

## MATH – Extended Grade Band Instructional Examples: 3-4

**Model Academic Standard A: Mathematical Processes** - Students will effectively use mathematical knowledge, skills and strategies related to reasoning, communication, connections, representation, and problem solving.

**Model Academic Standard B: Number Operations and Relationships** - Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

### Subskill: B. a. Concepts

*NOTE: Model Standard A: Mathematical Processes - mathematical processes are embedded in the performance of the content*

| <b>EXTENDED GRADE BAND OBJECTIVE: Ba1</b>   |   |  |  |
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| <b>Order or Rote Count Numbers 0-20 and Represent Numbers 0-10</b>  |   |  |  |
| <b>Instructional Achievement Descriptors</b>  |   |  |  |
| <b>Advanced</b>   | <b>Proficient</b>   | <b>Basic</b>   | <b>Minimal</b>   |
| Order or rote count numbers 0-50 and represent numbers 0-20   | Order or rote count numbers 0-20 and represent numbers 0-10   | Rote count numbers 0-10  | Recognize numbers  |
| Display a paper number line on the board marked at intervals of one. Have the student label each increment with numbers 0-20. Have students sit in a circle. Go around the circle and count up to 50. If the wrong number is called, start over beginning with the student who said the wrong number. Continue the game having different starting points each time. | Display a paper number line on the board marked at intervals of one. Have student label each increment with numbers 0-10. Have students sit in a circle. Go around the circle and count up to 20. If the wrong number is called, start over beginning with the student who said the wrong number. Continue the game having different starting points each time. | Have students form groups of 2-3. Have students practice counting from 1-10, first individually and then in rotation. If the wrong number is called, start over with the person who said the wrong number. Continue the game having different starting points each time. | Display a paper number line on the board marked at intervals of one and labeled from 0-5. Have student identify where the numbers are on the number line.  |
| Provide student with materials to make a 50-bead necklace. After the necklace is completed have student count the beads on the necklace. Exchange necklace with a partner and count the beads on their partner's necklace.  | Provide student with materials to make a 20-bead friendship bracelet. After the bracelet is completed, have student count the beads on the bracelet. Exchange bracelets with a partner and count the beads on their partner's bracelet.   | Provide student with materials to make a 10-bead friendship bracelet. After the bracelet is completed have student count the beads on the bracelet. Exchange bracelet with a partner and count the beads on their partner's bracelet.                                    | Provide student with a container of beads, some with a number written on them and some without a number. Have student identify which beads have a number on them. Use the beads without numbers on them to make a friendship bracelet. |

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| <p>Number Scramble: Using a set of number cards, 0-50, randomly distribute one card to each student in the class. May have to group the cards into smaller groups, 0-5, 6-10, etc., depending on the number of students in the class. When students hear the word “scramble,” they form a number line according to the number on their cards. Rote count to fifty after each scramble. Mix the cards and repeat activity.</p> | <p>Number Scramble: Using a set of number cards, 0-20, randomly distribute one card to each student. May have to group the cards into smaller groups, 0-5, 6-10, etc., depending on the number of students in the class. When students hear the word “scramble,” they form a number line according to the number on their cards. Rote count to twenty after each scramble. Mix the cards and repeat activity.</p> | <p>Number Scramble: Have students form a line and count off from 1-10. Rearrange the line and count off again. May also count off by 2, 3, or 4, etc.</p>                                  | <p>Number Scramble: Have students form a line and count off from 1-10. Rearrange the line and count off again. May also count off by 2, 3, or 4, etc.</p>          |
| <p>Play Number Bingo using a card containing the numbers 0-50. After playing the game, have student write or arrange the numbers on the card in order from 0-50 and rote count 1-50.</p>  | <p>Play Number Bingo using a card containing the numbers 0-20. After playing the game, have student write or arrange the numbers from the card in order from 0-20 and count from 1-20.</p>  | <p>Play Number Bingo using a card containing the numbers 0-10. After playing the game, have student write or arrange the numbers from the card in order from 0-10 and count from 1-10.</p> | <p>Provide student with a Bingo card that has either a number or a picture in each square. Have student place markers on all the squares that contain a number</p> |
| <p>Have student count out how many paces it takes to get to various locations in the school. How many steps to the gym? How many steps to the lunch room?</p>   | <p>Have student practice counting common objects found in the classroom, e.g. desks, chairs, pencils, papers, books, etc. by groups of 20.</p>  | <p>Have student practice counting common objects found in the classroom, e.g. desks, chairs, pencils, papers, books, etc. by groups of 10.</p>   | <p>Have student identify objects found in the classroom that have numbers on them.</p>   |
| <p>Provide each student in the class with a box of Cheerios, other small cereal, or candy pieces and a paper cup. Have student count out 50 pieces of cereal or candy to put in cup.</p>  | <p>Provide each student in the class with a box of Cheerios, other small cereal, or candy pieces and a paper cup. Have student count out 20 pieces of cereal or candy to put in cup.</p>  | <p>Provide each student in the class with a box of Cheerios, other small cereal, or candy pieces and a paper cup. Have student count out 10 pieces of cereal or candy to put in cup.</p>   | <p>Provide student with candy/cereal letters and numbers and a paper cup. Have student put only the numbers in the cup.</p>  |

