

Pine Hill Public Schools Curriculum

Content Area:	Mathematics		
Course Title/ Grade Level:	Grade 4		
Unit 1:	Generalize Place Value Understanding	Duration:	7 days
Unit 2:	Fluently Add and Subtract Multi-digit Whole Numbers	Duration:	8 days
Unit 3:	Use Strategies and Properties to Multiply by 1-digit Numbers	Duration:	12 days
Unit 4:	Use Strategies and Properties to Multiply by 2-digit Numbers	Duration:	13 days
Unit 5:	Use Strategies and Properties to Divide by 1-digit Numbers	Duration:	12 days
Unit 6:	Use Operations with Whole Numbers to Solve Problems	Duration:	7 days
Unit 7:	Factors and Multiples	Duration:	7 days
Unit 8:	Extend Understanding of Fraction Equivalence and Ordering	Duration:	9 days
Unit 9:	Understand Addition and Subtraction of Fractions	Duration:	13 days
Unit 10:	Extend Multiplication Concepts to Fractions	Duration:	10 days
Unit 11:	Represent and Interpret Data on Line Plots	Duration:	6 days
Unit 12:	Understand and Compare Decimals	Duration:	8 days
Unit 13:	Measurement: Find Equivalence in Units of Measure	Duration:	9 days
Unit 14:	Algebra: Generate and Analyze Patterns	Duration:	6 days
Unit 15:	Geometric Measurement: Understand the Concepts of Angles and Angle Measurements	Duration:	8 days
Unit 16:	Lines, Angles, and Shapes	Duration:	8 days
BOE Approved Revision:			
BOE Initial Adoption Date:	August 15, 2017		

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Generalize Place Value Understanding		Unit #: 1
Course or Grade Level: 4th Grade Math		Length of Time: 7 days
Pacing	September Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● What are some ways to write numbers to one million? ● How are the digits in a multi-digit number related to each other? ● How do you compare numbers? ● How can you round numbers? ● How can you construct arguments? 	
Content	<ul style="list-style-type: none"> ● 1.1 Numbers Through One Million ● 1.2 Place Value Relationships ● 1.3 Compare Whole Numbers ● 1.4 Round Whole Numbers ● 1.5 Math Practices and Problem Solving: Construct Arguments 	
Skills	<ul style="list-style-type: none"> ● Read and write numbers in expanded form, with numerals, and using number names ● Recognize the relationship between adjacent digits in a multi-digit number ● Use place value to compare multi-digit numbers ● Use place value to round multi-digit numbers ● Use previously learned concepts and skills to construct arguments about place value 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary 	

- Consumable student edition
- Teacher Edition
- Math and Science Activity (STEM)
- Teacher’s Resource Masters
- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

Cluster: Generalize place value understanding for multi-digit whole numbers.

- 4.NBT.A.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 $700 \div 70 = 10$ by applying concepts of place value and division.***
- 4.NBT.A.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.A.3: Use place value understanding to round multi-digit whole numbers to any place.**

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Content Statement:
Understand and use technology systems.

Indicator:
8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Fluently Add and Subtract Multi-digit Whole Numbers		Unit #: 2
Course or Grade Level: 4th Grade Math		Length of Time: 8 days
Date Created: July 2017		BOE Approval Date:
Pacing	September Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you use mental math to solve problems? ● How can you estimate sums and differences of whole numbers? ● How do you add whole numbers? ● How do you subtract whole numbers? ● How do you subtract across zeros? ● How can you use quantitative reasoning to solve problems? 	
Content	<ul style="list-style-type: none"> ● 2.1 Mental Math: Find Sums and Differences ● 2.2 Mental Math: Estimate Sums and Differences ● 2.3 Add Whole Numbers ● 2.4 Subtract Whole Numbers ● 2.5 Subtract Across Zero ● 2.6 Math Practices and Problem Solving: Reasoning 	
Skills	<ul style="list-style-type: none"> ● Add and subtract whole numbers mentally using a variety of methods ● Round greater whole numbers to estimate sums and differences ● Add numbers to one million with and without regrouping using the standard algorithm ● Use place value and an algorithm to subtract whole numbers ● Use number sense and regrouping to subtract across zeros\ ● Use previously learned concepts and skills to reason abstractly and make sense of quantities and their relationship in problem situations 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge 	

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- Online Another Look Homework Video
- Visual Learning Animation
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New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

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

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

Domain (name and #): Operations and Algebraic Thinking 4.OA

**Cluster:
Use the four operations with whole numbers to solve problems**

4.OA.A.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

<p>Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>	<p>Content Statement: Understand and use technology systems.</p>	<p>Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</p>
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**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Use Strategies and Properties to Multiply by 1-digit Numbers

