARDS from *www.iste.org/standards/nets-for-students.aspx*

1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

a. Apply existing knowledge to generate new ideas, products, or processes

b. Create original works as a means of personal or group expression

c. Use models and simulations to explore complex systems and issues

d. Identify trends and forecast possibilities

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media

b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats

c. Develop cultural understanding and global awareness by engaging with learners of other cultures

d. Contribute to project teams to produce original works or solve problems

3. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information.

a. Plan strategies to guide inquiry

b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media

c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks

d. Process data and report results

4. Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

a. Identify and define authentic problems and significant questions for investigation

b. Plan and manage activities to develop a solution or complete a project

c. Collect and analyze data to identify solutions and/or make informed

decisions
d. Use multiple processes and diverse perspectives to explore alternative solutions

5. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Advocate and practice safe, legal, and responsible use of information and technology
b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
c. Demonstrate personal responsibility for lifelong learning
d. Exhibit leadership for digital citizenship

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems
b. Select and use applications effectively and productively
c. Troubleshoot systems and applications
d. Transfer current knowledge to learning of new technologies

Academic Standards for Career Education and Work

Pennsylvania Department of Education

Academic Standards for Career Education and Work

XXXVII. TABLE OF CONTENTS

Academic Standards for Career Education and Work

XXXVIII. INTRODUCTION

The Academic Standards for Career Education and Work reflect the increasing complexity and sophistication that students experience as they progress through school. Career Education and Work Standards describe what students should know and be able to do at four grade levels (3, 5, 8 and 11) in four areas:

- 13.1 Career Awareness and Preparation
- 13.2 Career Acquisition (Getting a Job)
- 13.3 Career Retention and Advancement
- 13.4 Entrepreneurship

Pennsylvania's economic future depends on having a well-educated and skilled workforce. No student should leave secondary education without a solid foundation in Career Education and Work. It is the rapidly changing workplace and the demand for continuous learning and innovation on the part of the workers that drive the need to establish academic standards in Career Education and Work.

Through a comprehensive approach, Career Education and Work Standards complement all disciplines and other academic standards. If Pennsylvania's students are to succeed in the workplace, there are certain skills that they need to obtain prior to graduation from high school. These skills have been identified in the Career Education and Work Standards, but it is up to individual school districts to decide how they are to be taught. Districts can implement integration strategies within existing disciplines or can implement stand-alone courses to specifically address these standards.

A glossary is included to assist the reader in understanding terminology contained in the standards.

1.1. Career Awareness and Preparation			
13.1.3. **GRADE 3**	13.1.5. **GRADE 5**	13.1.8. **GRADE 8**	13.1.11. **GRADE 11**
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A. Recognize that individuals have unique interests. B. Identify current personal interests. C. Recognize that the roles of individuals at home, in the workplace and in the community are constantly changing. D. Identify the range of jobs available in the community.	A. Describe the impact of individual interests and abilities on career choices. B. Describe the impact of personal interest and abilities on career choices. C. Relate the impact of change to both traditional and nontraditional careers. D. Describe the range of career training programs in the community such as, but not limited to: • Two-and-four year colleges • Career and technical education programs at centers (formerly AVTSs) and high schools • CareerLinks • Community/recreation centers • Faith-based organizations • Local industry training centers • Military • Registered apprenticeship • Vocational rehabilitation centers • Web-based training	A. Relate careers to individual interests, abilities, and aptitudes. B. Relate careers to personal interests, abilities, and aptitudes. C. Explain how both traditional and nontraditional careers offer or hinder career opportunities. D. Explain the relationship of career training programs to employment opportunities.	A. Relate careers to individual interests, abilities, and aptitudes. B. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals. C. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices. D. Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: • Career days • Career portfolio • Community service • Cooperative education • Graduation/senior project • Internship • Job shadowing • Part-time employment • Registered apprenticeship • School-based enterprise