**Model Academic Standard B: Number Operations and Relationships**  
**Subskill: B.a. Concepts**

| <b>EXTENDED GRADE BAND OBJECTIVE: Ba2</b>   |  |  |   |
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| <b>Sort Coins to Like Groups</b>  |  |  |   |
| <b>Instructional Achievement Descriptors</b>  |  |  |   |
| <b>Advanced</b>   | <b>Proficient</b>  | <b>Basic</b>   | <b>Minimal</b>  |
| <i>Sort and name coins into like groups</i>   | <i>Sort coins to like groups</i>   | <i>Separate 2 different kinds of coins</i>   | <i>Achievement Descriptor not identified at this level</i>  |
| Create a classroom store with prices of items labeled with pictures of like coins, e.g. 3 nickels, 2 dimes, 10 pennies, etc. Provide student with a bag of mixed coins, e.g. pennies, nickels, dimes, and quarters. Have student sort out and name the correct coins to purchase the item.                                    | Create a classroom store with prices of items labeled with pictures of like coins, e.g. 3 nickels, 2 dimes, 10 pennies, etc. Provide student with a bag of mixed coins, e.g. pennies, nickels, dimes, and quarters. Have student sort out the correct coins to purchase the item.                              | Create a classroom store with prices of items labeled with pictures of like coins, e.g. 3 nickels, 2 dimes, 10 pennies, etc. Have items arranged in sections, e.g. all penny items together, nickel items together, etc. Provide student with a bag of two different types of coins, e.g. nickels and pennies or dimes and quarters, etc. Have student go to a specific coin section and sort out the coins to purchase an item. | Provide student with a coin. Have student match his coin to a like coin when given a choice of two other coins, one that is the same and one that is not.   |
| Place containers in four different areas of the classroom. Label each of the containers with a picture and name of one of four coins, e.g. penny, nickel, dime, and quarter. Have student draw a coin out of container of mixed coins, name the coin, find the container that matches the coin, and drop it in the container. | Place containers in four different areas of the classroom. Label each of the containers with a picture and name of one of four coins, e.g. penny, nickel, dime, and quarter. Have student draw a coin from a container of mixed coins, find the container that matches the coin, and drop it in the container. | Place containers in two different areas of the classroom. Label each of the containers with a picture and name of two different coins, e.g. penny and nickel or dime and quarter. Have student draw a coin from a container of two different coins, find the container that matches the coin, and drop it in the container.  | Provide student with one container of nickels and pennies and another empty container with a penny attached to it. Have student sort out all the pennies from the container of coins and place them in the empty container. |
| Give each student a coin, e.g. penny, nickel, dime, or quarter. Have student look for other students who have the same coin by asking, "Who has a penny/nickel/dime/quarter?" Have students hold up their coin and name it to form groups of like coins.  | Give each student a coin, e.g. penny, nickel, dime, or quarter. Have student look for other students who have the same coin. Repeat activity giving students different coins each time.  | Give each student one of two coins, e.g. penny or nickel and dime or quarter. Have the student look for another student who has the same coin. Repeat activity giving student the opposite coin.   | Put students in groups of three. Give two students a penny and one student a nickel. Have student identify the student who has a coin the same as theirs.   |

