

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to:  • review the place value of whole numbers.	• Students will make a place-value chart. • Make flash cards with numbers on each one (ex: 4,312). Students must tell the place-value of the underlined digit.	• Workbook Pgs. • Index Cards	• Teacher Observation • Homework	<u>By the end of Grade 5</u>  4.1 A.3
<b>BASIC NUMBER CONCEPTS</b>	• review the place value of decimals.	• Use 10 x 10 grids • Each student gets a pair of coins. One student uses coins to model fractional part of a dollar.	• Workbook Pgs. • Coins	• Teacher Observation • Homework	4.1 A.1,3
<b>BASIC NUMBER CONCEPTS</b>	• review comparing and ordering of whole numbers and decimals.	• Give each student a pair of numbered set of index cards. Students draw 4 cards; arrange the cards to form the greatest number possible. • Students use place-Value Chart.	• Workbook Pgs. • Index Cards • Place-Value Chart	• Teacher Observation • Homework	4.1 A.6
<b>PROBLEM SOLVING: READING FOR MATH</b>	• review using the 4-step process to solve problems.	• Students will write the 4-step process on index cards. • Students will make their own word problem; switch with a partner and solve with the 4-step process.	• Workbook Pgs. • Index Cards	• Teacher Observation • Homework	4.5 A.1,4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• review adding and subtracting whole numbers and decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Using play money, students will add or subtract amounts of money.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Play Money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    B.2
<b>MENTAL MATH ESTIMATION</b>	<ul style="list-style-type: none"> <li>• review estimating sums and differences of whole numbers and decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Students will work with place-value models.</li> <li>• Give the student a problem: <math>412.8 - 86.19</math>. Have students solve problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Place-Value Models</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    C.1
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• solve problems by finding a pattern.</li> </ul>	<ul style="list-style-type: none"> <li>• Make a graph by the measurements of various classroom objects.</li> <li>• Students will make their own word problem - switch with a partner.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3    A.3
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• apply addition and subtraction to making decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Using newspaper supermarket sale flyers, have students identify 10 items with a total cost of about \$20.</li> <li>• Add together hotel rate for two people, then for a family of five.</li> <li>• Check to see that the answers are reasonable.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Supermarket Sale Flyers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.1,2 B.4,5

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• apply addition and subtraction to investigate science concepts.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students close their eyes for one second and think how long a second is as they answer.</li> <li>• Have students form a hypothesis about how long it takes to catch a ball.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.5 C.3
<b>PROBLEM SOLVING: READING FOR MATH</b>	<ul style="list-style-type: none"> <li>• determine if a problem needs an estimate or an exact answer.</li> </ul>	<ul style="list-style-type: none"> <li>• Have the students use a spinner to get a 2-digit factor, then spin to get a 1-digit factor. One student explains how to estimate the answer; the other student tells exactly how to get the answer.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Spinner</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1 C.2
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• solve problems by using the guess-and-check strategy.</li> </ul>	<ul style="list-style-type: none"> <li>• Students spin the spinner 3 times and secretly form a 3 digit number from the results. Each student then asks the person one questions about the number, trying to guess the 3 digit number.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Spinner</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.5 A.1,3 B.2,4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• evaluate expressions with exponents.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each student spin a spinner labeled 2, 3, 4, and 5. The first number is the number to be multiplied; second number is the number of times the number is multiplied by itself. Have partners compare answers.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Spinner</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1 A.3 4.5 C.1
<b>PROBLEM SOLVING: APPLICATION</b>	<ul style="list-style-type: none"> <li>• apply multiplication to making decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students create a list of prices for items to be sold at a bake sale. Each student will make a word problem and switch with a partner.</li> <li>• Have students organize information in a two column chart. One column for "A Bake Sale," the second column for "Car Wash." Discuss how a chart helps solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1 B.6 4.5 A.1
<b>PROBLEM SOLVING: APPLICATION</b>	<ul style="list-style-type: none"> <li>• apply multiplication to investigate science concepts.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students research the moon of each planet. Ask them to include their findings in their models by placing the appropriate number of smaller dots around each planet.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.5 C.4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use the relationship of division to multiplication to solve division problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Play Multiplication or Division Bingo.</li> <li>• Play Board Races.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Bingo</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1 B.6

