

**TOWNSHIP OF FRANKLIN PUBLIC SCHOOLS  
MATHEMATICS CURRICULUM  
GRADE 3**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<p><b>NUMBER SENSE</b></p> <p><b>NUMBER SENSE</b></p> <p><b>NUMBER SENSE</b></p> <p><b>NUMBER SENSE</b></p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• count, read, and write whole numbers.</li> <li>• count, read, and write whole numbers.</li> <li>• compare and order whole number to 10,000.</li> <li>• round numbers to the nearest ten, hundred, and thousand.</li> </ul>	<ul style="list-style-type: none"> <li>• Work in groups with place value model. Model using standard and expanded form and record on place value charts.</li> <li>• Make a 6 x 6 grid. Label each top box using a different color. Students then write given numbers in appropriate columns using different color for each place value.</li> <li>• Each student writes a 5-digit number on an index card. Then they order the cards from least to greatest into a grant number line.</li> <li>• Group of 3 students roll a number cube 4 times to create a 4 digit number. One student writes it in word form, next writes it in expanded form, third identifies value of each digit. Group then checks answers and discusses all information.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Place value charts</li> <li>• Manipulative rods</li> <li>• Student pages (practice, re-teaching, enrichment &amp; homework)</li> <li>• Graph paper</li> <li>• Markers</li> <li>• Textbook</li> <li>• Index cards</li> <li>• Markers</li> <li>• Student pages (PREH)</li> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Paper</li> <li>• Pencils</li> <li>• Number cubes</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> <li>• Completed student pages (practice, re-teaching, enrichment &amp; homework)</li> <li>• Student charts</li> <li>• Student placement</li> <li>• Teacher observation</li> <li>• Completed student pages</li> <li>• Teacher observation</li> <li>• Group results</li> <li>• Completed student pages</li> </ul>	<p style="text-align: center;"><u><b>By the end of Grade 3</b></u></p> <p>4.1      A.1,2</p> <p>4.1      A.2,6</p> <p>4.1      C.2</p>

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<b>NUMBER SENSE</b>	Students will be able to: <ul style="list-style-type: none"> <li>• make a table.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students write alphabet across the top of the page. Call out each child's name. As you call it, have students write it under the proper letter and make a tally under that letter. Have students total tally marks, share and compare their results.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Paper</li> <li>• Pencil</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      A.1,5
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• count bills and find money amounts.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work together to complete a chart while using play money to show least/greatest amount of bills and coins needed to make teacher provided amounts, such as: \$3.68 &amp; \$2.46.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      B.5
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• count coins and bills and make change.</li> </ul>	<ul style="list-style-type: none"> <li>• Distribute toy catalogs and \$10 in play bills and coins to pairs of students. Each cuts out one toy they wish to buy. The partners count out the money each needs to buy the toy. Take turns "buying items". Each group needs to order items and prices from greatest to least value. Each group needs to find the total value of all items on the list. They must determine how much change they would have.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Play money</li> <li>• Toy catalogs</li> <li>• Circulars</li> <li>• Student pages (PREH)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      B.5
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• compare and order decimal money amount.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students look through catalogs and advertisements for a specific item. See who can find the item for the lowest amount.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Catalogs</li> <li>• Advertisements</li> <li>• Student pages (PREH)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      A.6 B.5

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<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students create a toy catalog. Then have partners use the catalog to order items, total cost, and determine change. Check with calculators.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Paper</li> <li>• Markers</li> <li>• Calculators</li> <li>• Student pages (PREH)</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> <li>• Student created catalogs &amp; order forms</li> </ul>	4.1      B.3,5,6
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use properties and strategies to add.</li> </ul>	<ul style="list-style-type: none"> <li>• Students can use calculators to add pairs of addends, such as <math>5 + 6</math>, <math>6 + 5</math>. Have them repeat with several other facts and record all fact pairs.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Calculator</li> <li>• Paper</li> <li>• Pencil</li> <li>• Timed tests</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      B.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use properties and strategies to add.</li> </ul>	<ul style="list-style-type: none"> <li>• Use color counters to show doubles, then use 2 colors to show doubles + 1 and doubles +2. Show <math>6 + 6 = 12</math>, so <math>6 + 6 + 1 = 13</math>; therefore, <math>6 + 7 = 13</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• Colored counters</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1      B.1
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use properties and strategies to add.</li> </ul>	<ul style="list-style-type: none"> <li>• Make magic squares with different sums.</li> </ul>	<ul style="list-style-type: none"> <li>• Graph paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1      B.1

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<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• add three or more numbers and use the Associate Property.</li> </ul>	<ul style="list-style-type: none"> <li>• Working in groups, students will use toothpicks (about 50 per group) to make geometric shapes and glue to paper. They will make 3 or more of each shape. Have them write the addition fact below each set.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Toothpicks</li> <li>• Construction paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      B.1,4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• add multiples of 10, 100 and 1,000.</li> </ul>	<ul style="list-style-type: none"> <li>• Use place value models to show problems such as: <math>7 + 8</math>, <math>7 + 80</math>, <math>70 + 80</math>, <math>70 + 800</math>, <math>700 + 800</math>. Label and state ones, tens, hundreds, and thousands in the addends and the sum.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Place value models</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1      B.1,4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• add and regroup.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in groups of 3. Each student takes a turn thinking of a two 2 digit number. The second student writes these down, and the third models each number. Have them discuss what regrouping occurred and why.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Place value models</li> <li>• Pencil</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,4
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• add and regroup</li> </ul>	<ul style="list-style-type: none"> <li>• Give a pair of students 20 squares of blue, red, and green paper. Assign each color a different value. Have students model problems such as <math>176 + 286</math> by showing each number on a place value chart.</li> </ul>	<ul style="list-style-type: none"> <li>• Place value chart</li> <li>• Construction paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1      B.1,4

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<b>MENTAL MATH &amp; ESTIMATION</b>	Students will be able to: <ul style="list-style-type: none"> <li>• estimate sums.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in pairs to write addition problems using 2 and 3 digit numbers. One student will estimate the sum and the other will use a calculator to solve. Complete numbers on chart.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Calculators</li> <li>• Paper</li> <li>• Pencil</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1 C.2,3
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• determine when to estimate or find exact answer.</li> </ul>	<ul style="list-style-type: none"> <li>• Label chalkboard with 2 columns, "Estimate" and "Exact Answer." Brainstorm a list of questions or word clues students can look for when deciding if a problem requires estimate or exact answers. Keep list on display.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Chart paper</li> <li>• Markers</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Completed student pages</li> </ul>	4.1 C.3
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• write an addition sentence to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students write a story problem in their math journal. Have a partner read it and write it as a number sentence. Allow them to draw a model to represent the addends if needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Journals</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Journals</li> </ul>	4.1 A.5

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<b>BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• add more than 2 numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Use dice to build numbers (3 or 4). Place each number in a place value chart (one number per space). Have students add each column. Check with calculator.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Dice</li> <li>• Place value chart</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 B.1,3,4
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• analyze data and make decisions using subtraction.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students determine how much they would have if they earned a nickel a day for a month. Have them determine their earnings at a dime a day, and a quarter. Have them make up a savings plan. (Use funny money as needed).</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Play money</li> <li>• Paper</li> <li>• Pencil</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 B.1 4.4 A.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• complete fact families.</li> </ul>	<ul style="list-style-type: none"> <li>• Students will make a house, put the addends in each window (2) and the sum in the door. They then write the entire fact family on the roof.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages</li> <li>• House cutout</li> <li>• Markers, crayons</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> <li>• Student created "family" house</li> </ul>	4.1 B.1
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• solve problems and find missing addends.</li> </ul>	<ul style="list-style-type: none"> <li>• Using two colors of connecting cubes, students work in pairs to model each fact family. Example: Connect 4 red and 5 blue cubes. Write the number sentence. Rearrange the cubes to show 5 red and 4 blue cubes. Model 9-5 and 9-4 to complete fact family.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Connecting blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.5 A.1,5