E. Describe the work done by school personnel and other individuals in the community.	E. Describe the factors that influence career choices, such as, but not limited to: • Geographic location • Job description • Salaries/benefits • Work schedule • Working conditions	E. Analyze the economic factors that impact employment opportunities, such as, but not limited to: • Competition • Geographic location • Global influences • Job growth • Job openings • Labor supply • Potential advancement • Potential earnings • Salaries/benefits • Unemployment	E. Justify the selection of a career.
F. Explore how people prepare for careers.	F. Investigate people's rationale for making career choices.	F. Analyze the relationship of school subjects, extracurricular activities, and community experiences to career preparation.	F. Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: • Associate degree • Baccalaureate degree • Certificate/licensure • Entrepreneurship • Immediate part/full time employment • Industry training • Military training • Professional degree • Registered apprenticeship • Tech Prep • Vocational Rehabilitation Centers
G. Explain why education and training plans are important to careers.	G. Identify the components of a career plan, such as, but not limited to: • Beginnings of career portfolio • Career goals • Individual interests and abilities • Training/education requirements	G. Create an individualized career plan including, such as, but not limited to: • Assessment and continued development of career portfolio	G. Assess the implementation of the individualized career plan through the ongoing development of the career portfolio.

	and costs	• Career goals • Cluster/pathway opportunities • Individual interests and abilities • Training/education requirements and financing	
H. Explain how workers in their careers use what is learned in the classroom.	H. Connect personal interests and abilities and academic strengths to personal career options.	H. Choose personal electives and extra curricular activities based upon personal career interests, abilities and academic strengths.	H. Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2. Career Acquisition (Getting a Job)			
13.2.3. **GRADE 3**	13.2.5. **GRADE 5**	13.2.8. **GRADE 8**	13.2.11. **GRADE 11**
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A. Identify appropriate speaking and listening techniques used in conversation. B. Discuss resources available in researching job opportunities, such as, but not limited to: • Internet • Magazines • Newspapers C. Compose a personal letter.	A. Apply appropriate speaking and listening techniques used in conversation. B. Identify and review resources available in researching job opportunities, such as, but not limited to: • Internet • Magazines • Newspapers C. Compose and compare a business and a personal letter.	A. Identify effective speaking and listening skills used in a job interview. B. Evaluate resources available in researching job opportunities, such as, but not limited to: • CareerLinks • Internet (i.e. O-NET) • Networking • Newspapers • Professional associations • Resource books (that is *Occupational Outlook Handbook, PA Career Guide*) C. Prepare a draft of career acquisition documents, such as, but not limited to: • Job application • Letter of appreciation following an interview • Letter of introduction • Request for letter of recommendation • Resume	A. Apply effective speaking and listening skills used in a job interview. B. Apply research skills in searching for a job. • CareerLinks • Internet (i.e. O-NET) • Networking • Newspapers • Professional associations • Resource books (that is *Occupational Outlook Handbook, PA Career Guide*) C. Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: • Job application • Letter of appreciation following an interview • Letter of introduction • Postsecondary education/training applications • Request for letter of recommendation • Resume

D. Identify the importance of developing a plan for the future. E. Discuss the importance of the essential workplace skills, such as, but not limited to: • Dependability • Health/safety • Team building • Technology	D. Identify individualized career portfolio components, such as, but not limited to: • Achievements • Awards/recognitions • Career exploration results • Career plans • Community service involvement/projects • Interests/hobbies • Personal career goals • Selected school work • Self inventories E. Apply to daily activities, the essential workplace skills, such as, but not limited to: • Commitment • Communication • Dependability • Health/safety • Personal initiative • Scheduling/time management • Team building • Technical literacy • Technology	D. Develop an individualized career portfolio including components, such as, but not limited to: • Achievements • Awards/recognitions • Career exploration results • Career plans • Community service involvement/projects • Interests/hobbies • Personal career goals • Selected school work • Self inventories E. Explain, in the career acquisition process, the importance of the essential workplace skills/knowledge, such as, but not limited to: • Commitment • Communication • Dependability • Health/safety • Laws and regulations (that is Americans with Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets) • Personal initiative • Self-advocacy • Scheduling/time management • Team building • Technical literacy • Technology	D. Analyze, revise, and apply an individualized career portfolio to chosen career path. E. Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: • Commitment • Communication • Dependability • Health/safety • Laws and regulations (that is Americans with Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets) • Personal initiative • Self-advocacy • Scheduling/time management • Team building • Technical literacy • Technology