Unit #: 3

Course or Grade Level: 4th Grade Math

Length of Time: 12 days

Pacing	<p>October</p> <p>Daily Warm-up: Daily CC Review</p>
Essential Questions	<ul style="list-style-type: none"> ● How can you multiply by multiples of 10, 100 and 1,000? ● How can you estimate when you multiply? ● How can you use the Distributive Property to multiply? ● How can you multiply mentally? ● How can you record multiplication? ● What is one way to record multiplication? ● What is a common way to record multiplication? ● How can you multiply 4-digit numbers by 1-digit numbers? ● What are the steps to record multiplication? ● How can you represent a situation with a math model?
Content	<ul style="list-style-type: none"> ● 3.1 Mental Math: Multiply by Multiples of 10, 100 and 1,000 ● 3.2 Mental Math: Round to Estimate Products ● 3.3 The Distributive Property ● 3.4 Mental Math Strategies for Multiplication ● 3.5 Arrays and Partial Products ● 3.6 Use Partial Products to Multiply by 1-digit Numbers ● 3.7 Multiply 2- and 3-digit Numbers by 1-digit Numbers ● 3.8 Multiply 4-digit by 1-digit Numbers ● 3.9 Multiply by 1-digit Numbers ● 3.10 Math Practices and Problem Solving: Model with Math
Skills	<ul style="list-style-type: none"> ● .Multiply multiples of 10, 100, and 1,000 using mental math and place value strategies ● Use rounding to estimate products and check if answers are reasonable ● Use Distributive Property to multiply larger numbers ● Use place value and properties of operations to multiply mentally ● Use arrays and partial products to multiply 3- and 4- digit numbers by 1-digit numbers ● Use place value and partial products to multiply 3- and 4- digit numbers by 1-digit numbers ● Use place value and the standard algorithm to multiply 2- and 3-digit numbers by 1-digit numbers ● Use the standard algorithm to multiply 4-digit numbers by 1-digit numbers ● Use the standard algorithm to multiply 2-, 3-, and 4-digit numbers by 1-digit numbers. Estimate to check if answers are reasonable ● Use previously learned concepts and skills to represent and solve problems
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced

	<ul style="list-style-type: none"> ● Strategic Intervention ● Special Needs ● ELL Strategies
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters ● Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic	4.NBT.B.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.
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Domain (name and #): Operations and Algebraic Thinking 4.OA

Cluster: Use the four operations with whole numbers to solve problems	4.OA.A.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.
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- Math Practices:**
- Make sense of problems and persevere in solving them.
 - Reason abstractly and quantitatively.
 - Construct viable arguments and critique the reasoning of others.
 - Model with mathematics.
 - Use appropriate tools strategically.
 - Attend to precision.
 - Look for and make use of structure.
 - Look for and express regularity in repeated reasoning.

	Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
21st Century Skills							
	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		
<p>8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>							
<p>Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>			<p>Content Statement: Understand and use technology systems.</p>		<p>Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</p>		

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Use Strategies and Properties to Multiply by 2-digit Numbers

Unit #: 4

Course or Grade Level: 4th Grade Math

Length of Time: 13 days

Pacing

October-November

Daily Warm-up: Daily CC Review

Essential Questions

- How can you multiply by multiples of 10?
- How can you use an array or area model to multiply?
- How can you use rounding to estimate?
- How can you use compatible numbers to estimate?
- How can you multiply using an array?
- How can you use the Distributive Property to multiply?
- How can you record multiplication?
- How can you multiply by multiples of 10?
- What is a common way to record multiplication?
- How can you use multiplication to solve problems?
- How can you make sense of and persevere in solving problems with more than one step?

Content

- 4.1 Mental Math: Multiply Multiples of 10
- 4.2 Use Models to Multiply 2-digit Numbers by Multiples of 10
- 4.3 Estimate: Use Rounding
- 4.4 Estimate: Use Compatible Numbers
- 4.5 Arrays and Partial Products
- 4.6 Multiply Using the Distributive Property
- 4.7 Use Partial Products to Multiply by 2-digit Numbers
- 4.8 Multiply 2-digit Numbers by Multiples of 10
- 4.9 Multiply 2-digit by 2-digit Numbers
- 4.10 Continue to Multiply 2-digit by 2-digit Numbers
- 4.11 Math Practices and Problem Solving: Make Sense and Persevere

Skills

- Use mental math strategies to multiply 2-digit by 2-digit multiples of ten
- Use models and properties of operations to multiply 2-digit numbers by multiples of ten
- Estimate products for 2-digit by 2-digit multiplication problems by rounding the factors to multiples of ten
- Use compatible numbers to estimate products of 2-digit by 2-digit multiplication problems
- Use arrays, place value, partial products, and properties of operations to multiply two 2-digit numbers
- Use the Distributive Property and an area model to multiply two 2-digit numbers
- Use place value and partial products to calculate products of 2-digit by 2-digit multiplication problems
- Use area models and place value strategies to multiply 2-digit numbers by multiples of 10
- Use the expanded and standard algorithm to multiply 2-digit by 2-digit numbers. Estimate to check if products are reasonable
- Use models and algorithms to solve 2-digit by 2-digit multiplication problems
- Make sense of problems and persevere in solving them

Assessments

- Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review
- Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.

Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters ● Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic	4.NBT.B.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.
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Domain (name and #): Operations and Algebraic Thinking 4.OA

Cluster: Use the four operations with whole numbers to solve problems	4.OA.A.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.
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Math Practices:
<ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. ● Reason abstractly and quantitatively. ● Construct viable arguments and critique the reasoning of others. ● Model with mathematics. ● Use appropriate tools strategically. ● Attend to precision. ● Look for and make use of structure. ● Look for and express regularity in repeated reasoning.

<u>21st Century Themes</u>							
	Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
<u>21st Century Skills</u>							
	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		
8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.							
Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i>			Content Statement: Understand and use technology systems.			Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.	

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Use Strategies and Properties to Divide by 1-digit Numbers

Unit #: 5

Course or Grade Level: 4th Grade Math

Length of Time: 12 days

Pacing	November Daily Warm-up: Daily CC Review
Essential Questions	<ul style="list-style-type: none"> ● How can you divide mentally? ● How can you estimate quotients to solve problems? ● How can you estimate quotients using patterns and place value? ● After dividing, what do you do with the remainder? ● How can place value help you divide? ● How can you use partial quotients to solve division problems? ● How can you use partial quotients to divide greater dividends? ● How can you record division with a 1-digit divisor? ● How can you find larger quotients? ● How can you apply math you know to solve problems?
Content	<ul style="list-style-type: none"> ● 5.1 Mental Math: Find Quotients ● 5.2 Mental Math: Estimate Quotients ● 5.3 Mental Math: Estimate Quotients for Greater Dividends ● 5.4 Interpret Remainders ● 5.5 Division as Sharing ● 5.6 Use Partial Quotients to Divide ● 5.7 Use Partial Quotients to Divide Greater Dividends ● 5.8 Divide with 1-digit Numbers ● 5.9 Continue to Divide with 1-digit Numbers ● 5.10 Math Practices and Problem Solving: Model with Math
Skills	<ul style="list-style-type: none"> ● Use mental math and place value strategies to divide multiples of 10 and 100 by 1-digit divisors ● Use compatible numbers to estimate quotients ● Use place value patterns and division facts to estimate quotients for 4-digit dividends ● Solve division problems and interpret remainders ● Use place value and drawings to divide 2- and 3-digit numbers by 1-digit numbers ● Use partial quotients to divide ● Use partial quotients and place value understandings to divide with greater dividends ● Divide 2- and 3-digit Numbers by 1-digit numbers using the standard division algorithm ● Divide 4-digit numbers by 1-digit numbers using the standard division algorithm ● Use previously learned concepts and skills to model and solve problems
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies

Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters ● Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

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

4.NBT.B.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.

Domain (name and #): Operations and Algebraic Thinking 4.OA

Cluster:
Use the four operations with whole numbers to solve problems

4.OA.A.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.

Math Practices:

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21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		
<p>8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>							
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**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Use Operations with Whole Numbers to Solve Problems		Unit #: 6
Course or Grade Level: 4th Grade Math		Length of Time: 7 days
Pacing	December Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How is comparing with multiplication different from comparing with addition? ● How can you solve a comparison problem involving multiplication as comparison? ● How can you use diagrams and equations to solve multi-step problems? ● How can you use equations to solve more multi-step problems? ● How do you make sense of a multi-step problem and persevere in solving it? 	
Content	<ul style="list-style-type: none"> ● 6.1 Solve Comparison Situations ● 6.2 Continue to Solve Comparison Situations ● 6.3 Solve Multi-step Problems ● 6.4 Solve More Multi-step Problems ● 6.5 Math Practices and Problem Solving: Make Sense and Persevere 	
Skills	<ul style="list-style-type: none"> ● Interpret comparisons as multiplication or addition equations ● Use multiplication and division to compare two quantities ● Solve two-step problems by finding and solving the hidden question first ● Solve multi-step problems by finding and solving hidden questions first ● Make sense of a multi-step problem and keep working until it is solved 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
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New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

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

4.NBT.B.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.B.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.