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<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• identify unimportant or extra information.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students look at menus from restaurants and determine the price of what they want to order. Have them find the total, and how much change they would get from \$10.00.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Menus - restaurant receipts</li> <li>• Paper</li> <li>• Pencil</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student created receipts</li> </ul>	4.5      A.2
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• subtract multiples of 10, 100, and 1000.</li> </ul>	<ul style="list-style-type: none"> <li>• Using the place value chart on the overhead, have students model the number and write it on the chart. Ex: 7-4, 70-40, and 700-400. Have the students write each number sentence as one person models the solution in front of the class.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages</li> <li>• Overhead transparency of place value chart</li> <li>• Place value models</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student chart</li> </ul>	4.1      B.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• regroup tens and hundreds when subtracting.</li> </ul>	<ul style="list-style-type: none"> <li>• Using overhead, model with transparent money how to make change. Example: From 6 dimes and 3 pennies, you want to take away 8 cents. Model how you change a dime to pennies. Do the same with dollar bills.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Overhead</li> <li>• Transparency</li> <li>• Clear overhead money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,2,4,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• regroup tens and hundreds when subtracting.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in groups to make up five 3 digit subtraction problems that require regrouping once. One student writes the problem: (ex: <math>324 - \underline{\quad\quad} = 125</math>). Groups exchange problems and solve. Use calculators to check for accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculators</li> <li>• Paper</li> <li>• Pencil</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1      B.1,2,4,7

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<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• subtract numbers with and without regrouping.</li> <li>• regroup and subtract across zeros.</li> </ul>	<ul style="list-style-type: none"> <li>• Students collect data on high and low temperatures from different parts of the world. They will make a table with name, high and low temperature, and the different.</li> </ul>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• 4 Column chart</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 B.1,4,7
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• estimate differences.</li> </ul>	<ul style="list-style-type: none"> <li>• Ask small groups of students to estimate the number of pens and pencils in the classroom and round their estimates to the nearest ten. Then have each group find the estimated difference between pens and pencils. After sharing their estimates and the strategies they used, the groups can work together using calculators to tally the exact numbers of pens and pencils and find the exact difference.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Paper</li> <li>• Pencil</li> <li>• Calculators</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 C.1,2,3,4
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• write a subtraction sentence to solve a problem</li> </ul>	<ul style="list-style-type: none"> <li>• Pair students. Give a pair place-value model. Have partners use the models to solve the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Place-value models</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.5 A.1,2 B.1

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<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>subtract with and without regrouping.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use subtraction to make comparisons between some of the world's largest rivers: Nile (Africa) 4,180 miles; Amazon (South America) 3,912; Mississippi/Missouri (U.S.) 3,880; Yangtze (China) 3,602; Ob (USSR) 3,459; Rio Grande (US/Mexico) 1,885 and Danube (Europe) 1,766. Students can display their finding on a chart.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Paper</li> <li>Pencil</li> <li>Chart paper</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> </ul>	4.1      B.1,3,7
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Divide class into small groups. Give each group a mixture of coins and bills. Have the students sort, count, and record each coin and/or bill. Have them find the subtotal and overall total. Verify with calculator, then switch group to another station.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>An assortment of play money per group</li> <li>Calculator</li> <li>Math center cards</li> <li>Performance assessment</li> <li>Portfolio</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Performance assessment</li> </ul>	4.4      A.1,2
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>tell time to the nearest half hour, quarter hour, 5 minutes and minute.</li> </ul>	<ul style="list-style-type: none"> <li>Give pairs of students a paper circle. Tell them it represents a clock. Ask them to fold the circle in half and then quarters. Discuss half hour and quarter hour. Have students label the circle appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Paper circles</li> <li>Markers</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Student drawings with labels</li> </ul>	4.4      A.1,2

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<b>CONCEPTS OF MEASUREMENT</b>	Students will be able to: <ul style="list-style-type: none"> <li>• tell time to the nearest half hour, quarter hour, 5 minutes and minute.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students draw pictures of daily activities and write an appropriate time under each picture, including the term A.M. or P.M.</li> </ul>	<ul style="list-style-type: none"> <li>• Drawing paper</li> <li>• Crayons</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.4      A.1,2
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>• convert between simple time units.</li> </ul>	<ul style="list-style-type: none"> <li>• Students will use individual chalkboards to write what time the teacher shows on a large Judy clock. Students then demonstrate moving hands at 15 min., 30 minutes, and 1 hour intervals on the Judy clock.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages (PREH)</li> <li>• Chalkboard</li> <li>• Judy clock</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.4      A.1,2
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>• find end time and the time between events.</li> </ul>	<ul style="list-style-type: none"> <li>• Students take turns presenting elapsed time problems for other students to solve. Encourage students to use mental math to solve, but have them use a clock to prove answers and resolve disagreements.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Math journals</li> <li>• Judy clocks</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal schedule</li> </ul>	4.4      A.1,2
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>• find end time and the time between events.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each student make a schedule showing what they do on a school day. Write the starting and ending times for each activity. Draw clock faces showing what time they do each activity. Find the elapsed time for each activity. Determine how long from lunch to the end of the day.</li> </ul>	<ul style="list-style-type: none"> <li>• Paper</li> <li>• Pencil</li> <li>• Clock stamp</li> <li>• Stamp pad</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.4      A.1,2

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>CONCEPTS OF MEASUREMENT</b>	Students will be able to: <ul style="list-style-type: none"> <li>• use a calendar and ordinal numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students create the calendar for the current month. Have them label the days of the week, holidays or celebrations. Draw pictures on the dates. Discuss the ordinal placement of these days; ex.: the third Wednesday and the sixth day of the month.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Blank calendar or 5 x 7 grid</li> <li>• Crayons</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Calendar</li> </ul>	4.2      D.1
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• identify missing information in a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in pairs to interview each other about the length of time they spend on various tasks. Have them note and calculate the time spent in different activities. Decide what time is unaccounted for.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Paper</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.2      C.1 4.5      A.2,5
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• work backwards to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students write, then act out skits that involve solving a problem by working backwards. Ex: you had \$6.00 when you got home from the movies. The movie cost \$3.50. How much money did you start with?</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Math journal</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.5      A.2,4

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<b>COLLECTION &amp; USE OF DATA</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• read, make, and compare tallies and line plots.</li> </ul>	<ul style="list-style-type: none"> <li>• Take a class survey of pets. Have the students create a tally chart and a line plot to display the information. Use graph paper and put one x per box.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Crayons</li> <li>• Graph paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Charts &amp; plots</li> </ul>	4.4      A.1,2
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• explore reading and making pictographs.</li> </ul>	<ul style="list-style-type: none"> <li>• Have the students create a class pictograph. Each student draws a picture of their face on a 4 x 4 square. Label a pocket chart with sneakers, boots, sandals, and shoes. The students place their picture next to which they are wearing that day. Do again with another topic such as favorite foods or sports.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• 4 x 4 squares</li> <li>• Pocket chart</li> <li>• crayons</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.4      A.2
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• explore reading and making a bar graph.</li> </ul>	<ul style="list-style-type: none"> <li>• Give the students a ½ cup of cereal; such as Trix or Fruit Loops. The students tally, then display number of each color as a bar graph. Make sure they label both sides, the title, scale, and color each bar the appropriate color.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Cereal - Trix or Fruit Loops</li> <li>• Graph paper</li> <li>• Crayons or markers</li> <li>• Napkins</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Student created graph</li> <li>• Performance assessment</li> </ul>	4.4      A.2
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• use ordered pairs to identify and locate points on a grid.</li> </ul>	<ul style="list-style-type: none"> <li>• Have class make a graph of the high and low temperatures over a week long period.</li> </ul>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Chart paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student created graph</li> </ul>	4.4      A.2