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to:  • divide whole numbers by 2 digit and 3 digit divisors.	• Have students work with partners to write a word problem and use models to solve the division problems.	• Workbook Pgs. • Place Value Models (TT1)	• Teacher Observation • Homework	4.1    B.3
<b>BASIC NUMBER CONCEPTS</b>	• divide by multiples of 10, 100, 1,000, and 10,000, and use compatible numbers to estimate quotients.	• Have students work in groups to decide how they would use place-value models to show each of the following multiplication examples: 20 x 5; 200 x 5; 2,000 x 5.	• Workbook Pgs. • Place-Value Models (TT1)	• Teacher Observation • Homework	4.1    E.1,3
<b>PROBLEM SOLVING: READING FOR MATH</b>	• solve division problems using the work-backward strategy.	• Provide play money to groups. Read a money word problem aloud. Have the students manipulate bills to help them solve the problems. Monitor student progress.	• Workbook Pgs. • Play Money	• Teacher Observation • Homework	4.5    A.3,5
<b>BASIC NUMBER CONCEPTS</b>	• divide decimals by whole numbers.	• Play Board Races. • Write a problem on the board. Have the students write down the steps to solve the problem.	• Workbook Pgs.	• Teacher Observation • Homework	4.1    A.1
<b>BASIC NUMBER CONCEPTS</b>	• divide decimals by decimals.	• Play Board Races. • Write a problem on the board. Have the students write down the steps to solve the problem.	• Workbook Pgs.	• Teacher Observation • Homework	4.1    A.1

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PROBLEM SOLVING: APPLICATIONS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• apply division to analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Make a list of items. Have students estimate the cost of each item. Make a chart that displays their list of items and discuss how they estimated the cost per person for a chosen item.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4 A.1 4.5 C.2
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• collect and organize data.</li> </ul>	<ul style="list-style-type: none"> <li>• Make a chart using tally marks and play “How Many Pets Do You Own?”</li> <li>• Have students use graph paper to design their line plots, placing each “x” in a square on the grid.</li> <li>• Create questions and generate hypothesis based on graph.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper (TT2)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4 A.1,3
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• find and use range, mode, median, and mean.</li> </ul>	<ul style="list-style-type: none"> <li>• Make a chart for each word as follows, along with their meanings: range, mode, median, and mean.</li> <li>• Have each student use a clock with a second hand. Instruct students to time each other reciting the alphabet as quickly as they can. Make a class’s data to get a class statistic.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Clocks (TT25)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4 A.2 4.5 C.6
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• read and make single- and double-bar graphs.</li> </ul>	<ul style="list-style-type: none"> <li>• Make a Table entitled “Favorite Sport.” From this information students will construct a bar graph.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4 A.1,2

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>COLLECTION &amp; USE OF DATA</b>	Students will be able to: <ul style="list-style-type: none"> <li>• read and make line graphs.</li> </ul>	<ul style="list-style-type: none"> <li>• Using graph paper (TT2), draw a pair of points on a sheet of graph paper and label A and B. Exchange papers. Have each student tell the partner to get from A to BE. Discuss how different sets of directions are possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper (TT2)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4    A.2
<b>PROBLEM SOLVING: READING FOR MATH</b>	<ul style="list-style-type: none"> <li>• explain which types of graphs are appropriate for various data sheets.</li> </ul>	<ul style="list-style-type: none"> <li>• Collect graphs from magazines or newspapers. Discuss whether a different type of graph could have been used to show the same information.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Newspapers</li> <li>• Magazines</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4    A.2
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• determine whether a number is prime or composite.</li> </ul>	<ul style="list-style-type: none"> <li>• Divide the class into small groups. The groups have 2 minutes to find all numbers dividing evenly into another number. Whoever find the most correct divisors for a number is the winner.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.5
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• find common factors and the greatest common factor for 2 numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use the letters backward to remember how to find <u>GCF</u>: find <u>f</u>actors, find <u>c</u>ommon factors, find <u>g</u>reatest common factors. Have students find the GCF of 37,800 and 49,500.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.5