Domain (name and #): Operations and Algebraic Thinking 4.OA

Cluster:
Use the four operations with whole numbers to solve problems

4.OA.A.1: Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ 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.A.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.A.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness

X

Financial, Economic,
Business, and Entrepreneurial
Literacy

Civic Literacy

Health Literacy

21st Century Skills

	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		
<p>8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>							
<p>Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>			<p>Content Statement: Understand and use technology systems.</p>		<p>Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</p>		

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Factors and Multiples		Unit #: 7
Course or Grade Level: 4th Grade Math		Length of Time: 7 days
Pacing	December Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you use arrays to find the factors of a number? ● How can you use multiplication to find the factors of a number? ● How can you use repeated addition to find all the factors for a number? ● How can you identify prime and composite numbers? ● How can you find multiples of a number? 	
Content	<ul style="list-style-type: none"> ● 7.1 Understand Factors ● 7.2 Factors ● 7.3 Math Practices and Problem Solving: Repeated Reasoning ● 7.4 Prime and Composite Numbers ● 7.5 Multiples 	
Skills	<ul style="list-style-type: none"> ● Use arrays to find the factors of a given whole number ● Use multiplication to find all the factor pairs for a whole number ● Use repeated reasoning to generalize how to solve problems that are similar ● Use factors to determine whether a whole number greater than 1 is prime or composite ● Use multiplication to find multiples of a given number 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition 	

- Teacher Edition
- Math and Science Activity (STEM)
- Teacher’s Resource Masters
- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

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

4.NBT.B.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.

Domain (name and #): Operations and Algebraic Thinking 4.OA

Cluster:
Gain familiarity with factors and multiples

4.OA.B.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Content Statement:
Understand and use technology systems.

Indicator:
8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Extend Understanding of Fraction Equivalence and Ordering		Unit #: 8
Course or Grade Level: 4th Grade Math		Length of Time: 9 days
Pacing	January Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● What are some ways to remain the same part of a whole? ● How can you use a number line to explain why fractions are equivalent? ● How can you use multiplication to find equivalent fractions? ● How can you use division to find equivalent fractions? ● How can you use benchmarks to compare fractions? ● How can you compare fractions with unlike denominators? ● How can you construct arguments? 	
Content	<ul style="list-style-type: none"> ● 8.1 Equivalent Fractions: Area Models ● 8.2 Equivalent Fractions: Number Lines ● 8.3 Generate Equivalent Fractions: Multiplication ● 8.4 Generate Equivalent Fractions: Division ● 8.5 Use Benchmarks to Compare Fractions ● 8.6 Compare Fractions ● 8.7 Math Practices and Problem Solving: Construct Arguments 	
Skills	<ul style="list-style-type: none"> ● Use area models to recognize and generate equivalent fractions ● Use a number line to locate and identify equivalent fractions ● Use multiplication to find equivalent fractions ● Use division to find equivalent fractions ● Use benchmarks, area models, and number lines to compare fractions ● Use models or rename fractions to compare ● Construct arguments about fractions 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share 	

- Online Another Look Homework Video
- Visual Learning Animation
- Online Math Games
- Animated Glossary
- Consumable student edition
- Teacher Edition
- Math and Science Activity (STEM)
- Teacher's Resource Masters
- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Number and Operations: Fractions 4.NF

Cluster:

Extend understanding of fraction equivalence and ordering

4.NF.A.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.A.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students demonstrate a sound*

Content Statement:
Understand and use technology systems.

Indicator:
8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety

*understanding of technology
concepts, systems and operations.*

of tasks including solving
problems.

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Understand Addition and Subtraction of Fractions

Unit #: 9

Course or Grade Level: 4th Grade Math

Length of Time: 13 days

Pacing

January

Daily Warm-up: Daily CC Review

Essential Questions

- How can you use tools to add fractions?
- How can you represent a fraction in a variety of ways?
- How can you add fraction with like denominators?
- How can you use tools to subtract fractions?
- How can you subtract fractions with like denominators?
- How can you add and subtract fractions on a number line?
- How can you decide if a fraction sum or difference is reasonable?
- How can you add or subtract mixed numbers?
- How can you add mixed numbers?
- How can you subtract mixed numbers?
- How can you use math to model problems?