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<b>COLLECTION &amp; USE OF DATA</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>use ordered pairs to identify and locate points on a grid.</li> </ul>	<ul style="list-style-type: none"> <li>Play Battleship. Make a game board by making dots on a 10 x 10 grid. Have the students draw in 2 squares to represent ships. Then have them work with a partner. Each person takes a turn calling out the ordered pair to locate their partner's ship. They answer "hit" if they say it or "miss" if they are incorrect. First person to locate both ships wins.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Graph/grid paper</li> <li>Rulers</li> <li>Markers</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Students' game</li> </ul>	4.2 C.1
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>use ordered pairs to identify and locate points on a grid.</li> </ul>	<ul style="list-style-type: none"> <li>Arrange disks in the classroom in an array format. Identify where (0,0) is. Place all students' name in a box. Have each student take a turn, pulling a name and telling the identifying location of the student using ordinal pairs.</li> </ul>	<ul style="list-style-type: none"> <li>Box</li> <li>Student names on slips of paper</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> </ul>	4.2 C.1
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Use a television guide to have the students decide what shows they would watch on a given day. Have them write down the name as well as the starting, ending time. They calculate the total time spent viewing shows for the day - use calendars if needed.</li> </ul>	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Student pages (PREH)</li> <li>Student journal entry</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Student journal entry</li> </ul>	4.4 A.1

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• explore multiplication.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in pairs using multicubes. Have them solve riddles such as "I am 3 groups of 4. What number am I"? The student who answers must model the answer with cubes.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Multicubes</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 B.1,2,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• relate multiplication and addition.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students arrange colored tiles in groups with equal-sized rows, such as 2 rows of 4 yellow tiles. Have them write an addition and a multiplication sentence to go with the tiles. Have them repeat with other examples by changing the number of rows and the numbers in each row.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Colored tiles</li> <li>• Math journal or paper</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal writings</li> </ul>	4.1 B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use arrays to explore concepts of multiplication.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use their math books to create arrays to answer the question <math>\_\_\_ \times \_\_\_ = 8</math>. Have them arrange the books so they are spaced equally. Have them rearrange them into other arrangements.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages (PREH)</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> </ul>	4.1 B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use arrays to explore concepts of multiplication.</li> </ul>	<ul style="list-style-type: none"> <li>• Use graph paper to draw <math>4 \times 3</math> and <math>3 \times 4</math>. Have them cut out figures. Create a poster with cut outs and appropriate multiplication sentences.</li> </ul>	<ul style="list-style-type: none"> <li>• Graph paper</li> <li>• Rulers</li> <li>• Scissors</li> <li>• Markers</li> <li>• Poster board</li> </ul>	<ul style="list-style-type: none"> <li>• Student created poster</li> </ul>	4.1 B.1,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• make a judgement to decide which operation to use.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide partners with 20 connecting cubes. Have them decide how to use them to write word problems. Have their partners solve them.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Connecting cubes</li> <li>• Math journals</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> <li>• Journals</li> </ul>	4.1 B.6,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• review multiples of 5.</li> </ul>	<ul style="list-style-type: none"> <li>• Have three students work together. One operates the calculators, entering 5x1, 5x2, up to 5x20. The other students record the products ending in 5 and those ending with 0 in two separate columns. Ask each group to write their rules to explain the patterns they see in each product.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Calculators</li> <li>• Paper with columns</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Group activity sheet</li> </ul>	4.1 B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• review multiples of 2.</li> </ul>	<ul style="list-style-type: none"> <li>• Read the story <u>The Elves and the Shoemaker</u>. Have the students keep track of how many shoes are made by multiplying each occurrence by 2. Have them draw and label a retelling of the story in their journal.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• The Elves and the Shoemaker</li> <li>• Math journals</li> <li>• Math center cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> <li>• Journal</li> </ul>	4.1 B.1,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• multiply by 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students draw triangles. When the designs are complete, have the students count the triangles and record the number fact that gives the total number of angles in their triangles. For example: 4 triangles would show <math>4 \times 3 = 12</math>. Have them share their designs with the class.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Construction paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student drawings.</li> </ul>	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• multiply by 4.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students create 4-legged animals. Then have them join with others and compare how many legs they have total. Create a chart showing the multiples of 4.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Drawing paper</li> <li>• Markers</li> <li>• Chart paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Drawing</li> </ul>	4.1      B.1,7
<b>GENERAL NATURE &amp; USE OF MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• find a pattern to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Draw a number line on the board. Circle 1, 4, 7 &amp; 10. Ask what the differences are between the circled numbers. Have the students create their own patterns, describe them and have others identify the pattern rule and continue the pattern. Justify their answers in writing.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Chalkboard</li> <li>• Math journals or paper</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Journals</li> </ul>	4.3      A.1 4.5      A.2
<b>BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• identify and use the identify and zero properties in multiplication.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in pairs. Provide several cards with multiplication sentences using 1 and 0 as factors. Have students take turns: One student picks a card and reads the number sentence; the other states the rule that relates to it. If both students agree on the rule, they can change places.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Multiplication fact cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>use multiplication table with facts up to 5.</li> </ul>	<ul style="list-style-type: none"> <li>Give each student a multiplication table. Have them fill in the table, then color each pattern with a different color crayon. Discuss the patterns and how they will help with their multiplication facts. Complete whole activity modeling one on the overhead.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Blank multiplication</li> <li>Table</li> <li>Overhead</li> <li>Crayons</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> </ul>	4.1 B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Have the students create a list of all the combinations they can use to make \$1.00. Use play money for assistance as needed. Write which combination they would want and why.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Decision making worksheet</li> <li>Math journals</li> <li>Play money</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Performance assessment</li> <li>Journal entry</li> </ul>	4.1 B.5 4.4 A.1
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>apply multiplication using problem solving.</li> </ul>	<ul style="list-style-type: none"> <li>Write the following reptiles and the number of eggs/young they produce on the board. Eastern Fence Lizard - 4-17 eggs; Garter Snake - 3-85 snakes; Snapping Turtle - 8-80 eggs. Ask class to work together and determine the least and greatest number of reptiles if there were 5 mothers for each kind. They can use a calculator to check answers. (Turtle 40-400, Snakes 15-425, Lizards 20-185)</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Math journals</li> <li>Calculators</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journal entry</li> </ul>	4.5 A.2,4,5

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<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• explore square numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Use square counters to model square numbers and their arrays. Draw on grid or graph paper.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Square counters</li> <li>• Graph paper</li> <li>• Ruler</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.4 D.1
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• make inferences to solve multistep problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Students draw illustrations to help "see" each step of the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages (PREH)</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Math center cards</li> <li>• Illustrations</li> </ul>	4.5 A.2,3,5
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• multiply by 6 and 8.</li> </ul>	<ul style="list-style-type: none"> <li>• Give pairs of students graph paper. Each pair starts a 100's chart. One student colors in each multiple of 6 with one color and then their partner colors in the multiples of 8 with another.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Graph paper</li> <li>• Ruler</li> <li>• Markers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• 100's chart</li> </ul>	4.1 B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• multiply by 7.</li> </ul>	<ul style="list-style-type: none"> <li>• Have each student follow this procedure: Press the calculator keys for any multiplication fact using 7. Give the product out loud, then press the = key to check. Continue practicing all the facts in the family.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Calculator</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 B.1,7