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• draw and write a fraction to represent a part of a whole or a part of a group.</li> </ul>	<ul style="list-style-type: none"> <li>• Give students 40 two-color counters: 16 red and 24 yellow. Have them use all 40 counters to form identical sets. Each set has the same number of red counters and the same number of yellow counters. Have students compare results.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Two-Color Counters (TT14)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• write fractions in simplest form.</li> </ul>	<ul style="list-style-type: none"> <li>• Write a fraction on the board. Have the students model the fractions with fraction strips. Then have the students find an equivalent fraction using fewer fractions strips.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Fractions Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.1,4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• find least common multiple of two numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• One student rolls 2 number cubes marked 7-12 and calls out the number rolled. The rest of the group finds the LCM. Students take turns rolling number cubes.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Number cubes marked 7-12</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.5
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• change decimals to fractions and fractions to decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students make up fractions for their partners to write and say aloud as division problems. Students may use fraction strips.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Fraction Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PROBLEM SOLVING: STRATEGY</b>	Students will be able to: <ul style="list-style-type: none"> <li>• solve problems by making a table.</li> </ul>	<ul style="list-style-type: none"> <li>• In pairs, list and give prices for 5 items in the room. Have each pair write a problem using the list. Have students exchange and solve each other's problem. After solving the problems, each student will make a table.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.5    A.1,3 B.1,3,4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• write mixed numbers as improper fractions and decimals and improper fractions and decimals as mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in Board Races.</li> <li>• Write the mixed number (ex) <math>5 \frac{3}{4}</math> using circles or squares. Divide each whole shape into 4 equal parts. Count how many fourths you have altogether.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• compare and order mixed numbers, whole numbers, decimals and fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Draw 2 rows of 4 rectangles, each on graph paper. Make each rectangle 3 units wide by 4 units long. Shade <math>3 - \frac{2}{3}</math> of the rectangles in first row. Shade <math>3 - \frac{5}{12}</math> of the rectangles in the second row. Have students compare their rectangles to see which mixed number is greater: <math>3 - \frac{2}{3}</math> or <math>3 - \frac{5}{12}</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.6

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PROBLEM SOLVING: READING FOR MATH</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>make a judgement to decide what operation is needed to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>Have each student in a group make up two problems, one addition and one subtraction, both dealing with mixed numbers and like denominators. Then students will exchange problems and write a story line to make them in world problems using the correct operation. The students will then exchange word problems to decide which operation best fits the solution.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    B.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>add fractions with unlike denominators.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use fraction strips to find different ways to model <math>1/4</math>, <math>1/2</math> and <math>1/3</math>. Have them find as many different ways as they can.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> <li>Fraction Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    B.2
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>subtract fractions with unlike denominators.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use fraction strips to model the subtraction of various fractions from 1. For example: "What is <math>1 - 3/8</math>?" Model how to express 1 by using denominator of the fraction being subtracted. Example: model 8 eights or <math>8/8</math>.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> <li>Fraction Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    B.2
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>add mixed numbers with unlike denominators.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use fraction strips to model <math>1 - 1/2</math> as many different ways as they can. For additional whole number fraction strips, trace the strips onto drawing paper and cut them out. Have students record their models with pictures and mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> <li>Fraction Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    B.2 4.5    C.6

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• apply properties of addition to fractions and mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each student in a pair pick a fraction strip from a bag. Have students add the 2 fractions in the order they were picked. Then have them reverse the order of the fractions and explore whether there is an effect on the sum.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Fraction Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    B.2
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• solve problems by writing an equation.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students practice writing a word equation to model each problem: "Number of pounds left + number of pounds used = amount started with." Then have students fill in the numbers or variables into the equation.</li> <li>• Students can write equations with words. Example: "4-3/8 pounds plus how many more pounds equals 25 pounds?"</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    B.2
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• subtract mixed numbers with unlike denominators.</li> </ul>	<ul style="list-style-type: none"> <li>• Present pairs of unit fractions with unlike denominators, such as 1/4 and 1/10. Have students find and use the LCM to express them as fractions with like denominators. Have students record the steps for finding the LCM.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Fraction Strips (TT23)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    B.2