Content

- 9.1 Model Addition of Fractions
- 9.2 Decompose Fractions
- 9.3 Add Fractions with Like Denominators
- 9.4 Model Subtraction of Fractions
- 9.5 Subtract Fractions with Like Denominators
- 9.6 Add and Subtract Fractions with Like Denominators
- 9.7 Estimate Fraction Sums and Differences
- 9.8 Model Addition and Subtraction of Mixed Numbers
- 9.9 Add Mixed Numbers
- 9.10 Subtract Mixed Numbers
- 9.11 Math Practices and Problem Solving: Model with Math

Skills

- Use fractions strips and numbers lines to add fractions
- Decompose a fraction or mixed number into a sum of fractions in more than one way
- Solve problems involving joining parts of the same whole by adding fractions
- Use tools such as fraction strips, area models, and number lines to subtract fractions
- Solve problems involving separating parts of the same whole by subtracting fractions
- Count forward or backward on a number line to add or subtract
- Use number lines and benchmark fractions to estimate fractions sums and differences
- Use models and equivalent fractions to add and subtract mixed numbers
- Use equivalent fractions and properties of operations to add mixed numbers with like denominators
- Use equivalent fractions, properties of operations, and the relationship between addition and subtraction to subtract mixed numbers with like denominators
- Use previously learned concepts and skills to represent and solve problems

Assessments

- Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review
- Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.

Interventions / differentiated instruction

- Error Intervention
- Re-teach
- Leveled Homework-Intervention, On Level, Advanced
- Center Activities: On-level; Advanced

	<ul style="list-style-type: none"> ● Strategic Intervention ● Special Needs ● ELL Strategies
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters ● Manipulatives
New Jersey Student Learning Standards for Mathematics	
Grade or Conceptual Category (HS only): Fourth	
Domain (name and #): Number and Operations: Fractions 4.NF	
Cluster: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers	<p>4.NF.B.3 a, b, c & d: Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.</p> <p>a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</p> <p>b. 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. <i>Examples:</i> $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.</p> <p>c. 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.</p> <p>d. 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.</p>
Math Practices: <ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. ● Reason abstractly and quantitatively. ● Construct viable arguments and critique the reasoning of others. ● Model with mathematics. ● Use appropriate tools strategically. ● Attend to precision. 	

- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

	Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Content Statement:
Understand and use technology systems.

Indicator:
8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Extend Multiplication Concepts to Fractions		Unit #: 10
Course or Grade Level: 4th Grade Math		Length of Time: 10 days
Pacing	February Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you describe a fraction using a unit fraction? ● How can you find the product of a fraction multiplied by a whole number? ● When can you use the product of a fraction and a whole number to solve a problem? ● How can you multiply a whole number and a mixed number? ● How can you use multiplication and division to solve problems involving time? ● How can you represent a situation with a math model? 	
Content	<ul style="list-style-type: none"> ● 10.1 Fractions as Multiples of Unit Fractions: Use Models ● 10.2 Multiply a Fraction by a Whole Number: Use Models ● 10.3 Multiply a Fraction by a Whole Number: Use Symbols ● 10.4 Multiply a Whole Number and a Mixed Number ● 10.5 Solve Time Problems ● 10.6 Math Practices and Problem Solving: Model with Math 	
Skills	<ul style="list-style-type: none"> ● Use a model to understand a fraction as a multiple of a unit fractions ● Use models to multiply fractions by whole numbers ● Use symbols and equations to multiply a fraction by a whole number ● Use drawings and equations to represent and solve problems involving multiplying a whole number and a mixed number ● Use the four operations to solve problems involving time ● Use previously learned concepts and skills to represent and solve problems 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation 	

- Online Math Games
- Animated Glossary
- Consumable student edition
- Teacher Edition
- Math and Science Activity (STEM)
- Teacher's Resource Masters
- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Number and Operations: Fractions 4.NF

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

4.NF.B. 3d: Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. 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.B.4 a, b & c: 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 $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.**
- 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 $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)**
- 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 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?**

Domain (name and #): Measurement and Data 4.MD

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

4.MD.A.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

	Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
21st Century Skills							
	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		
<p>8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>							
<p>Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>			<p>Content Statement: Understand and use technology systems.</p>		<p>Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</p>		

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Represent and Interpret Data on Line Plots		Unit #: 11
Course or Grade Level: 4th Grade Math		Length of Time: 6 days
Pacing	February Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you read data in a line plot? ● How can you make line plots? ● How can you use line plots to solve problems involving fractions? ● How can you critique the reasoning of others? 	
Content	<ul style="list-style-type: none"> ● 11.1 Read Line Plots ● 11.2 Make Line Plots ● 11.3 Use Line Plots to Solve Problems ● 11.4 Math Practices and Problem Solving: Critique Reasoning 	
Skills	<ul style="list-style-type: none"> ● Read and interpret data using line plots ● Represent data using line plots and interpret data in line plots to solve problems ● Solve problems involving line plots and fractions ● Critique the reasoning of others using an understanding of line plots 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters ● Manipulatives 	

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Number and Operations: Fractions 4.NF

Cluster:

Extend understanding of fraction equivalence and ordering

4.NF.A.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.

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

4.NF.B. 3d: Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. 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.