13.3. Career Retention and Advancement			
13.3.3. **GRADE 3**	13.3.5. **GRADE 5**	13.3.8. **GRADE 8**	13.3.11. **GRADE 11**
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A. Identify attitudes and work habits that contribute to success at home and school.	A. Explain how student attitudes and work habits transfer from the home and school to the workplace.	A. Determine attitudes and work habits that support career retention and advancement.	A. Evaluate personal attitudes and work habits that support career retention and advancement.
B. Identify how to cooperate at both home and school.	B. Explain the importance of working cooperatively with others at both home and school to complete a task.	B. Analyze the role of each participant's contribution in a team setting.	B. Evaluate team member roles to describe and illustrate active listening techniques: • Clarifying • Encouraging • Reflecting • Restating • Summarizing
C. Explain effective group interaction terms, such as, but not limited to: • Compliment • Cooperate • Encourage • Participate	C. Identify effective group interaction strategies, such as, but not limited to: • Building consensus • Communicating effectively • Establishing ground rules • Listening to others	C. Explain and demonstrate conflict resolution skills: • Constructive criticism • Group dynamics • Managing/leadership • Mediation • Negotiation • Problem solving	C. Evaluate conflict resolution skills as they relate to the workplace: • Constructive criticism • Group dynamics • Managing/leadership • Mediation • Negotiation • Problem solving
D. Explain how money is used.	D. Explain budgeting.	D. Analyze budgets and pay statements, such as, but not limited to: • Charitable contributions • Expenses • Gross pay • Net pay • Other income • Savings • Taxes	D. Develop a personal budget based on career choice, such as, but not limited to: • Charitable contributions • Fixed/variable expenses • Gross pay • Net pay • Other income • Savings • Taxes

E. Discuss how time is used at both home and school.	E. Develop a personal schedule based on activities and responsibilities at both home and school.	E. Identify and apply time management strategies as they relate to both personal and work situations.	E. Evaluate time management strategies and their application to both personal and work situations.
F. Identify the changes in family and friend's roles at -home, at school and in the community..	F. Describe the impact of role changes at home, school, and at work, and how the role changes impact career advancement and retention	F. Identify characteristics of the changing workplace including Americans with Disabilities Act accommodations, and explain their impact on jobs and employment.	F. Evaluate strategies for career retention and advancement in response to the changing global workplace.
G. Define and describe the importance of lifelong learning.	G. Describe how personal interests and abilities impact lifelong learning.	G. Identify formal and informal lifelong learning opportunities that support career retention and advancement.	G. Evaluate the impact of lifelong learning on career retention and advancement.