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>estimate sums and differences of mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Give each pair of students a number line from 0 to 2. Have them mark the following points on the number line: <math>\frac{1}{8}</math>, <math>1\frac{1}{4}</math>, <math>1\frac{5}{8}</math>, <math>\frac{3}{4}</math>, <math>\frac{3}{8}</math>, <math>1\frac{7}{8}</math>, <math>\frac{1}{4}</math>, <math>1\frac{3}{4}</math>, and <math>1\frac{1}{8}</math>. One student lists fractions closer to 0 than to 1. The other student lists mixed numbers closer to 2 than to 1.</li> <li>Determine if each is an overestimate or an underestimate.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    C.1,4
<b>ESTIMATION</b>	<ul style="list-style-type: none"> <li>estimate products with mixed numbers, whole numbers, and fractions.</li> </ul>	<ul style="list-style-type: none"> <li>Draw a number line on the board from 0-5, marked in fifths. Have students name mixed numbers from 0-5 with fractions using fifths. Decide where to plot each on the line and how to round each to the nearest whole number.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    C.1
<b>ESTIMATION</b>	<ul style="list-style-type: none"> <li>solve problems by making an organized list.</li> </ul>	<ul style="list-style-type: none"> <li>Place 4 different colored connecting cubes in a bag. Have 9 volunteers pick 2 at a time and have students record combinations. Repeat 5 times. Then spill out all the colors for all to see and ask students to list all possible combinations of 2. Have them try to organize the list: red-blue, red-green, red-yellow, blue-red, and so on.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.4    C.1

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>MEASUREMENT</b>	Students will be able to: <ul style="list-style-type: none"> <li>• estimate and measure length in customary units.</li> </ul>	<ul style="list-style-type: none"> <li>• Have pairs use a paper clip and an unsharpened pencil to measure the length of their index fingers and their feet. Then have them measure their height. Discuss and record the data from different pairs. Ask the students, "Which tool works best for measuring finger length? Foot length? Height?"</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Small Paper Clips</li> <li>• Unsharpened Pencils</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    D.2,4
<b>MEASUREMENT</b>	<ul style="list-style-type: none"> <li>• estimate, choose an appropriate unit for, and change between units of capacity and weight.</li> </ul>	<ul style="list-style-type: none"> <li>• Have groups pour water to compare the capacities of a 12 oz. can, a 1/2 L. bottle, and a 1 L. bottle. Ask students to estimate how many cans of water fit in each bottle, and how many small bottles of water fit in one large bottle.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Water</li> <li>• 12 oz. Can</li> <li>• 1/2 L. &amp; 1 L. Bottles</li> <li>• Scale (optional)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    D.2,3
<b>PROBLEM SOLVING: READING FOR MATH</b>	<ul style="list-style-type: none"> <li>• check for reasonableness.</li> </ul>	<ul style="list-style-type: none"> <li>• With a ruler or yardstick, have pairs of students measure distances in the classroom in feet and in inches, rounding to the nearest unit. Have them share their measurements.</li> <li>• Ask the students, "Is 9 inches a reasonable measurement for the height of the door? Why?"</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Yardstick</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    D.4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>MEASUREMENT</b>	Students will be able to: <ul style="list-style-type: none"> <li>• change from one metric unit to another.</li> </ul>	<ul style="list-style-type: none"> <li>• Have pairs of students make a place-value chart with place value from 1,000 to 0.0001. Have students take turns writing multiplication and division problems with decimals between 0.1 and 10 and a factor or divisor of 10, 100, and 1,000. Partners solve the problems, then write the answer on the place-value chart.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Meter Stick</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    D.2
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• solve problems by drawing a diagram.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each group draw geometric shapes on graph paper and write directions on how to duplicate the drawing. For example: There are 2 squares in the middle, a circle between each one. Have groups trade directions and tell each member to draw a picture following directions.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> <li>• 4 x 6 Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.5    A.3
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• solve problems using more than one method.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each student solve the following problem, using his or her own method: "Lori saves \$8.00 each week for 9 weeks. How much has she saved at the end of the 9 weeks?" Have students share their methods for solving problems and discuss how the methods are different, but the same results.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Play Money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.5    A.3,5