Domain (name and #): Measurement and Data 4.MD

Cluster:

Represent and interpret data

4.MD.B.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.*

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students*

Content Statement:

Indicator:

<i>demonstrate a sound understanding of technology concepts, systems and operations.</i>	Understand and use technology systems.	8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
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**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Understand and Compare Decimals		Unit #: 12
Course or Grade Level: 4th Grade Math		Length of Time: 8 days
Pacing	March Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you write a fraction as a decimal? ● How can you locate points on a number line? ● How do you compare decimals? ● How can you add fractions with denominators of 10 and 100? ● How can you solve word problems involving money? ● How can you look for and make use of structure to solve problems? 	
Content	<ul style="list-style-type: none"> ● 12.1 Fractions and Decimals ● 12.2 Fractions and Decimals on a Number Line ● 12.3 Compare Decimals ● 12.4 Add Fractions with Denominators of 10 and 100 ● 12.5 Solve Word Problems Involving Money ● 12.6 Math Practices and Problem Solving: Look for and Use Structure 	
Skills	<ul style="list-style-type: none"> ● .Relate fractions and decimals with denominators of 10 and 100 ● Locate and describe fractions and decimals on number lines ● Compare decimals by reasoning about their size ● Add fractions with denominators of 10 and 100 by using equivalent fractions ● Use fractions or decimals to solve word problems involving money ● Use the structure of the place value systems for decimals to solve problems 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games 	

- Animated Glossary
- Consumable student edition
- Teacher Edition
- Math and Science Activity (STEM)
- Teacher’s Resource Masters
- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Number and Operations: Fractions 4.NF

Cluster:

Understand decimal notation for fractions, and compare decimal fractions.

4.NF.C.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. *For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$*

4.NF.C.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.C.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.

Domain (name and #): Measurement and Data 4.MD

Cluster:

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

4.MD.A.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
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	Media Literacy		ICT Literacy	X	Life and Career Skills
<p>8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>					
<p>Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>		<p>Content Statement: Understand and use technology systems.</p>		<p>Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</p>	

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Measurement: Find Equivalence in Units of Measure

Unit #: 13

Course or Grade Level: 4th Grade Math

Length of Time: 9 days

Pacing	<p>March</p> <p>Daily Warm-up: Daily CC Review</p>
Essential Questions	<ul style="list-style-type: none"> ● How can you convert from one unit of length to another? ● How can you convert from one unit of capacity to another? ● How can you convert from one unit of weight to another? ● How can you convert from one metric unit of length to another? ● How can you convert from one metric unit of capacity and mass to another? ● How can you use perimeter and area to solve problems? ● How can you be precise when solving math problems?
Content	<ul style="list-style-type: none"> ● 13.1 Equivalence with Customary Units of Length ● 13.2 Equivalence with Customary Units of Capacity ● 13.3 Equivalence with Customary Units of Weight ● 13.4 Equivalence with Metric Units of Length ● 13.5 Equivalence with Metric Units of Capacity and Mass ● 13.6 Solve Perimeter and Area Problems ● 13.7 Math Practices and Problem Solving: Precision
Skills	<ul style="list-style-type: none"> ● .Recognize the relative size of customary units of length and convert from a larger unit to a smaller unit ● Recognize the relative size of customary units of capacity and convert from a larger unit to a smaller unit ● Recognize the relative size of customary units of weight and convert from a larger unit to a smaller unit ● Recognize the relative size of metric units of length and convert from a larger unit to a smaller unit ● Recognize the relative size of metric units of capacity and mass and convert from a larger unit to a smaller unit ● Find the unknown length or width of a rectangle using the known area or perimeter ● Be precise when solving measurement problems
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge

- Online Solve and Share
- Online Another Look Homework Video
- Visual Learning Animation
- Online Math Games
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- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Number and Operations: Fractions 4.NF

Cluster:

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

4.NF.B.3d: Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. 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.B.4c: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. 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 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?*

Domain (name and #): Measurement and Data 4.MD

Cluster:

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

4.MD.A.1: Know relative sizes of measurement units within one system of units including km, m, cm, mm; 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.A.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.A.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.*

Domain (name and #): Numbers and Operations in Base Ten 4.NBT

Cluster:

Use place value understanding and

4.NBT.B.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

properties of operations to perform multi-digit arithmetic	and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.					
Math Practices: <ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. ● Reason abstractly and quantitatively. ● Construct viable arguments and critique the reasoning of others. ● Model with mathematics. ● Use appropriate tools strategically. ● Attend to precision. ● Look for and make use of structure. ● Look for and express regularity in repeated reasoning. 						
<u>21st Century Themes</u>						
	Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy	Health Literacy
<u>21st Century Skills</u>						
	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration	Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills	
<u>8.1 Educational Technology:</u> All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.						
Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i>			Content Statement: Understand and use technology systems.		Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.	