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| <p>Provide student with a bag of mixed coins, e.g. pennies, nickels, dimes, and quarters. Create or have student create a four-column chart. Place one of each coin in the header of each column and have student identify the name of the coin to put in each header. Have student sort coins by placing each coin in the correct column and name the coin as it placed on the chart.</p>                          | <p>Provide student with a bag of mixed coins, e.g. pennies, nickels, dimes, and quarter. Create or have student create a four-column chart. Place one of each coin in the header of each column. Have student sort coins by placing the coins in the correct column on the chart.</p>   | <p>Provide student with a bag of two different types of coins, e.g. nickels and pennies or dimes and quarters, etc. Create or have student create a two-column chart. Place one of each of two coins contained in the student's bag in the header of each column. Have student sort coins by placing the coins in the correct column on the chart.</p>                   | <p>Provide student with a bag of nickels and pennies. Provide student with a piece of paper with a penny attached to it. Have student place all the pennies from his bag of coins on the piece of paper.</p>   |
| <p>Have student purchase a weekly snack using like coins. Provide student with a coin purse filled with a variety of coins, e.g. 10 pennies, 5 nickels, 4 dimes, and 3 quarters. Label snacks with picture prices, e.g. chips 3 dimes, apple 3 nickels, cereal 3 quarters, etc. Have student sort the coins from the coin purse, identify by name each group of coins, and decide which snack they want to buy.</p> | <p>Have student purchase a weekly snack using like coins. Provide student with a coin purse filled with a variety of coins, e.g. 10 pennies, 5 nickels, 4 dimes, and 3 quarters. Label snacks with picture prices, e.g. chips 3 dimes, apple 3 nickels, cereal 3 quarters etc. Have student sort the coins from the coin purse and decide which snack they want to buy.</p> | <p>Have student purchase a weekly snack using like coins. Provide student with a coin purse filled with groups of two different coins, e.g. 10 pennies and 5 nickels or 4 dimes and 3 quarters. Label snacks with picture prices, e.g. chips 2 dimes, apples 5 pennies, etc. Have student sort the coins from the coin purse and decide which snack they want to buy</p> | <p>Have student purchase a weekly snack using pennies. Provide student with a coin purse filled with pennies and nickels. Show student a penny and have him sort out all the coins that are the same as the penny. Label snacks with picture prices, e.g. chips 3 pennies, apples 5 pennies, etc. Have student decide which snack he wants to buy and match the pennies to the pictured price.</p> |

**Model Academic Standard B: Number Operations and Relationships**  
**Subskill: B.b. Computation**

| <i>EXTENDED GRADE BAND OBJECTIVE: Bb1</i>  |   |  |  |
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| <b>Add and Subtract One-Step, Single Digit Number Problems</b>   |   |  |  |
| <i>Instructional Achievement Descriptors</i>   |   |  |  |
| <b>Advanced</b>  | <b>Proficient</b>   | <b>Basic</b>   | <b>Minimal</b>   |
| <i>Solve addition and subtraction one-step single-digit number problems using symbols</i>  | <i>Add and subtract one-step, single-digit number problems</i>  | <i>Add one-step single-digit number problems</i>   | <i>Add one to a group of objects</i>   |
| Create a taped number line across the classroom floor. Mark the line in increments of one and label with numbers 0-10. Create simple addition or subtraction story problems with solutions no higher than 10 for the student to act out, e. g. Maria walks 3 blocks to the store; student moves 3 steps on the number line. If she walks 2 more blocks and student takes 2 more steps, how many blocks has she walked in all? Guide the student in writing the equation as the problem is acted out. | Create a taped number line across the classroom floor. Mark the line in increments of one and label with numbers 0-10. Create simple addition or subtraction story problems with solutions no higher than 10 for the student to act out, e. g. Maria walks 3 blocks to the store; student moves 3 steps on the number line. If she walks 2 more blocks and student takes 2 more steps, how many blocks has she walked in all? | Create a taped number line across the classroom floor. Mark the line in increments of one and label with numbers 0-10. Create simple addition story problems with solutions no higher than 5 for the student to act out. e. g. Maria walks 1 block to the store; student moves 1 step on the number line. If she walks 2 more blocks and student takes 2 more steps, how many blocks has she walked in all? Have student identify the numeral he is standing on. | Create a taped number line across the classroom floor. Mark the line in increments of one and label with numbers 0-10. Have student walk across the number line saying $1+1+1+1$ as he steps on each incremental line. |
| Provide student with a single line abacus. Have student solve single digit addition and subtraction problems by moving the beads on the abacus as the problem dictates. Count beads to determine the solution to the problem and then write the problem on paper.  | Provide student with a single line abacus. Have student solve single digit addition and subtraction problems by moving the beads on the abacus as the problem dictates. Count beads to determine the solution to the problem.   | Provide student with a single line abacus. Have student solve single digit addition problems by moving the beads on the abacus as the problem dictates. Counting beads to determine the solution to the problem with solutions no higher than 5.   | Provide student with a single line abacus. Have student move the beads on the abacus from one side to the other saying $1+1+1+1$ , etc. as he moves each bead to the other side.                                       |
| Provide student with a set of dominos containing no more than 5 dots on either side. Have student choose a domino from the set. Using the dots on each half of the domino as the guide, create a simple addition or subtraction problem for the student to solve. Have student write the corresponding equation as he solves the problem.  | Provide student with a set of dominos containing no more than 5 dots on either side. Have student choose a domino from the set. Using the dots on each half of the domino as the guide, create a simple addition or subtraction problem for the student to solve.   | Provide student with a set of dominos containing no more than 3 dots on either side. Have student choose a domino from the set. Using the dots on each half of the domino as the guide, create a simple addition problem for the student to solve. Have student count the dots on each half to solve the problem.  | Provide student with a set of 10 dominos. Have student stack the dominos saying $1+1+1+1$ , etc. as he stacks the dominos one on top of the other.   |