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PROBLEM SOLVING: STRATEGY</b>	Students will be able to: <ul style="list-style-type: none"> <li>• apply integers to analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students list items and prices they think they would need to buy to put on a school play. Students can list ways to raise money for the play and how much each activity might raise. Have students make a chart or table to organize their information.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Play Money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4    A.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• write and evaluate addition and subtraction expressions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use graph paper to model and evaluate <math>k + 7</math>, for <math>k = 6</math> through <math>k = 10</math>. For each value for <math>k</math>, students draw a box around a row representing the total number of squares. They write the value of <math>k</math> inside each set of boxed squares. Students lightly shade in the final 7 squares in each row. They write "+7" inside shaded squares. At the end of each row, students write the final equation, "<math>k + 7 = 13</math>."</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3    A.1 C.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• write and evaluate multiplication and division expression.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students model the Learn problem on graph paper by outlining a 2 x 2 square every year. They can make 4 squares to represent 4 years. Ask the students, "How do you find the total number of acres?" Repeat for a division problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3    B.1

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• evaluate expression using the order of operations rule.</li> </ul>	<ul style="list-style-type: none"> <li>• Have groups model all the operations in the expression below, using connecting cubes: <math>15 - 3 \times 4 + z \div 2</math>. Ask them to find as many answers as possible and explain how they got their answer.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Connecting Cubes</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 B.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• represent situations and patterns with tables, words, and equations.</li> </ul>	<ul style="list-style-type: none"> <li>• Give 2-color counters to pairs of students. Students take turns using the counters to build a pattern of their own design, such as starting with one group of counters and performing an operation to get a second group; performing the same operation on the second group to get a third; and so on.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Two-Color Counters</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 A.1 C.1
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• graph points and functions in all 4 quadrants and use graphs to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students draw a coordinate grid, labeling the vertical axis from 0 - 10, and the horizontal axis from 0 - 10. Students use the grid and ruler to plot a square and name the ordered pair for each vertex. Students exchange papers.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 B.2
<b>PROBLEM SOLVING: READING FOR MATH</b>	<ul style="list-style-type: none"> <li>• use graphs to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students make a data table based on reading the Bedford Graph. In the left column, they can list times in increasing order. In the right column, they can list corresponding temperature and determine whether the numbers are increasing or decreasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> <li>• Index Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 A.1 C.2

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• solve addition equations.</li> </ul>	<ul style="list-style-type: none"> <li>• Give each student 4 index cards and tell them to write four different whole numbers on their index cards. Have students take turns holding up 2 index cards for their partners to examine. Find what number can be added to the smaller number to get the larger number.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Index Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 C.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• write and solve multiplication and division equations.</li> </ul>	<ul style="list-style-type: none"> <li>• Students will make puzzles for each to solve. Start with a number, then multiply or divide to form a second number. Give your partner a puzzle like this: "I divided my number by 8 and got 7. What number did I start with?" (56).</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 C.1
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• make graphs to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students toss a number cube twice to fill in boxes with numbers from 1 - 6: <math>y = \square x + \square</math>. Students should graph their functions by making a table of values for y and x, and plotting the values; plotting the values for <math>x = 0</math> to <math>x = 5</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Number Cubes</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 B.2 D.1
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• write and solve two-step equations.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students take turns - one student writes and solves a two-step equation; another writes a situation described and solved by the equation.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Counters</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.3 A.1

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PROBLEM SOLVING: STRATEGY</b>	Students will be able to: <ul style="list-style-type: none"> <li>• apply Algebra to analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Suppose the class wanted to raise money collecting aluminum cans. How many would you need to collect to raise \$100? Groups will calculate the number based on the deposit rate in your area. Use play money.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Play Money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1    A.2
<b>PRINCIPLES</b>	<ul style="list-style-type: none"> <li>• describe and name points, lines, line segments, end points, and rays.</li> </ul>	<ul style="list-style-type: none"> <li>• Give each student a 10 x 10 square of construction paper. Have students fold the paper in half in one direction and then in half again in the other direction to form 4 small squares. Cut squares apart. Cut z squares half-diagonally to make 4 triangles.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Construction Paper</li> <li>• Scissors</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.1
<b>PRINCIPLES</b>	<ul style="list-style-type: none"> <li>• measure and classify angles.</li> </ul>	<ul style="list-style-type: none"> <li>• Have pairs of students identify three specific times in a school day. Use a ruler to sketch the position of a clock's hands. Exchange sketches, identify time and shape.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Rulers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    B.2
<b>PRINCIPLES</b>	<ul style="list-style-type: none"> <li>• classify triangles.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students draw triangles on graph paper, using rulers to make straight lines. With protractors, have them measure the lengths of the sides and angles of the 3 vertices.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Protractors</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.2 E.1