13.4. Entrepreneurship			
13.4.3. **GRADE 3**	13.4.5. **GRADE 5**	13.4.8. **GRADE 8**	13.4.11. **GRADE 11**
Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:			
A. Define entrepreneurship.	A. Identify the risks and rewards of entrepreneurship.	A. Compare and contrast entrepreneurship to traditional employment, such as, but not limited to: • Benefits • Job security • Operating costs • Wages	A. Analyze entrepreneurship as it relates to personal career goals and corporate opportunities.
B. Describe the character traits of successful entrepreneurs, such as, but not limited to: • Adaptability • Creative thinking • Ethical behavior • Leadership • Positive attitude • Risk-taking	B. Discuss the entrepreneurial character traits of historical or contemporary entrepreneurs.	B. Evaluate how entrepreneurial character traits influence career opportunities.	B. Analyze entrepreneurship as it relates to personal character traits.
C. Describe age-appropriate entrepreneurial opportunities, such as, but not limited to: • Bake sale • Crafts • Lemonade stand • Pet care	C. Discuss the steps entrepreneurs take to bring their goods or services to market, such as, but not limited to: • Marketing • Production • Research and development • Selection of goods and services	C. Identify and describe the basic components of a business plan, such as, but not limited to: • Business idea • Competitive analysis • Daily operations • Finances/budget • Marketing • Productive resources (human, capital, natural) • Sales forecasting	C. Develop a business plan for an entrepreneurial concept of personal interest and identify available resources, such as, but not limited to: • Community Based Organizations (that is chambers of commerce, trade/technical associations, Industrial Resource Centers) • Financial institutions • School-based career centers

			• Small Business Administration services (that is SCORE, Small Business Development Centers, Entrepreneurial Development Centers) • Venture capital

Academic Standards for Career Education and Work

XXXIX. GLOSSARY

Americans with Disabilities Act (Public Law 101-336):	The Americans with Disabilities Act is a federal civil rights law that prohibits discrimination and for ensuring equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, transportation, and requiring the establishment of tdd/telephone relay services.
Aptitudes:	Capacity to learn and understand.
Associate degree:	A postsecondary degree typically earned within a two-year timeframe.
Baccalaureate degree:	A postsecondary degree, also known as a bachelor's degree, typically earned within a 4-year timeframe from a college or university.
Benefits:	Something of value that an employee receives in addition to a wage or salary. Examples include health and life insurance, vacation leave, retirement plans, and the like.
Budget:	A financial plan that summarizes anticipated income and expenditures over a period of time.
Business plan:	A prepared document detailing the past, present, and future of an organization.
Career and technical centers:	Schools that educate secondary students and adults through academic instruction, job preparation and acquisition of occupational skills leading to credentials or employment, or both, in specific industries. The centers also provide opportunities for transition to postsecondary education and continuing education.
Career cluster:	A grouping of related occupations, which share similar skill sets.

Career days:	Special events that allow students to meet with employers, career development specialists, community-based organization representatives, and postsecondary educators. Events are designed to encourage students to gain information about careers and job opportunities.
Career plan:	A document developed by the student that identifies a series of educational studies and experiences to prepare them for postsecondary education or work, or both, in a selected career cluster or area.
Career portfolio:	An ongoing, individualized collection of materials (electronic or hard copy) that documents a student's educational performance, career exploration and employment experiences over time. While there is no standard format that a career portfolio must take, it typically includes a range of work, containing assignments by the teacher/counselor and selections by the student. It serves as a guide for the student to transition to postsecondary education or the workplace, or both.
Career retention and advancement:	Career retention is the process of keeping a job. Career advancement is the process of performing the necessary requirements to progress in a career.
CareerLinks:	A cooperative system that provides one-stop delivery of career services to job seekers, employers and other interested individuals.
Certificate/licensure:	A document, issued by associations, employers, educational institutions, government, and the like, confirming that one has fulfilled the requirements and is able to perform to a specified level of proficiency within a career field.
Child Labor Laws:	Legislation governing the employment of children under the age of 18.
Competitive analysis:	A tool that allows a business to identify its competitors and evaluate their respective strengths and weaknesses.
Cooperative education:	A structured method of instruction whereby students alternate or coordinate their high school studies with a job in a field related to their academic or career objectives.