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| Provide student with cards representing 1-5 from a deck of playing cards. Have student draw two cards. Use the cards to create simple addition and subtraction problems for the student to solve. Have student write the corresponding equation as he solves the problem.   | Provide student with cards representing 1-5 from a deck of playing cards. Have student draw two cards. Use the cards to create simple addition and subtraction problems for the student to solve.   | Provide student with cards representing 1-3 from a deck of playing cards. Have student draw two cards. Use the cards to create simple addition problems for the student to solve. Have student count the symbols on the cards to solve the problem.    | Provide the student with a set of ten playing cards. Have student deal the cards one at a time to a partner.   |
| Create a T-chart with + and – at the top of each column. List key words for addition and subtraction problems, e.g. altogether, in, left, and remaining under each symbol. Present a word problem. Have student highlight the key words in the problem and determine the operation. Have student write the corresponding number sentence and solve the problem. | Create a T-chart with + and – at the top of each column. List key words for addition and subtraction problems, e.g. altogether, in, left, and remaining under each symbol. Present a word problem. Have student highlight key words in the problem and determine operation. Solve the problem as a class. | Create a chart with + sign at the top of the column. List key words for addition problems, e.g. in and altogether under the + symbol. Present an addition word problem. Have student highlight key words in the problem. Solve the problem as a class. | Present the student with a story problem that focuses on the concept of “one more,” e.g. John has one cracker. His mom gave him one more. How many crackers does John have now? Using actual crackers, have student act out the story problem. |

**Model Academic Standard B: Number Operations and Relationships**

**Subskill: B.b. Computation**

| <i>EXTENDED GRADE BAND OBJECTIVE: Bb2</i>   |   |   |  |
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| <b>Combine and Separate Numbers or Objects 0-20 into Requested Equal Groups</b>   |   |   |  |
| <i>Instructional Achievement Descriptors</i>  |   |   |  |
| <b>Advanced</b>   | <b>Proficient</b>   | <b>Basic</b>  | <b>Minimal</b>   |
| <i>Combine or separate numbers or objects 0-20 into requested equal groups</i>  | <i>Combine or separate numbers or objects 0-20 into requested equal groups</i>  | <i>No Achievement Descriptor identified for this level.</i>   | <i>No Achievement Descriptor identified for this level.</i>  |
| <p>Have students gather into a large group in the middle of the classroom. Count off to identify the total number of students in the group. Have students regroup into groups of two and count off by twos to identify the total number of students. Repeat activity forming groups of threes and fours each time recognizing that the total number of students does not change when the groupings are changed. Guide students in writing the number sentence that goes with each regrouping, e.g.<br/> <math>2+2+2+2+2=12</math>,<br/> <math>3+3+3=12</math>, etc.</p> | <p>Have students gather into a large group in the middle of the classroom. Count off to identify the total number of students in the group. Have students regroup into groups of two and count off by twos to identify the total number of students. Repeat activity forming groups of threes and fours each time recognizing that the total number of students does not change when the groupings are changed.</p> | <p>Have students gather into a large group in the middle of the classroom. Count off to identify the total number of students in the group. Have students regroup into groups of two and count the number of groups.</p>                    | <p>Have students gather into a large group in the middle of the classroom. Count off to identify the total number of students in the group. Have students regroup into groups of two.</p>  |
| <p>Provide student with a variety of items each labeled with a price tag, e.g. a sucker at \$.04, a cookie at \$.06, and a pencil at \$.12. Give the student 10 pennies. Have student determine the two items they can purchase with their money. Pair up with a partner and decide what they can buy with the combined money.</p>  | <p>Provide student with a variety of items each labeled with a price tag, e.g. a sucker at \$.04, a cookie at \$.06, and a pencil at \$.12. Give the student 10 pennies. Have student determine the two items they can purchase with their money.</p>   | <p>Provide student with a variety of items each labeled with a price tag, e.g. a sucker at \$.04, a cookie at \$.06, and a pencil at \$.10. Give the student 10 pennies. Have student count out the pennies needed to purchase an item.</p> | <p>Provide student with an item labeled with a price tag, e.g. a sucker at \$.04, a cookie at \$.06, and a pencil at \$.10, etc. Give the student 10 pennies. Have student count out the pennies needed to purchase the identified item.</p> |