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Algebra: Generate and Analyze Patterns

Unit #: 14

Course or Grade Level: 4th Grade Math

Length of Time: 6 days

Pacing	<p>March-April</p> <p>Daily Warm-up: Daily CC Review</p>
Essential Questions	<ul style="list-style-type: none"> ● How can you use a rule to continue the pattern? ● What is a pattern? ● How can you use a repeating pattern to predict a shape? ● How can I look for and make use of structure?
Content	<ul style="list-style-type: none"> ● 14.1 Number Sequences ● 14.2 Patterns: Number Rules ● 14.3 Patterns: Repeating Shapes ● 14.4 Math Practices and Problem Solving: Look for and Use Structure
Skills	<ul style="list-style-type: none"> ● .Create or extend a number sequence based on rule. Identify features of a pattern in the sequence that are not described by the rule. ● Use a rule to extend a number pattern and solve a problem. Identify features of the pattern. ● Generate a shape pattern that follows a given rule and predict a shape in the pattern ● Solve problems by using patterns
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters

- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Operations and Algebraic Thinking 4.OA

Cluster:

Generate and analyze patterns

4.OA.C.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.*

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

	Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Content Statement:
Understand and use technology systems.

Indicator:
8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Geometric Measurement: Understand the Concepts of Angles and Angle Measurements

Unit #: 15

Course or Grade Level: 4th Grade Math

Length of Time: 8 days

Pacing

April

Daily Warm-up: Daily CC Review

Essential Questions

- What are some common geometric terms?
- What is the unit used to measure angles.
- How can you measure angles?
- How do you use a protractor?
- How can you add and subtract to find unknown angle measures?
- How can you select and use appropriate tools to solve problems?

Content

- 15.1 Lines, Rays and Angles
- 15.2 Understand Angles and Unit Angles
- 15.3 Measure with Unit Angles
- 15.4 Measure and Draw Angles
- 15.5 Add and Subtract Angle Measures
- 15.6 Math Practices and Problem Solving: Use Appropriate Tools

Skills

- Recognize and draw lines, rays, and angles with different measures
- Find the measure of an angle that turns through a fraction of a circle
- Use known angle measures to measure unknown angles
- Use a protractor to measure and draw angles
- Use addition and subtraction to solve problems with unknown angle measures
- Use appropriate tools, such as a protractor and ruler, to solve problems

Assessments

- Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review
- Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark.

Interventions / differentiated instruction

- Error Intervention
- Re-teach
- Leveled Homework-Intervention, On Level, Advanced
- Center Activities: On-level; Advanced
- Strategic Intervention
- Special Needs
- ELL Strategies

Inter-disciplinary Connections

- Altering word problems to reflect current classroom themes
- Theme based center activities
- Connecting reading strategies to problems solving

Lesson resources / activities

- PearsonRealize.com
- Student and Teacher e-texts
- Smartboard
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- Online Today's challenge
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New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Measurement and Data 4.MD

Cluster:

Geometric measurement: understand concepts of angle and measure angles

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

a. 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 $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.

b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

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

4.MD.C.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.

Domain (name and #): Geometry 4.G

Cluster:

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

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

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

[21st Century Themes](#)

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy	Civic Literacy	Health Literacy
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21st Century Skills

	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
	Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

<p>Strand: A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i></p>	<p>Content Statement: Understand and use technology systems.</p>	<p>Indicator: 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.</p>
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**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Lines, Angles, and Shapes		Unit #: 16
Course or Grade Level: 4th Grade Math		Length of Time: 8 days
Pacing	April-May Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you describe pairs of lines? ● How can you classify triangles? ● How can you classify quadrilaterals? ● What is line symmetry? ● How can you draw figures with line symmetry? ● How can you critique the reasoning of others? 	
Content	<ul style="list-style-type: none"> ● 16.1 Lines ● 16.2 Classify Triangles ● 16.3 Classify Quadrilaterals ● 16.4 Line Symmetry ● 16.5 Draw Shapes with Line Symmetry ● 16.6 Math Practices and Problem Solving: Critique Reasoning 	
Skills	<ul style="list-style-type: none"> ● .Draw and identify perpendicular, parallel, and intersecting lines ● Classify triangles by line segments and angles ● Classify quadrilaterals by lines and angles ● Recognize and draw lines of symmetry. Identify line symmetric figures. ● Draw figures that have line symmetry ● Use understanding of two-dimensional shapes to critique the reasoning of others 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention ● Special Needs ● ELL Strategies 	
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving 	
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games 	

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- Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fourth

Domain (name and #): Geometry 4.G

Cluster:

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

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

4.G.A.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.A.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.