Entrepreneurs:	Individuals who engage in the process of organizing, managing, and assuming the risk of a business or enterprise.
Entrepreneurship:	The process of organizing, managing, and assuming the risks of a business or enterprise.
Fair Labor Standards Act:	A federal law that defines overtime and wage requirements (26 U.S.C.A. §§ 201—219).
Fixed/variable expenses:	Fixed expenses are regular in their timing and amount, and include such things as rent, mortgage, car payment, and insurance. Variable expenses are irregular in their timing and amount, and include such things as food, clothing, home and car maintenance, entertainment, and gifts.
Global influences:	Political and cultural changes, which impact the world and its economy.
Gross pay:	The amount earned before deductions, such as taxes, insurance, and retirement/pension plan.
Industrial Resource Centers:	Non-profit corporations, which provide assistance to improve the competitive position of small-to-medium sized manufacturers.
Internship:	A work experience with an employer for a specified period of time to learn about a particular industry or occupation, which may or may not include financial compensation. The workplace activities may include special projects, a sample of tasks from different jobs, or tasks from a single occupation.
Job shadowing:	Typically as part of career exploration activities in late middle and early high school, a student follows an employee for one or more days to learn about a particular occupation or industry. Job shadowing is intended to help students explore a range of career objectives and to possibly select a career pathway.
Labor supply:	The number of persons either working or unemployed and actively seeking work.
Marketing:	The process or technique of promoting, selling, and distributing a product or service.

Material Safety Data Sheets:	Federally mandated listings of all hazardous materials that will impact the health and safety of the workers and that are required to be posted in the workplace.
Mediation:	Third-party intervention between conflicting parties to promote reconciliation, settlement, or compromise.
Net pay:	The amount remaining after deductions, such as taxes, insurance, and retirement/pension plan.
Networking:	The act of exchanging information, contacts, and services.
Non-traditional careers:	Fields of work for which individuals from one gender comprise less than 25% of the individuals employed in each such occupation or field of work.
O*NET:	Occupational Information Network-- is a free public access online web-based system provided by the US Department of Labor, which includes comprehensive up-to-date occupational information including skills, knowledge, abilities and tasks for more than 950 occupations.
Operating costs:	The funds necessary to operate a business, not including the cost of goods sold. This is also referred to as overhead.
OSHA:	The Occupational Safety and Health Administration--A national agency with representatives in each state who monitor health and safety issues in the workplace.
Professional associations:	Organizations of people having common interests.
Professional degree:	A title conferred on students by a college, university or professional school upon completion of a program of study.
Registered apprenticeship:	A formal program registered with the United States Department of Labor's Bureau of Apprenticeship and Training and with the Pennsylvania Apprenticeship Council. This program must follow strict guidelines as to the types of training and amount of training time an apprentice receives and leads directly into occupations requiring such training for entry.

Resume:	A summary of one's personal qualifications, education/training and employment experience.
Salaries/benefits:	Financial compensation paid regularly for services (See "benefits" for definition).
Sales forecasting:	Predicting the number of services or units likely to be sold over a specified period of time.
School-based career centers:	Specialized areas in schools equipped with resources and materials used to research postsecondary and occupational opportunities.
School-based enterprise:	The production of goods or services as part of a school program.
SCORE:	Service Corps of Retired Executives--A Small Business Administration Federally-sponsored program to assist small-to-medium sized companies.
Self inventories:	Evaluations of an individual's strengths, weaknesses, and interests, as it relates to career planning.
Tech Prep:	The name given to programs that offer at least 4 years of sequential course work at the secondary and postsecondary levels to prepare students for technical careers. The curricula are designed to build student competency in academic subjects, as well as to provide broad technical preparation in a career area.
Technical literacy:	The ability of individuals to use existing and emerging technologies, equipment, language, materials, and manuals to participate intelligently in performing tasks related to everyday life, school or job.
Time management strategies:	Scheduling techniques used to effectively and efficiently direct or control activities.
Traditional careers:	Fields of work for which individuals from one gender comprise more than 25% of the individuals employed in each such occupation or field of work.