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| <p>Provide student with simple number problems that involve combining or separating objects. Have student separate or combine groups of objects in order to demonstrate multiplication as grouping or repeated addition, e.g. there are 5 students in the class, each student has 2 eyes. How many eyes do we have in the whole class? Guide student in writing the number sentence, e.g. <math>2+2+2+2+2=5 \times 2</math>.</p> | <p>Provide student with simple number problems that involve combining or separating objects. Have student separate or combine groups of objects in order to demonstrate multiplication as grouping or repeated addition, e.g. there are 5 students in the class, each student has 2 eyes. How many eyes do we have in the whole class? Have a student count or create a chart to solve the problem.</p> | <p>Provide student with a group of objects. Have student group the objects in groups of two and count the groups. Repeat activity for grouping objects in groups of three, four, and five.</p>   | <p>Provide student with a group of objects. Have student group the objects in groups of two and count the groups.</p>  |
| <p>Provide fractional cutouts, e.g. wholes, halves, and fourths that correspond to a circular pie pan. Have student flatten a dough-like substance and place it in a circular pie pan. Using the cutouts as a guide, have student cut the dough-like substance into fractional parts. Have student identify the fraction that accurately represents the relationship between the cutout piece and the whole.</p>                 | <p>Provide fractional cutouts, e.g. wholes, halves that correspond to a circular pie pan. Have student flatten a dough-like substance and place it in a circular pie pan. Using the cutouts as a guide, have student cut the dough-like substance into fractional parts. Have student identify the fraction that accurately represents half of the whole.</p>   | <p>Provide fractional cutouts, e.g. wholes, halves that correspond to a circular pie pan. Have student flatten a dough-like substance and place it in a circular pie pan. Using the cutouts as a guide, have student cut the dough-like substance into fractional parts.</p> | <p>Have student flatten a dough-like substance and place it in a circular pie pan. Have student cut the dough-like substance into parts.</p>   |
| <p>Have student plan a party for a group of 10 students. Provide student with total number of items available for a party of 10, e.g. twenty pieces of pizza, ten juice, thirty pieces of candy, and forty carrot sticks. Have student identify how many of each item each student will receive at the party.</p>  | <p>Have student plan a party for a group of 10 students. Provide student with parameters for ordering the food items that will be needed, e.g. two pieces of pizza, one juice, three pieces of candy, and four carrot sticks for each student. How many of each item will need to be ordered?</p>   | <p>Have student plan a party for a group of 5 students. Provide student with a bag of candy. Have student sort out the number of pieces needed in order for each student at the party to have two pieces of candy.</p>   | <p>Have student plan a party for a group of 10 students. Provide student with a bag of candy. Have student sort out the number of pieces of candy needed for each person at the party to get one piece of candy.</p> |

**Model Academic Standard C: Geometry - Students will be able to use geometric concept, and procedures to interpret, represent and solve problems**

**Subskills: C.a. Describing Figures**

**C.b. Spatial Relationships and Transformations**

| <b>EXTENDED GRADE BAND OBJECTIVE: Ca1</b>   |   |  |   |
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| <b>Identify And Match 3 Basic Shapes</b>  |   |  |   |
| <b>Instructional Achievement Descriptors</b>  |   |  |   |
| <b>Advanced</b>   | <b>Proficient</b>   | <b>Basic</b>   | <b>Minimal</b>  |
| <i>Identify and match 4 basic shapes</i>  | <i>Identify and match 3 basic shapes</i>  | <i>Identify and match 2 basic shapes</i>   | <i>Match 1 basic shapes</i>   |
| Provide student with a set of cutout shapes, e.g. triangle, square, rectangle, and circle. Identify each shape. Have student look through magazines and newspapers for pictures of real life objects that have a circle, square, triangle or rectangle shape. Make a “Shapes in our Community” collage using the pictures.                          | Provide student with a set of cutout shapes, e.g. triangle, square, and circle. Identify each shape. Have student look through magazines and newspapers for pictures of real life objects that have a circle, square, or triangle shape. Make a “Shapes in our Community” collage using the pictures.                                     | Provide student with a set of cutout shapes, e.g. circle and square and pictures of real life objects that are shaped like a circle or a square. Have student identify the name of the cutout shape, and match the cutout shape to the real life object. | Provide student with a cutout shape, e.g. circle or square and pictures of real life objects that are shaped like the cutout. Have student match the cutout shape to the real life object                                     |
| Using four basic shapes, e.g. circle, square, rectangle, and triangle, play <i>I’m thinking of...</i> Describe an object in the classroom by stating its use, e.g. <i>I am thinking of something that helps us tell time</i> . Have student identify the item and the shape. Move to items in the school or community to increase difficulty level. | Using three basic shapes, e.g. circle, square, and triangle, play <i>I’m thinking of...</i> Describe an object in the classroom by stating its use, e.g. <i>I am thinking of something that helps us tell time</i> . Have student identify the item and the shape. Move to items in the school or community to increase difficulty level. | Using two basic shapes, e.g. circle and square, play <i>I’m thinking of...</i> Describe an object in the classroom by stating its use, e.g. <i>I am thinking of something that helps us tell time</i> . Have student identify the item and the shape.    | Provide student with a set of cutout shapes, e.g. circle and square. Name an object in the classroom that has a circle or a square shape. Have student take the cutout shape and match it to the named item in the classroom. |