Math Practices:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

21st Century Themes

Global Awareness	X	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
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21st Century Skills

Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication and Collaboration		Information Literacy
Media Literacy		ICT Literacy	X	Life and Career Skills		

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand: A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Content Statement:
Understand and use technology systems.

Indicator:
8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

**Pine Hill Public Schools
Mathematics Curriculum**

Unit Title: Step Up to 5 th Grade Lessons		Unit #:
Course or Grade Level: 3 rd Grade Math		Length of Time: 21 days
Pacing	May-June Daily Warm-up: Daily CC Review	
Essential Questions	<ul style="list-style-type: none"> ● How can you represent decimals? ● How can you compare decimals? ● How can you use grids to add decimals? ● What are some ways to estimate products with decimals? ● How can you find common denominators? ● How can you add fractions with unlike denominators? ● How can you subtract fractions with unlike denominators? ● How can you multiply fractions and whole numbers? ● How can you divide by a unit fraction? ● How can you measure space inside a solid figure? 	
Content	<ul style="list-style-type: none"> ● Understand Decimal Place Value ● Compare Decimals ● Use Models to Add and Subtract Decimals ● Estimate the Product of a Decimal and a Whole Number ● Find Common Denominators ● Add Fractions with Unlike Denominators ● Subtract Fractions with Unlike Denominators ● Multiply Fractions and Whole Numbers ● Divide Whole Numbers by Unit Fractions ● Model Volume 	
Skills	<ul style="list-style-type: none"> ● Read and write numbers with decimals through thousandths using standard form, expanded form, and number names; identify equivalent decimals ● Use place value to compare decimals through thousandths ● Model sums and differences of decimals ● Use rounding and compatible numbers to estimate the product of a decimal and a whole number ● Find common denominators for fractions with unlike denominators ● Add fractions with unlike denominators using equivalent fractions with a common denominator ● Subtract fractions with unlike denominators ● Multiply fractions and whole numbers ● Use models such as pictorial models or a number line to show dividing a whole number by a unit fraction ● Find the volume of solid figures 	
Assessments	<ul style="list-style-type: none"> ● Formative: Quick Check; Topic Test; Anecdotal Records; Teacher Observation; Independent Practice; Problem Solving; Daily Common Core Review ● Summative: Placement Test; Mid-Year Benchmark; End of Year Benchmark. 	
Interventions / differentiated instruction	<ul style="list-style-type: none"> ● Error Intervention ● Re-teach ● Leveled Homework-Intervention, On Level, Advanced ● Center Activities: On-level; Advanced ● Strategic Intervention 	

	<ul style="list-style-type: none"> ● Special Needs ● ELL Strategies
Inter-disciplinary Connections	<ul style="list-style-type: none"> ▪ Altering word problems to reflect current classroom themes ▪ Theme based center activities ▪ Connecting reading strategies to problems solving
Lesson resources / activities	<ul style="list-style-type: none"> ● PearsonRealize.com ● Student and Teacher e-texts ● Smartboard ● Online personalized practice ● Online math tools ● Online Today's challenge ● Online Solve and Share ● Online Another Look Homework Video ● Visual Learning Animation ● Online Math Games ● Animated Glossary ● Consumable student edition ● Teacher Edition ● Math and Science Activity (STEM) ● Teacher's Resource Masters ● Manipulatives

New Jersey Student Learning Standards for Mathematics

Grade or Conceptual Category (HS only): Fifth

Domain (name and #): Measurement and Data 5.MD

<p>Cluster: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p>	<p>5.MD.C.3 a & b: Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <p>a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.</p> <p>b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.</p> <p>5.MD.C.4: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units.</p>
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Domain (name and #): Number and Operations in Base Ten 5.NBT

<p>Cluster: Understand the place value system</p>	<p>5.NBT.A.3a & b: Read, write, and compare decimals to thousandths.</p> <p>a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.</p> <p>b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p>
<p>Perform operations with multi-digit whole</p>	<p>5.NBT.B.7: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of</p>

<p>numbers and with decimals to hundredths</p>	<p>operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p>
<p>Domain (name and #): Numbers and Operations- Fractions 5.NF</p>	
<p>Cluster: Use equivalent fractions as a strategy to add and subtract fractions</p> <p>Apply and extend previous understandings of multiplication and division to multiply and divide fractions</p>	<p>5.NF.A.1: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)</i></p> <p>5.NF.A.2: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.</i></p> <p>5.NF.B.4a: Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. <i>For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</i></p> <p>5.NF.B.7 b & c: Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p>b. Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i></p> <p>c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$-cup servings are in 2 cups of raisins?</i></p>