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<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to:  • multiply by 10.	• Use dimes to practice the fact family.	• Textbook • Student pages • Dimes	• Teacher observation • Student pages	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	• multiply by 9.	• Play "Deal A Fad" Game.	• Textbook • 2 sets of numbered cards 1-12 • 3 sets of 3 cards labeled +, -, x.	• Teacher observation • Student pages	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	• explore patterns in a multiplication table	• Give students a copy of multiplication table and crayons. Tell students to put 1 finger on the sevens column and 1 finger on the fours row. Have them color where they meet. Continue with other facts.	• Textbooks • Student pages (PREH) • Multiplication table	• Teacher observation • Student pages	4.1      B.1 4.3      B.1
<b>COLLECTION &amp; USE OF DATA</b>	• make a list to solve a problem.	• Have partners draw and cut out a red and blue triangle, a red and a blue circle, and a red and blue square. Have them use the cutouts to find the total possible combinations of a triangle, circle, and square. Record their work on a table or chart.	• Textbook • Student pages (PREH) • Construction paper • Chart paper • Math Center Cards	• Teacher observation • Student pages	4.5      A.1,2,4,5

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GRADE 3**

SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• multiply 3 numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students explore group properties of multiplication by choosing 3 numbers with 2 or more digits and then write them in a different order, and use a calculator to find the product of each.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Math journals</li> <li>• Calculators</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.1      B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• apply multiplication in science (problem solving).</li> </ul>	<ul style="list-style-type: none"> <li>• Make glue to test the best recipe. Alternative could be to use sugar and milk to make glaze. Apply to cupcakes when done.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Measuring cups and spoons</li> <li>• Flour</li> <li>• Water</li> <li>• Bowl</li> <li>• Paper</li> <li>• Paper clips</li> <li>• String</li> <li>• Newspaper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Problem solving worksheet</li> <li>• Math and science worksheet</li> </ul>	4.5      A.1,2,4,5
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• explore division.</li> </ul>	<ul style="list-style-type: none"> <li>• Write " ____ groups of ____ = 16" on the board or overhead. Have pairs of students use connecting cubes to make 2 trains of equal length. As pairs describe the trains of 2 groups of 8 write it on the board. Also have pairs consider 8 groups of 2 and 4 groups of 4.</li> <li>• Continue the activity by choosing other even numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Connecting cubes</li> <li>• Overhead or chalkboard</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,2,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• divide by 2.</li> </ul>	<ul style="list-style-type: none"> <li>• Have a partner take a handful of pennies. Partners count them and decide if they can divide them equally. They distribute them one at a time to determine if they can make 2 equal groups. Have them write out that and other facts that can be divided by 2.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Journal writings</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal writing</li> </ul>	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• divide by 5.</li> </ul>	<ul style="list-style-type: none"> <li>• Draw circles on a large piece of paper to make a target for a beanbag toss. Mark each circle with multiples of 5 (5-45). Form teams. The player tosses the beanbag. They need to give the question for the number they landed on. If correct they earn a point for their team.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Large paper</li> <li>• Markers</li> <li>• Beanbag</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• choose a strategy to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• List on overhead: Draw a diagram, act it out. Write a number sentence. Have students create a word problem for each strategy. Then exchange papers and solve using the suggested strategy.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Paper</li> <li>• Overhead</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student created &amp; solved problems</li> </ul>	4.5      A.2,3,4,5

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• show division as repeat subtraction.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use counters to act out repeated subtraction. As they take away each group, have students put the counters in individual piles. Have them count the piles to find the number of times they subtracted.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Counters</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 B.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• show division as repeat subtraction.</li> </ul>	<ul style="list-style-type: none"> <li>• Use a number line and use arrows to show how many times you skip backwards. Ex: <math>18 \div 3</math>, go from 18 to 15 to 12.</li> </ul>	<ul style="list-style-type: none"> <li>• Overhead</li> <li>• Markers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1 B.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• relate multiplication and division.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students make diagrams showing a fact family. Have them use a different color for each of the numbers and label each number with its term (product, dividend, and so on) in the same color as the number.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Math journals</li> <li>• Markers</li> <li>• Crayons</li> <li>• Math Center Cards</li> <li>• Counters</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journals</li> </ul>	4.1 B.1,2
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• make a judgement to which operation to use.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide index cards so the students can write their own problems to solve and the correct answer on the back. Combine the cards, shuffle, and play a game to see who can correctly solve the most problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Index cards</li> <li>• Math Center Cards</li> <li>• Counters</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> </ul>	4.1 B.6,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• divide by 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use connecting cubes to make ABC patterns - 1 red, 1 yellow &amp; 1 blue. Have them repeat 3 times. Discuss and write related facts.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Connecting blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• divide by 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Practice skip counting forward and backwards.</li> </ul>		<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• divide by 4.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students color in grids and label them with multiplication facts for 4. Have them show how they can use the facts for division by looking at 1 factor and the product to find the other factor.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Grid/graph paper</li> <li>• Markers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Colored grids</li> </ul>	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• divide by 0 &amp; 1.</li> </ul>	<ul style="list-style-type: none"> <li>• Make flash cards with 1 &amp; 0 facts. Have 2 teams compete for a point. The first person to give the correct answers earns a point. The team with the most points wins.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Flash cards</li> <li>• Scoreboard</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• problem solve using division.</li> </ul>	<ul style="list-style-type: none"> <li>• Make a chart as partners divide 18 marshmallows. They are going to divide them equally and justify their answers in writing.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Math &amp; science worksheets</li> <li>• Performance assessment</li> <li>• Journal</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Portfolio assessment</li> <li>• Journal</li> <li>• Teacher observation</li> </ul>	4.5      A.1,2,4,5

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• divide by 6 &amp; 7.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students think of “Guess-My-Number” riddles to challenge each other. For example: I am a 2 digit number. I can be divided by 6. The sum of my digits is 3. What number am I?</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Math journals</li> <li>• Timed tests</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> <li>• Journal</li> <li>• Timed tests</li> </ul>	4.1      B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• make inferences to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Use a number cube. Without looking, make 2 rolls and tell the sum. Have students record the sums. Have them make an inference about the hidden rolls. They will be guessing/infering what numbers were rolled.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Number cubes</li> <li>• Math journals</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.5      A.1,4,5
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• divide by 8 &amp; 9.</li> </ul>	<ul style="list-style-type: none"> <li>• Form 2 teams. Have each student make up 3 clues. They write each clue and its answer on an index card. Let teams take turns reading a clue for the other team to answer. Correct answer scores a point (Ex: When you multiply my number by 8 you get 32. What is my number?)</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Index cards</li> <li>• Timed tests</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Timed tests</li> </ul>	4.1      B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• use guess and check to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Spin a Fact Game - groups of 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• 2 spinners, labeled 1-12</li> <li>• Stopwatch</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.5      A.3,5