Unemployment:	Measurement of the number of people who are not working and who are actively seeking work.
Venture capital:	Public or private funds invested in a potentially profitable business enterprise despite risk of loss.
Vocational rehabilitation centers:	Educational facilities that provide life skills and occupational training services for individuals with special needs.
Wages:	Payments of money for labor or services according to contract and on an hourly, daily, or piecework basis.
Web-based training:	Instruction that is available online.
Work habits:	Acquired behaviors that individuals regularly perform in completing tasks related to chores, school or job.
Working conditions:	The environment in which an individual is employed.

ESASD
TECHNOLOGY INTEGRATION CURRICULUM
FOURTH GRADE

Standards and Assessment Anchors:	
ISTE 1A, 1B, 2B, 3B, 3C, 5A, 5B, 6A,	
Big Idea (s):	**Essential Question (s):**
Technology impacts daily living	*Can I use technology to complete a task?*

Concepts:	**Key Vocabulary:**	**Materials and Resources:**
• Select text/format with font options • Edit alignment/justification, line spacing, margins • Use proofreading tools • Create/import/manipulate graphics • Use the thesaurus and definitions • Effective and appropriate utilization of sound/video/music • Use various view options • Apply design principles to layout and font • Use proper citation methods for sources and pictures • Understand/adhere to copyright laws • Understand/adhere to hardware and software licensing agreements • Search for, locate, download, and save non-copyrighted images from the Internet • Describe uses of technology in society • Work cooperatively and collaboratively with others when using technology • Demonstrate proper usage of equipment • Troubleshoot wireless connectivity issues	* alignment * justification * tab * indent * thesaurus * definition * application * view * storyboard * slide * slide layout * slide theme * save as transition narration animation (*Introduced in 3rd Grade)	• Computer • PowerPoint or other presentation software • Presentation samples and rubrics

Formative Assessment:	Summative Assessment:	Competencies:
Teacher observation Anecdotal Notes	Presentation Project and completed scoring rubric	Research, design and create a presentation on an assigned content area topic that includes appropriate use of transitions and animations

LEARNING PLAN

Instructional Activities:

Math:

- Geometry terms
  - *Common Core Standard – Geometry*
- Create Division Flash Cards
  - *Common Core Standard - Operations and Algebraic Thinking*

Communication Arts:

- Non-Fiction Report
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – W: Production and Distribution of Writing*
  - *Common Core Standard – W: Text Types and Purposes*
- Story Elements
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – W: Production and Distribution of Writing*
- How-To Reports
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – W: Production and Distribution of Writing*
  - *Common Core Standard – W: Text Types and Purposes*
- Tall Tales
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – W: Production and Distribution of Writing*
  - *Common Core Standard – W: Text Types and Purposes*

Science:

- Unit Research (Weather, Forces and Motion, Watersheds and Wetlands, Geology)
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – RI: Craft and Structure*
  - *Common Core Standard – RI: Integration of Knowledge and Ideas*
  - *Common Core Standard – W: Research to Build and Present Knowledge*
  - *Common Core Standard – W: Production and Distribution of Writing*

Social Studies:

- Pennsylvania
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – RI: Craft and Structure*
  - *Common Core Standard – RI: Integration of Knowledge and Ideas*
  - *Common Core Standard – W: Research to Build and Present Knowledge*
  - *Common Core Standard – W: Production and Distribution of Writing*
- Government
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – RI: Craft and Structure*
  - *Common Core Standard – RI: Integration of Knowledge and Ideas*
  - *Common Core Standard – W: Research to Build and Present Knowledge*
  - *Common Core Standard – W: Production and Distribution of Writing*
- Biography
  - *Common Core Standard – RI: Key Ideas and Details*
  - *Common Core Standard – RI: Craft and Structure*

- *Common Core Standard – RI: Integration of Knowledge and Ideas*
- *Common Core Standard – W: Research to Build and Present Knowledge*
- *Common Core Standard – W: Production and Distribution of Writing*

Enrichments:	**Interventions:**
• Add/upload digital photos • Create a non-linear slideshow using buttons • Custom animations	• Use external mouse • Peer helper • Teacher assistance • Project outline worksheet