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
PRINCIPLES	Students will be able to: <ul style="list-style-type: none"> <li>• classify quadrilaterals.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use toothpicks cut in half to create a variety of 4 sided figures with any 2, 3, or more units long. Compare figures to identify traits of 4-sided figures.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Toothpicks</li> <li>• Rulers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.2
PRINCIPLES	<ul style="list-style-type: none"> <li>• describe and draw congruent and similar figures.</li> </ul>	<ul style="list-style-type: none"> <li>• Each pair of students uses toothpicks and clay to form a model of a quadrilateral. Have pairs swap models and create a smaller and larger version of the quadrilateral.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Toothpicks</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.3,4
PRINCIPLES	<ul style="list-style-type: none"> <li>• identify translations, reflections and rotations.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each student choose a tangram piece and trace it. Students slide their tangram pieces to another location on their papers and trace again. Using a different colored pencil, students flip their tangram pieces and trace them.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Tangram Pieces</li> <li>• Colored Pencils</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    B.1
PRINCIPLES	<ul style="list-style-type: none"> <li>• draw shapes with lines of symmetry.</li> </ul>	<ul style="list-style-type: none"> <li>• Students fold a sheet of paper in half vertically. Using a marker, the students write their name along the inside crease. Students quickly refold the paper and press down along the fold while the marker is still wet. Unfold the paper and use markers to darken the impression of their name.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Markers</li> <li>• Paper</li> <li>• Scissors</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PRINCIPLES</b>	Students will be able to: <ul style="list-style-type: none"> <li>• describe and draw circles.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students trace and cut out a circle, and fold circle in half twice. Have them highlight the center of the circle and measure the distance from the center along a crease to an edge. Label "Radius." Measure distance from edge to edge along a crease and label "Diameter."</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.2
<b>GEOMETRIC PRINCIPLES</b>	<ul style="list-style-type: none"> <li>• find the perimeter of a polygram.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use paper clips (same size) to build squares, rectangle, parallelograms, and other quadrilaterals.</li> <li>• How would you find the number of paper clips it takes to go around your figure?</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Paper Clips</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    A.2 D.1 E.2
<b>GEOMETRIC PRINCIPLES</b>	<ul style="list-style-type: none"> <li>• find the area of rectangles and squares.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use graph paper to draw and shade rectangles.</li> <li>• How would you find the amount of paper that covers the surface inside your rectangles? Students exchange papers.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Graph Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    E.2
<b>STATISTICS &amp; PROBABILITY</b>	<ul style="list-style-type: none"> <li>• use scale drawings to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Place students in groups. Each group will draw a floor plan of the classroom using CM rulers.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• CM Rulers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.2    D.4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>STATISTICS &amp; PROBABILITY</b>	Students will be able to: <ul style="list-style-type: none"> <li>• review probability.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students label the sides of a blank number cube: A, A, A, B, B, C. Each group selects a different letter. Toss the cube. If their letter comes up, they earn 1 point.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Blank Number Cubes</li> <li>• Markers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4 B.1
<b>PROBLEM SOLVING: STRATEGY</b>	<ul style="list-style-type: none"> <li>• solve problems by conducting and experiment.</li> </ul>	<ul style="list-style-type: none"> <li>• Students can work in small groups. Roll a die and record results. One student tallies as another drops and picks up. Another monitors that their experiment is done the same way each time.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> <li>• Dice</li> <li>• Tally Sheet</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.4 B.1,3
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• change percents to decimals and fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Distribute sets of coins totaling \$1.00 to pairs of students. Set can contain pennies, nickels, dimes and quarters. One student picks a fraction from the set, <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{1}{10}</math>, and shows that fraction of \$1.00 in coins. Have the partner write an equivalent fraction with 100 as the denominator.</li> </ul>	<ul style="list-style-type: none"> <li>• Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Homework</li> </ul>	4.1 A.4