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>divide by 10.</li> </ul>	<ul style="list-style-type: none"> <li>Select 10 students. Give each a piece of paper labeled with a multiple of 10 (from 10 to 100). One at a time they present their card. Students state a multiplication fact with 10 and another factor that make up the product on the card. Continue until all cards have been played. Redistribute and play again.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Cards with multiples of 10 (10-100)</li> <li>Power Facts book</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Complete Power Facts</li> </ul>	4.1      B.1,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>use a multiplication table with facts to 12 to divide.</li> </ul>	<ul style="list-style-type: none"> <li>Give students piece of centimeter graph paper. Have one student number boxes 12 rows of 11 boxes (1-132); the other student numbers their chart 12 rows of 12 boxes each (1-144). When finished, have them work the last column of each of their charts to explore facts in the 11 and 12 family.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Cent. graph paper</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Student complete table</li> </ul>	4.5      A.2
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>develop fact families and use them to find missing factors.</li> </ul>	<ul style="list-style-type: none"> <li>Use X as a magic number. Have each student write a fact family. Then create a magic trick <math>48 \div X = 6</math> and see if they can stump their classmates.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Math journals</li> <li>Math Center Cards</li> <li>Drawing paper</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journal</li> </ul>	4.4      D.1

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Research and plan a trip. Work in groups of 6 or 8. Research a state they would like to visit. Decide if they will visit for 49, 56, or 63 days. Create a booklet about the location. Each person creates a chapter of the book. Then the whole group creates a weekly schedule saying where they would visit, including the length of time they would spend in each place.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Decision making worksheet</li> <li>• Computer</li> <li>• Internet</li> <li>• Library books</li> <li>• Encyclopedias</li> <li>• Atlas</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Group book</li> <li>• Student pages</li> </ul>	4.4      A.1,2
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• multiply multiples of 10, 100 and 1,000 mentally.</li> </ul>	<ul style="list-style-type: none"> <li>• Working in pairs, explore patterns in multiplying by 10, 100 and 1,000. Have them check their answers with a calculator. Have the class discuss their discoveries and write what they learned in their journals.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages (PREH)</li> <li>• Calculators</li> <li>• Math journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages (PREH)</li> <li>• Journal writings</li> </ul>	4.1      C.2
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• multiply 2-digit number by 1-digit number.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students locate items with two-digit prices in catalogs. Have them cut out the item, paste them in their journal and make one or more multiplication problems for each item. (Ex: 2 bikes at \$89 each) Check with calculator.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Catalogs</li> <li>• Scissors</li> <li>• Glue</li> <li>• Math journals</li> <li>• Calculators</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Math journals</li> </ul>	4.1      B.4,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>MENTAL MATH &amp; ESTIMATION</b>	Students will be able to: <ul style="list-style-type: none"> <li>• estimate products by rounding.</li> </ul>	<ul style="list-style-type: none"> <li>• The animals at the San Diego Zoo consume about 900 pounds of barley, 315 pounds of sunflower seeds, 34 tons of hay, and 220 bushels of apples in a month. Have students estimate how much of each food the keepers must buy in 3 months and in 6 months. Tell how they figured each out.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Math journals</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Journal writing</li> </ul>	4.1      C.3
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• form a conclusion to see if exact or estimation is needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Performance assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook p. 387</li> <li>• Paper</li> <li>• Ruler</li> <li>• Math center cards</li> <li>• Journals</li> <li>• Grading rubric</li> </ul>	<ul style="list-style-type: none"> <li>• Portfolio assessment</li> </ul>	4.1      C.2,3
<b>COLLECTION &amp; USE OF DATA</b>	<ul style="list-style-type: none"> <li>• make a graph to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students keep a record of the weather for 2 weeks. Have them show the results in a graph by showing the number of rainy, sunny, and cloudy days over that period.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Chart paper</li> <li>• Graph paper</li> <li>• Markers</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Student created graph</li> </ul>	4.4      A.1,2

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD												
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>multiply 3-digit and 4-digit numbers by 1-digit numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Pretend the students are going to the boardwalk. Have students figure the cost for a family of 2 adults and 3 children for these attractions: Tram ride - adults - \$4.50, children \$2.10; Roller coaster - adults - \$5.95, children \$3.50; Water park - adults - \$8.50, children - \$4.25. Then have students figure the costs of their own families.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Math journals</li> </ul>	<ul style="list-style-type: none"> <li>Student pages</li> <li>Student created budget</li> </ul>	4.1      B.4,7												
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Students make a table to decide how much a magazine subscription will cost based on the monthly cost:</li> </ul> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Magazine</th> <th style="text-align: center;">Single Copy Price</th> <th style="text-align: center;">Yearly Subscription</th> </tr> </thead> <tbody> <tr> <td>Television Update</td> <td style="text-align: center;">\$2.25</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Sports Games</td> <td style="text-align: center;">\$3.15</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Video Games Clue</td> <td style="text-align: center;">\$4.50</td> <td style="text-align: center;">_____</td> </tr> </tbody> </table>	Magazine	Single Copy Price	Yearly Subscription	Television Update	\$2.25	_____	Sports Games	\$3.15	_____	Video Games Clue	\$4.50	_____	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Student pages (PREH)</li> <li>Math journals</li> </ul>	<ul style="list-style-type: none"> <li>Student pages</li> <li>Journals</li> </ul>	4.4      A.1,2
Magazine	Single Copy Price	Yearly Subscription															
Television Update	\$2.25	_____															
Sports Games	\$3.15	_____															
Video Games Clue	\$4.50	_____															
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>apply multiplication to science.</li> </ul>	<ul style="list-style-type: none"> <li>Have students determine how many miles it would be from Earth to the other planets. Then have them find the mileage for round trip.</li> </ul>	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Problem solving worksheets</li> <li>Math &amp; science worksheets</li> </ul>	<ul style="list-style-type: none"> <li>Student responses</li> </ul>	4.4      C.1												

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• divide tens by 1-digit numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Practice skip-counting by tens. Skip count forward and backward. Give each person change to count. Divide their final number by 10. Write the equation (ex: <math>210 \div 10 = 21</math>). If everyone does one skip count you should end up with the number of students in the class.</li> <li>• Model on the overhead with transparent place value.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages</li> <li>• Place value models</li> <li>• Overhead</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,7
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• use mental strategies to divide multiples of 10 and 100.</li> </ul>	<ul style="list-style-type: none"> <li>• Use colored markers on the overhead. Write <math>6 \div 3 = 2</math> in a color. Then write <math>60 \div 3 = 20</math> using the same color for the 6, 3 and 2. Discuss place value. Have students create 3 facts using a color code.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Overhead</li> <li>• Markers</li> <li>• Math journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.1      B.1,7
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• divide 2-digit numbers by 1-digit numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use dried beans or beads to model division with remainders. Ex: <math>37 \div 4</math>. Have them count out 37 beans and divide them equally in 4 cups until there is not enough left to fit equally into each cup. Remind them that a remainder is just like a leftover.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Beans/beads</li> <li>• Paper cup</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      B.1,7

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• make an inference to interpret remainders and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Distribute 2 color counters. Ask student to demonstrate that the remainder will always be smaller than the divisor.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Colored counters</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Students pages</li> </ul>	4.4      D.1
<b>MENTAL MATH &amp; ESTIMATION</b>	<ul style="list-style-type: none"> <li>• estimate quotients using compatible numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Give students these sets of compatible numbers: 250/5, 480/8, 200/5, 640/8 and 630/7. For each problem have students write 2 division word problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages (PREH)</li> <li>• Math journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      C.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• divide 3-digit numbers by 1-digit numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Give students a grid. They write the digits, one in each box, to assure correct placement.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Grid paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student created grid</li> </ul>	4.1      B.1,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• choose a strategy to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in small groups. Ask each group to solve _____ using these four strategies:               <ul style="list-style-type: none"> <li>Draw a diagram</li> <li>Write a number sentence</li> <li>Act it out</li> <li>Use a model</li> </ul> </li> </ul> <p>Compare their answers. Ask if the answer changed when the strategy changed.</p>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Chart paper</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.4      D.1 4.5      A.2,4,5