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| <p>Provide student with a four-column chart with one shape cutout at the top of each column, e.g. circle, square, rectangle, and triangle. Review the attributes of each of the shapes, e.g. number of sides, corners, angles, etc. Provide student with a variety of shapes in different sizes. Have student place shapes under the correct heading and justify the placement using the reviewed attributes.</p> | <p>Provide student with a three-column chart with one shape cutout at the top of each column, e.g. circle, square, and triangle. Review the attributes of each of the shapes, e.g. number of sides, corners, angles, etc. Provide student with a variety of shapes in different sizes. Have student place shapes under the correct heading and justify the placement using the reviewed attributes.</p> | <p>Provide student with a two-column chart with one shape cutout at the top of each column, e.g. circle and square. Review the attributes of each of the shapes, e.g. number of sides, corners, angles, etc. Provide student with a variety of shapes in different sizes. Have student place shapes under the correct heading and name each shape.</p> | <p>Provide student with a one-column chart with one shape cutout at the top of the column, e.g. circle or square. Review the attributes of each of the shapes, e.g. number of sides, corners, angles, etc. Provide student with a variety of shapes in different sizes. Have student place shape under the correct heading.</p> |
| <p>Create a memory game using pairs of the four basic shapes, e.g. circle, square, rectangle, and triangle in different sizes and colors. Have students play the game with shape cards. After a match is made, have student name the shape in their pair.</p>   | <p>Create a memory game using pairs of the three basic shapes, e.g. circle, square, and triangle in different sizes and colors. Have student play the game with shape cards. After a match is made, have student name the shape in their pair.</p>  | <p>Create a memory game using pairs of the two basic shapes, e.g. circle and square in different sizes and colors. Have student play the game with shape cards. After a match is made, have student name the shape in their pair.</p>  | <p>Create a memory game using pairs of the two basic shapes, e.g. circle and square in different colors. Have student play the game with shape cards.</p>   |
| <p>Have the class go on a scavenger hunt for shapes found around the school, e.g. circle, triangle, rectangle, and square. Take digital photos of the items and print them out. Highlight the shapes in the photos. Have student sort and identify the photos according to the shape of the item in each photo.</p>   | <p>Have the class go on a scavenger hunt for shapes found around the school, e.g. circle, triangle, and square. Take digital photos of the items and print them out. Highlight the shapes in the photos. Have student sort and identify the photos according to the shape of the item in each photo.</p>  | <p>Have the class go on a scavenger hunt for shapes found around the school, e.g. circle and square. Take digital photos of the items and print them out. Highlight the shapes in the photos. Have student sort and identify the photos according to the shape of the item in each photo.</p>  | <p>Have the class go on a scavenger hunt for shapes found around the school, e.g. circle or square. Take digital photos of the items and print them out. Highlight the shapes in the photos. Have student match the photos according to the shape of the item in each photo to a cutout of the shape.</p>                       |

**Model Academic Standard C: Geometry**  
**Subskill: C.c. Coordinate Systems**

| <i>EXTENDED GRADE BAND OBJECTIVE: Cc1</i>   |  |  |   |
|---|--|--|---|
| <b>Recognize Basic Positional Concepts, e.g. behind, over, under, in front of, next to, left, right, top, bottom, in, out</b>   |  |  |   |
| <b><i>Instructional Achievement Descriptors</i></b>   |  |  |   |
| <b>Advanced</b>   | <b>Proficient</b>  | <b>Basic</b>   | <b>Minimal</b>  |
| <i>Recognize basic positional concepts, e.g. behind, over, under, in front of, next to, left, and right</i>   | <i>Recognize basic positional concepts, e.g. behind, over, under, in front of, next to</i>   | <i>Recognize 2 basic positional concepts, e.g. over, under, in front of, in, out, top, bottom</i>  | <i>Recognize 1 positional concept, e.g. in, out, top, bottom</i>  |
| Play “ <i>Simon Says</i> ” using the identified positional concepts, e.g. behind, over, under, in front of, next to, left, and right.   | Play “ <i>Simon Says</i> ” using the identified positional concepts, e.g. behind, over, under, in front of, and next to.   | Play “ <i>Simon Says</i> ” using the identified positional concepts, e.g. over, under, in front of, in, out, top, and bottom.  | Play “ <i>Simon Says</i> ” using the identified positional concepts, e.g. in, out, top, and bottom.   |
| Have student draw a picture or place pictures of objects on a paper following verbal directions that include identified positional concepts, e.g. behind, in front of, next to, over, under, top, bottom, in, out, left, and right.                   | Have student draw a picture or place pictures of objects on a paper following verbal directions that include identified positional concepts, e.g. behind, in front of, next to, over, under, in, out, top, and bottom.                   | Provide student with a set of manipulatives. Have student following verbal directions that include identified positional concepts, e.g. top, bottom, in, out, over, and under.                             | Provide student with a set of manipulatives. Have student following verbal directions that include identified positional concepts, e.g. top, bottom, in, and out.                             |
| Provide student with a dot-to-dot grid. Have student connect the dots based on verbal directions using the identified positional concepts, e.g. behind, in front of, next to, over, under, top, bottom, in, out left, and right.                      | Provide student with a dot-to-dot grid. Have student connect the dots based on verbal directions using the identified positional concepts, e.g. behind, in front of, next to, over, under, in, out, top, and bottom.                     | Provide student with a dot-to-dot grid. Have student connect the dots based on verbal directions using the identified positional concepts, e.g. top, bottom, in, out, over, and under.                     | Provide student with a simple dot-to-dot grid. Have student connect the dots based on verbal directions using the identified positional concepts, e.g. top, bottom, in, and out.              |
| Create a maze for student to navigate through by following the pictorial or verbal directions including words from the list of identified positional concepts, e.g. behind, in front of, next to, over, under, top, bottom, in, out, left, and right. | Create a maze for student to navigate through by following the pictorial or verbal directions including words from the list of identified positional concepts, e.g. behind, in front of, next to, over, under, in, out, top, and bottom. | Create a maze for student to navigate through by following the pictorial or verbal directions including words from the list of identified positional concepts, e.g. top, bottom, in, out, over, and under. | Create a maze for student to navigate through by following the pictorial or verbal directions including words from the list of identified positional concepts, e.g. top, bottom, in, and out. |