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>PROBLEM SOLVING: READING FOR MATH</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>compare and contrast information to choose a representation.</li> </ul>	<ul style="list-style-type: none"> <li>Label index cards with one number each to show groups of 4 equivalent numbers: <math>1/4</math>, 0.25, 25%, <math>2/8</math> <math>1/2</math>, 0.5, 50%, <math>3/6</math> <math>1/5</math>, 0.2, 20%, <math>2/10</math></li> </ul> <p>Give each pair of students a pile of cards. Have students use the cards to play concentration and keep track of their matches by looking for equivalent numbers.</p>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> <li>Index Cards</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.1    A.4
<b>STATISTICS &amp; PROBABILITY</b>	<ul style="list-style-type: none"> <li>interpret and make circle graphs.</li> </ul>	<ul style="list-style-type: none"> <li>Have students in each group number themselves. Give each student one paper circle. Fold your circle in half as many times as your number. Unfold your circle and use a pencil to mark the sections formed by the tools.</li> </ul>	<ul style="list-style-type: none"> <li>Workbook Pgs.</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Homework</li> </ul>	4.4    A.2
<b>GEOMETRY &amp; MEASUREMENT</b>	<ul style="list-style-type: none"> <li>create geometric shapes on a coordinate grid</li> </ul>	<ul style="list-style-type: none"> <li>Give each student a copy of a coordinate grid. Verbally give directions to students to plot points on the grid. Have students connect points to create geometric shapes.</li> </ul>	<ul style="list-style-type: none"> <li>Grid Paper</li> <li>Pencil</li> <li>Ruler</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Drawings</li> </ul>	4.2    C.1

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>GEOMETRY &amp; MEASUREMENT</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>recognize that rectangles with the same perimeter do not always have the same area.</li> </ul>	<ul style="list-style-type: none"> <li>Have students draw as many rectangles as they can that have a perimeter of 30 units. Ask students to find the area of each and compare their results.</li> </ul>	<ul style="list-style-type: none"> <li>Graph Paper</li> <li>Pencil</li> <li>Ruler</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Drawings</li> <li>Worksheets</li> </ul>	4.2 E.3
<b>GEOMETRY &amp; MEASUREMENT</b>	<ul style="list-style-type: none"> <li>develop informal ways to find measurements of familiar objects.</li> </ul>	<ul style="list-style-type: none"> <li>Have students trace their hand onto graph paper. Ask students to estimate the area and perimeter of their hand.</li> </ul>	<ul style="list-style-type: none"> <li>Graph Paper</li> <li>Pencil</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Worksheet</li> </ul>	4.2 E.4
<b>DATA ANALYSIS, PROBABILITY, &amp; DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>determine the probability of certain events.</li> </ul>	<ul style="list-style-type: none"> <li>Theoretical probability: Have students determine the probability of rolling any given number on a six-sided die.</li> <li>Experimental: Roll the die 50 or more times and record results. Determine the experimental probability for each number.</li> </ul>	<ul style="list-style-type: none"> <li>Tally Sheet</li> <li>Dice</li> <li>Pencil</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Worksheet</li> </ul>	4.4 B.2,3
<b>DATA ANALYSIS, PROBABILITY, &amp; DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>explore the multiplication principle of counting.</li> </ul>	<ul style="list-style-type: none"> <li>Have students try to determine how many different outfits you could make with 3 shirts and 4 pants. After students have come up with their own answers, explain that they could solve this type of problem mathematically by doing <math>4 \times 3 = 12</math>.</li> </ul>	<ul style="list-style-type: none"> <li>Models to represent shirts and pants</li> <li>Recording Worksheet</li> </ul>	<ul style="list-style-type: none"> <li>Teacher Observation</li> <li>Worksheet</li> <li>Homework</li> </ul>	4.4 C.2

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 5**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<p><b>DISCRETE MATHEMATICS</b></p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• devise strategies for winning simple games.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students play a game called "21". The object is to not be the person who has to say 21. Students take turns counting beginning with 1. Each person can say either 1, 2, or 3 numbers during his/her turn. The person who says 21 is out, and play continues again at 1 with the next person. The winner is the last person.</li> </ul>		<ul style="list-style-type: none"> <li>• Teacher Observation</li> </ul>	<p>4.4    D.1</p>
<p><b>MATHEMATICAL PROCESSES</b></p>	<ul style="list-style-type: none"> <li>• trace the development of math concepts over time.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students research key events in the history of math. Create a time line in small groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Text</li> <li>• Internet</li> <li>• Resource Books</li> <li>• Posterboard</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Observation</li> <li>• Finished Time Lines</li> </ul>	<p>4.5    C.5</p>