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• divide up to 3-digit number with zero in the quotient.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students practice examples on lined paper turned sideways. As they divide, tell them to use the columns to help them see that there is a digit below each of the digits in the quotient.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Lined paper</li> <li>• Math Center Cards</li> <li>• Number Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> </ul>	4.1 B.1,2,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• analyze data and make decisions using division.</li> </ul>	<ul style="list-style-type: none"> <li>• Students can design a classroom store. Include various products and prices for the same type of item. Package or group items together for a given price. Check individual prices with calculator.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student problem solving worksheet</li> <li>• Food containers</li> <li>• Price tags</li> <li>• Grocery lists</li> <li>• Calculators</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Problem solving worksheet</li> <li>• Grocery list with end prices and grand total</li> </ul>	4.4 D.1
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• apply division concepts to science.</li> </ul>	<ul style="list-style-type: none"> <li>• Create paper airplanes. Measure their traveling distances. Round off all measurements.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student problem solving sheet</li> <li>• Student math/science worksheet</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student worksheets</li> </ul>	4.4 C.1

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>CONCEPTS OF MEASUREMENT</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>estimate and measure length in customary units.</li> </ul>	<ul style="list-style-type: none"> <li>Display a 12 inch ruler. Have students find objects that are about 12 inches long. Have them use a ruler to check. Repeat procedure with a yardstick. Have them write their findings in their math journals.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Rulers</li> <li>Yardsticks</li> <li>Math Journal</li> <li>Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journal</li> </ul>	<p>4.1 C.4 4.2 D.1</p>
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>estimate and measure capacity in customary units.</li> </ul>	<ul style="list-style-type: none"> <li>Give groups of students rice or water and containers that can be used to measure a cup, pint, quart and gallon. Have them experiment to see how many cups and/or pints are in a quart and gallon. Display their results in a table.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Rice or water</li> <li>Containers</li> <li>Math journals</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Student created table</li> </ul>	<p>4.2 D.2</p>
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>estimate, measure, compare, and order weight in customary units.</li> </ul>	<ul style="list-style-type: none"> <li>Divide a pound of clay into 16 little pieces, approximately the same size. Have students weigh each little piece and compare the weight to the whole amount. Have them then locate items and weigh them comparing them to the clay pieces. Have them document their findings in their journals.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Scales</li> <li>Balance</li> <li>Clay</li> <li>Classroom objects</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journal</li> </ul>	<p>4.2 D.2,3</p>

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>CONCEPTS OF MEASUREMENT</b>	Students will be able to: <ul style="list-style-type: none"> <li>• connect units of length, capacity, and weight.</li> </ul>	<ul style="list-style-type: none"> <li>• Set up a measurement center for the students to be able to explore converting measurements hands on.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• 10 lbs. of rice</li> <li>• Measuring cups &amp; containers</li> <li>• Ruler</li> <li>• Measuring tape</li> <li>• Yardstick</li> <li>• Scales</li> <li>• Balances</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.2      D.2
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>• estimate , measure, compare, and order length on metric.</li> </ul>	<ul style="list-style-type: none"> <li>• Display a meterstick. Have students find something in the room that is about one meter long. Have them check with the meterstick. Repeat using decimeters and centimeters. Have them make a table showing an object and whether they were correct, too big, or too small.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages (PREH)</li> <li>• Metersticks</li> <li>• Math journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.1      C.4 4.2      D.2
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>• estimate, measure, compare, and order capacity in metric units.</li> </ul>	<ul style="list-style-type: none"> <li>• Show the students a plastic liter bottle. Have a student draw a line at the top of the bottle. Explain that 1 liter = 1,000mL, and label this line 1,000mL. Next draw a line at the halfway mark. Label that line 500mL. Continue this manner labeling quarts, 250mL and 750mL.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• 1 liter container</li> <li>• Marker</li> <li>• Student pages (PREH)</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      C.4 4.2      D.2

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD		
<b>CONCEPTS OF MEASUREMENT</b>	Students will be able to: <ul style="list-style-type: none"> <li>estimate, measure, compare, and order capacity in metric units.</li> </ul>	<ul style="list-style-type: none"> <li>Let students experiment with liquid capacity in liters and milliliters assemble a variety of containers that hold 3 liters and lesser amounts. Have them label the containers and order them by capacity.</li> </ul>	<ul style="list-style-type: none"> <li>Assorted containers</li> <li>Water</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> </ul>	4.1 C.4 4.2 D.2		
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>convert conventional units to metric units.</li> </ul>	<ul style="list-style-type: none"> <li>Have students prepare a 2-column simple recipe poster and convert it from conventional to metric measurements.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages (PREH)</li> <li>Chart paper</li> <li>Recipes</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Converted recipe</li> </ul>	4.2 D.1,2		
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>use logical reasoning to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>Students make a pattern with pattern blocks. They then have a partner observe and continue the problem. Discuss how they figured out the pattern.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Math Center Cards</li> <li>Pattern blocks</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Performance assessment pg. 473/rubric</li> </ul>	4.5 A.2,3,4,5		
<b>CONCEPTS OF MEASUREMENT</b>	<ul style="list-style-type: none"> <li>estimate measurements in degrees Fahrenheit and degrees Celsius.</li> </ul>	<ul style="list-style-type: none"> <li>Students study the thermometers for Fahrenheit and Celsius and then make and complete a chart as follows:   <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><u>Fahrenheit</u></td> <td style="text-align: center;"><u>Celsius</u></td> </tr> </table>           Room Temp.            Water Freezer            Body Temp.            Cool Day            Summer Day         </li> </ul>	<u>Fahrenheit</u>	<u>Celsius</u>	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Student pages</li> <li>Chart paper</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Student chart</li> </ul>	4.1 C.4 4.2 D.2
<u>Fahrenheit</u>	<u>Celsius</u>						

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/ MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>COLLECTION &amp; USE OF DATA</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Using current prices, students will plan a vacation at Disney World. Students are given a budget and they are to plan a 5 day vacation within the theme parks.</li> </ul>	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Student pages (PREH)</li> <li>Disney brochures</li> <li>Student journals</li> <li>Calculators</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Student itinerary/ budget</li> </ul>	4.4      A.1,2
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>apply measurement to investigate science concepts.</li> </ul>	<ul style="list-style-type: none"> <li>Students can measure ramps to determine the best slant and length. Run a match car race. Students write these findings in their math journals.</li> </ul>	<ul style="list-style-type: none"> <li>Textbooks</li> <li>Student pages</li> <li>Wood planks</li> <li>Wooden blocks</li> <li>Match cars</li> <li>Journal</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journal</li> </ul>	4.2      D.1,2
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and classify 3-dimensional objects.</li> </ul>	<ul style="list-style-type: none"> <li>Have students work in pairs to make flash cards with a figure on one side and its name on the other. Have partners use the cards to review the names and figures. Have them find objects that are each shape in the classroom.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Index cards</li> <li>Space shapes</li> <li>Math journals</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Flash cards</li> <li>Journals</li> </ul>	4.2      A.2
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and classify 2-dimensional objects</li> </ul>	<ul style="list-style-type: none"> <li>Have students trace, cut out, and label 2-dimensional shapes, then paste them on paper to create a picture or design.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Geometric tracers</li> <li>Construction paper</li> <li>Scissors</li> <li>Glue</li> </ul>	<ul style="list-style-type: none"> <li>Student pages</li> <li>Student pictures</li> </ul>	4.2      A.2