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| <p>Create an obstacle course that requires the understanding of the identified positional concepts, e.g. behind, in front of, next to, over, under, top, bottom, in, out, left, and right for student to complete. Have student follow verbal directions to maneuver through the course.</p> <p><b>Option:</b> Have students work in pairs. One partner may be blindfolded while the other partner gives directions on how to maneuver through the course.</p> | <p>Create an obstacle course that requires the understanding of the identified positional concepts, e.g. behind, in front of, next to, over, under, in, out, top, and bottom for student to complete. Have student follow verbal directions to maneuver through the course.</p> <p><b>Option:</b> Have students work in pairs. One partner may be blindfolded while the other partner gives directions on how to maneuver through the course.</p> | <p>Create a simple obstacle course that requires the understanding of the identified positional concepts, e.g. top, bottom, in, out, over, and under. Have student follow verbal directions to maneuver through the course.</p> | <p>Create a simple obstacle course that requires the understanding of the identified positional concept, e.g. top, bottom, in, and out. Have student follow verbal directions to maneuver through the course.</p> |
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**Model Academic Standard D: Measurement** – *Students will select and use appropriate tools (including technology) and techniques to measure things to a specified degree of accuracy. They will use measurements in problem solving situations.*

**Subskills: D.a. Measurable Attributes**

**D.b. Direct Measurement**

**D.c. Indirect Measurement**

| <b>EXTENDED GRADE BAND OBJECTIVE: Da1</b>  |   |   |  |
|--|---|---|--|
| <b>Compare 2 Objects by Size or Weight</b>   |   |   |  |
| <b>Instructional Achievement Descriptors</b>   |   |   |  |
| <b>Advanced</b>  | <b>Proficient</b>   | <b>Basic</b>  | <b>Minimal</b>   |
| <i>Compare 3 objects by size or weight</i>   | <i>Compare 2 objects by size or weight</i>  | <i>Compare 2 objects by size</i>  | <i>No Achievement Descriptor identified for this level</i>   |
| Provide student with a scale and various items to be weighed. Have student weigh three different items, record the weight of each item, and determine which item weighs the most? The least?   | Provide student with a balance scale and sets of objects to be placed on the scale. Demonstrate how the scale works, e.g. heavier item will make that end of the scale go down because it weighs more. Have student place an item on each side of the scale and determine which item is heavier or weighs more.                                   | Provide student with two like items of different sizes. Have the student determine which item is bigger or smaller depending on the requested response. | Provide student with two like items of different weights. Have student determine which item weighs more.                   |
| Provide three snack items of varying sizes with wrappers that list the weight of the items. Have student identify and record the weight of each item as listed on the label. Weigh the item and record the actual weight of the item. Have the student determine if the weight listed on the label is the same, more, or less than the actual weight on the scale. Which item weighs the most? Least? Which item is biggest or smallest in size? Does the biggest item weigh the most? | Provide various snack items with wrappers that contain the weight of the item. Have student identify and record the weight of the item listed on the label. Weigh the item and record the actual weight of the item. Have the student determine if the weight listed on the label is the same, more, or less than the actual weight on the scale. | Provide snack items of varying sizes. Have student identify which snack is the biggest? Smallest?   | Provide student with two different sized candy bars. Have the student determine which item is big and which item is small. |