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>GEOMETRIC PROPERTIES</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>identify, describe, and classify lines, line segments, rays, and angles.</li> </ul>	<ul style="list-style-type: none"> <li>Display labeled pictures of the following: intersecting lines, parallel lines, right angles, greater than right angles, and less than right angles.</li> <li>Give each student 2 popsicle sticks. Have them use the stick model and name each example as you say each name.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Labeled pictures</li> <li>Popsicle sticks</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> </ul>	4.2      A.4
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and classify polygons.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use light colored crayons and dot paper. Demonstrate and then have students draw each polygon, using a different colored crayon for each side. Work together to label each polygon.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>8 colored crayons</li> <li>Math journals</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journals</li> </ul>	4.2      A.4
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and classify polygons.</li> </ul>	<ul style="list-style-type: none"> <li>Using a pipe cleaner, have students make open and closed figures. Encourage them to make a variety of polygons. Try to show them the difference with curved and straight edge. Have them define whether or not a shape is a polygon and why or why not.</li> </ul>	<ul style="list-style-type: none"> <li>Pipe cleaners</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> </ul>	4.2      A.4

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>GEOMETRIC PROPERTIES</b>	Students will be able to: <ul style="list-style-type: none"> <li>• identify attributes of triangles.</li> </ul>	<ul style="list-style-type: none"> <li>• Display pictures of equilateral, isosceles, and scalene triangles. Explain that each is defined by their sides. Have a volunteer use a ruler to identify each triangle. Repeat using visual observations rather than rulers. Have students design and label 2 of each type of triangle in their math journal. Model using pretzel sticks (break off to make a variety of sizes).</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Journal</li> <li>• Ruler</li> <li>• Pretzels</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.2      A.1,2
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>• identify attributes of quadrilaterals.</li> </ul>	<ul style="list-style-type: none"> <li>• Play "Who Am I?" by giving students clues based on each definition and having volunteers identify the quadrilateral. Ex: All of my sides are equal, but I do NOT have any right angles. Who am I? (A rhombus).</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.2      A.1,2
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• use illustrations or diagrams to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students create a diagram of the classroom. Include labels. Discuss characteristics that make diagrams easy to understand.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Paper</li> <li>• Rulers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student diagrams</li> </ul>	4.5      A.2,4,5

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>GEOMETRIC PROPERTIES</b>	Students will be able to: <ul style="list-style-type: none"> <li>identify, describe, and draw congruent and similar figures.</li> </ul>	<ul style="list-style-type: none"> <li>Have each student fold two sheets of paper in half. On one, the student draws a triangle, a rectangle, and a circle about 4 x 4 inches in size. On the other paper they draw the same shapes only larger. Keeping papers folded, they cut out each shape, lays out the twelve shapes, and matches the congruent pairs. Then mix up and try again.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Scissors</li> <li>Construction paper</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> </ul>	4.2      A.3
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and draw congruent and similar figures.</li> </ul>	<ul style="list-style-type: none"> <li>Have everyone trace a triangle on a piece of paper; have them all begin in the same position. Play Simon Says:               <ul style="list-style-type: none"> <li>- slide triangle 1 time and trace it</li> <li>- turn triangle to the right and trace it</li> <li>- flip the triangle to the right 2 times and trace it each time</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Triangle traces for each student</li> <li>Computer paintbrush</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Computer printout</li> </ul>	4.2      A.3
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and draw congruent and similar figures.</li> </ul>	<ul style="list-style-type: none"> <li>Using Paintbrush program, have the students create a shape. Then teach them to flip, rotate, copy and paste. Print final results.</li> </ul>		<ul style="list-style-type: none"> <li>Teacher observation</li> </ul>	4.2      A.3
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>identify, describe, and draw symmetrical objects.</li> </ul>	<ul style="list-style-type: none"> <li>Have students create a butterfly. They paint one side, then fold it in half with the paint on the inside to make a symmetrical design.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Butterfly outline</li> <li>Paint</li> <li>Brushes</li> <li>Scissors</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Butterflies</li> </ul>	4.2      A.3

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• find a pattern to solve a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use stamps to design a pattern that others can continue. Ask other students to use a separate sheet to solve the pattern so as not to disturb the original work.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Stamps</li> <li>• Ink pads</li> <li>• Paper</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Stamped paper</li> </ul>	4.3 A.1 4.5 A.3
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>• estimate or determine the perimeter of a polygon.</li> </ul>	<ul style="list-style-type: none"> <li>• Use overhead to display a 6 x 4 unit rectangle on centimeter graph paper. Demonstrate how to find the perimeter by counting all sides and by labeling each side and adding. Students then create several polygons and have them find the perimeters and label.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Graph paper</li> <li>• Overhead</li> <li>• Graph transparency</li> <li>• Markers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Student polygons and labels</li> </ul>	4.1 C.1 4.2 A.1
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>• estimate or determine the area.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students trace their hands on graph paper, then estimate how many square units their hands are. Then count. (Squares less than <math>\frac{1}{2}</math> covered should not be counted)</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Graph paper</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 C.1 4.2 A.1
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>• estimate or determine the area.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide empty boxes of varied sizes and shapes. Using multi-linking cubes. Have the class estimate the volume and check by filling the boxes with cubes.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Various size boxes</li> <li>• Multi-linking cubes</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1 C.1 4.2 A.1

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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>• analyze data and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students make a map of their bedroom to scale. Label all fixtures and furniture.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student decision making worksheet</li> <li>• Graph paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Bedroom plan</li> </ul>	4.4      A.1,2
<b>GEOMETRIC PROPERTIES</b>	<ul style="list-style-type: none"> <li>• apply geometry.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students make a home of the future using geometric shapes.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Graph paper</li> <li>• Rubric</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Home design</li> <li>• Performance assessment p.525</li> </ul>	4.2      A.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• read and write fractions for parts of a region.</li> </ul>	<ul style="list-style-type: none"> <li>• Make fraction bars. Each student gets construction paper strips (each a different color). As a class show them how to fold and label each <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{1}{6}</math>, <math>\frac{1}{8}</math>. Staple into a booklet.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Construction paper</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Fraction bars</li> </ul>	4.1      A.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• explore finding equivalent fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students divide 6 paper plates into equal pie wedge parts: halves, thirds, fourths, sixths, eighths, and twelfths.</li> <li>• Ask students to find as many equivalent fractions as they can using the plates. Continue with other fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages</li> <li>• Paper plates</li> <li>• Rulers</li> <li>• Markers</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      A.1

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• compare, order, and estimate fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use pattern blocks or geoboards with rubber bands to create pairs of regions that demonstrate equivalent fractions. Invite other students to label the equivalent fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Rubber bands</li> <li>• Geoboard</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      A.1,6
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• identify, read, and write fractions as equal parts of groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Give each group of students 8 color counters. Have groups show 3 red counters and 5 yellow. Ask: How many in all? How many 5? Explain and show the 3 as a numerator. Write on board "What does the fraction tell?" Repeat <math>1/8</math>, <math>3/4</math>, <math>5/6</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Counters</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      A.1,6
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• find the fraction of whole numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Write <math>1/4</math> of 20 on the board. Model on graph paper. Outline a 5 by 4 rectangle. Have them shade in 1 column (the 5 squares). Repeat with other examples.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Graph paper</li> <li>• Markers</li> <li>• Chalkboard</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      A.1,2
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• find the fraction of whole numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Display a number line 0 to 10. Use line to show <math>3/5</math> of 10. Use jumps to show. Use with other examples as well. Ex.: <math>3/5</math> of 10</li> </ul>		<ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>	4.1      A.1,2

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>DISCRETE MATHEMATICS</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>use prior knowledge to check for reasonableness of a solution.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use 2 color counters to represent fractions. Show <math>\frac{3}{4}</math> of 12 by dividing the counters into 4 equal piles. Then see how many counters will be 3 piles total. Use with other fractions.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>2 colored counters</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> </ul>	4.1      A.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>read and write mixed numbers from words and diagrams.</li> </ul>	<ul style="list-style-type: none"> <li>Use this recipe for trail mix. Have the students illustrate the recipe. They can also double or triple the batch.</li> </ul> <p>1 c. nuts  1 <math>\frac{1}{4}</math> c. of dried cranberries  2 <math>\frac{1}{4}</math> c. of raisins  1 <math>\frac{1}{2}</math> c. of sunflower seeds  1 <math>\frac{3}{4}</math> c. dried apricots  <math>\frac{3}{4}</math> c. of pumpkin seeds</p> <p>Make and enjoy.</p>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>Recipe</li> <li>Index cards</li> <li>Ingredients</li> <li>Large bowl</li> <li>Baggies</li> </ul>	<ul style="list-style-type: none"> <li>Student pages</li> <li>Recipes</li> </ul>	4.2      D.1,2
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>add fractions with like denominators.</li> </ul>	<ul style="list-style-type: none"> <li>Have students use 2 color counters to add fractions such as <math>\frac{1}{4}</math> and <math>\frac{2}{4}</math>. Have them use one color for the denominator number and flip to show the numerator. Have them count the total number. Write in journal.</li> </ul>	<ul style="list-style-type: none"> <li>Textbook</li> <li>Student pages</li> <li>2 colored counters</li> <li>Journals</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation</li> <li>Student pages</li> <li>Journal</li> </ul>	4.1      A.1

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• add fractions with like denominators.</li> </ul>	<ul style="list-style-type: none"> <li>• Have pairs work to see how many pizzas they would need to order for your class, then determine if each person ate <math>\frac{1}{4}</math> of a pie, then 3 slices.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• 2 colored counters</li> <li>• Journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.1      A.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• subtract fractions with like denominators.</li> </ul>	<ul style="list-style-type: none"> <li>• Use fraction strips to model. Use graham crackers to have pairs of students model subtracting with fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Fraction bars</li> <li>• Graham crackers</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> </ul>	4.1      A.1
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• determine if out-comes are likely, unlikely, certain, or impossible.</li> </ul>	<ul style="list-style-type: none"> <li>• Challenge groups to use crayons and a bag to make up 3 different games for 2 players with the following probabilities.                 Game 1 - It is certain player 1 will win                Game 2 - It is unlikely player 1 will win                Game 3 - It is impossible for player 1 to win</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Paper</li> <li>• Crayons</li> <li>• Brown bags</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> <li>• Student games</li> </ul>	4.4      B.1,2
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• organize and display the results of probability experiments.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students flip a coin 10 times. Have the students record the results in a pictograph. 1 coin = landed time.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Math Center Cards</li> <li>• Colored blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Student pictograph</li> </ul>	4.4      B.1,2

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• predict the number of times an event will occur.</li> </ul>	<ul style="list-style-type: none"> <li>• Place colored marbles in a bag. Have students create personal tally charts to record each pull. Without looking have the students determine the number of each color in the bag. Compare predictions to actual count.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Brown bags</li> <li>• Colored marbles</li> <li>• Journals</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Journal</li> <li>• Performance assessment/ rubric pg. 577</li> </ul>	4.4      B.2
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• analyze and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• As a class activity, conduct a survey to determine each person's favorite game. Have students use tallies to record results of the survey. Change to represent the results as a fraction.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Decision making worksheet</li> <li>• Journals</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Journal</li> </ul>	4.4      C.1,2
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• use models to make the connection between fractions and decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students make a 10 x 10 grid on graph paper. They make 5 ten cube trains with connecting cubes. Place on first 5 columns of the grid. Discuss number of: squares on the grid, cubes on the grid. Show as a fraction and as a decimal. Repeat with other fractions and decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Graph paper</li> <li>• Connecting cubes</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      A.1,4
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• understand the meaning of tenths and hundredths.</li> </ul>	<ul style="list-style-type: none"> <li>• Use dimes to show decimals. Ex: 3 dimes = 3 tenths = <math>3/10 = 0.3</math> of a dollar. Repeat with other figures.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Dimes</li> <li>• Journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journals</li> </ul>	4.1      A.4

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• understand decimals greater than one and mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students work in small groups to list the uses of decimals greater than one in everyday life, such as the Dewey decimal system, odometer in cars, and the thermometer.</li> <li>• Practice concept using bills and coins.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Journal</li> <li>• Play money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Journal</li> </ul>	4.1      A.4
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• compare and order decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Use dollars, dimes, and pennies. Model decimals. Have groups write decimal amounts on an index card. Meet as a class and place the cards in order by value.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks</li> <li>• Student pages</li> <li>• Play money</li> <li>• Index cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> </ul>	4.1      A.4,6
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• decide what operation to use.</li> </ul>	<ul style="list-style-type: none"> <li>• Use the internet - <a href="http://www.mhschool.com/math">www.mhschool.com/math</a>. Make a table to show results. Rank cities and analyze results.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook pg.599</li> <li>• Student pages</li> <li>• Math Center Cards</li> <li>• Play money</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Research results</li> </ul>	4.1      B.6,7
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• add decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use Scholastic book order forms and select 3 books they like. Have them use a place value chart to help them add the total they would spend.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Book orders</li> <li>• Place value charts</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Book orders</li> </ul>	4.1      A.4

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SKILL AREA	STUDENT OBJECTIVE	EXAMPLE/ACTIVITIES	RESOURCE/MATERIALS	ASSESSMENT	NJ CORE CURRICULUM STANDARD
<b>DISCRETE MATHEMATICS</b>	Students will be able to: <ul style="list-style-type: none"> <li>• solve a complex problem by solving a simpler problem first.</li> </ul>	<ul style="list-style-type: none"> <li>• Have the students create problems using the information below, then exchange problems with other students to solve. Have them act it out to help if needed.</li> </ul> <p style="margin-left: 40px;">Museum Tickets: Adults \$2.95 Seniors \$1.75 Children \$1.50</p> <p style="margin-left: 40px;">Use calculators to check answers.</p>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Paper</li> <li>• Calculators</li> <li>• Math Center Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher observation</li> <li>• Student pages</li> <li>• Solved problems</li> </ul>	4.4      C.1,2
<b>APPLICATION OF BASIC NUMBER CONCEPTS</b>	<ul style="list-style-type: none"> <li>• subtract decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• Give students oral problems involving subtracting money. Have pairs of students solve. Use calculators and play money as needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Play money</li> <li>• Calculator</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Teacher observation</li> </ul>	4.1      B.3,7
<b>DISCRETE MATHEMATICS</b>	<ul style="list-style-type: none"> <li>• analyze and make decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Have students use ads from two stores and determine which store had the lowest price for the whole grocery list you provide.</li> </ul>	<ul style="list-style-type: none"> <li>• Textbook</li> <li>• Student pages</li> <li>• Store circulars (2 per group)</li> <li>• Identical grocery list with 3 columns</li> <li>• Item/Store A/Store B</li> </ul>	<ul style="list-style-type: none"> <li>• Student pages</li> <li>• Grocery list</li> <li>• Performance assessment pg. 621</li> </ul>	4.4      C.1,2