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| <p>Have students arrange themselves in groups of three and determine which student is the tallest and which student is the shortest. Provide the weight of the students with no name attached and have student determine who weighs the most and the least - student A, B, or C. Repeat activity with different partners.</p> | <p>Have student partner with another student and determine who is the taller or the shorter. Provide the weight of the students with no name attached and have student determine which student weighs more - student A or student B. Repeat activity with different partners.</p> | <p>Have student partner with another student and determine who is taller or shorter. Repeat activity with different partners.</p>   | <p>Have student partner with another student and determine who is tallest and who is shortest.</p>   |
| <p>Using technology such as Smart Board or PowerPoint, have student order three objects according to weight or size.</p>  | <p>Using technology such as Smart Board or PowerPoint, have student order two objects according to weight or size.</p>  | <p>Using technology such as Smart Board or PowerPoint, have student order two objects according to size.</p>  | <p>Using technology such as Smart Board or computer, have student identify big objects and small objects when shown a sets of objects.</p>   |
| <p>Provide student with various produce items, e.g. carrots, broccoli, celery, apples, etc. Have student weigh three different items and determine which weighs more, e.g. a carrot or a stalk of celery. Have student compare three pieces of the same fruit by size and weight.</p>   | <p>Provide student with various produce items, e.g. carrots, broccoli, celery, apples, etc. Have student weigh two different items and determine which weighs more, e.g. a carrot or a stalk of celery. Have student compare two pieces of the same fruit by size and weight.</p> | <p>Provide student with various pairs of fruit that are different sizes, e.g. two apples, two oranges, two bananas, etc. Have the student determine which apple, orange, or banana is bigger or smaller as requested.</p> | <p>Provide student with various pairs of fruit that are different sizes, e.g. two apples, two oranges, two bananas, etc. Have the student determine which apple, orange, or banana is big and which item is small.</p> |

**Model Academic Standard D: Measurement**  
**Subskills: D.a. Measurable Attributes**  
**D.b. Direct Measurement**  
**D.c. Indirect Measurement**

| <i>EXTENDED GRADE BAND OBJECTIVE: Da2</i>   |  |   |   |
|---|--|---|---|
| <b>Identify Purpose of Basic Tools Of Measurement, e.g., calendar, clock, ruler</b>   |  |   |   |
| <i>Instructional Achievement Descriptors</i>  |  |   |   |
| <b>Advanced</b>   | <b>Proficient</b>  | <b>Basic</b>  | <b>Minimal</b>  |
| <i>Identify and use tools of measurement, e.g., calendar, analog and digital clocks, ruler</i>  | <i>Identify purpose of basic tools of measurement, e.g., calendar, clock, ruler</i>  | <i>Identify tools of measurement</i>  | <i>Identify a clock or calendar</i>   |
| Provide a number of different types of calendars. May also have student bring some from home. Have student identify the parts of a calendar and what each part tells us, e.g. date, day, year, and month. Have student find each part on the different calendars. Have student mark the day's date on each calendar.                      | Provide a number of different types of calendars. May also have student bring some from home. Have student identify the common parts of a calendar and what each part tells us, e.g. date, day, year, and month. Have student find each part on the different calendars.                         | Provide student with a calendar. Guide student in identifying the parts of the calendar, e.g. days, numbers, months, and year.          | Provide student with a calendar and a clock. Have student identify which one is a calendar.   |
| Provide pictures of various tools of measurement. Present different scenarios that require a specific tool of measurement. Have the student identify the picture of the tool that should be used for each scenario, e.g. Susan wants to know what day it is, what tool should she use, etc. Have student demonstrate how to use the tool. | Provide pictures of various tools of measurement. Present different scenarios that require a specific tool of measurement. Have the student identify the picture of the tool that should be used for each scenario, e.g. i.e. Susan wants to know what day it is, what tool should she use, etc. | Provide pictures of various tools of measurement. Present a description of a tool. Have the student identify the corresponding picture. | Provide pictures of a clock and a calendar. Present a description of one or the other. Have the student identify the corresponding picture. |

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| Using PowerPoint or Smart Board, play a Jeopardy game with answers like: <i>If I wanted to make sure I wake up on time for school I would use this tool of measurement .What is a Clock?</i> Name the unit of measure e.g. minutes, hours, feet, inches, etc.  | Using PowerPoint or Smart Board, play a Jeopardy game with answers like: <i>If I wanted to make sure I wake up on time for school I would use this tool of measurement. What is a Clock?</i>  | Use a board game with spaces. Have actual tools of measurement or flash cards of tools of measurement available. Have student choose a card or object and name it. If they give the correct answer they can roll a dice or spin a spinner to see how many spaces they move ahead. | Musical Measurement: have examples of many clocks and calendars. Music is played for a short while. When the music stops, teacher yells either, <i>clocks!</i> Or <i>calendars!</i> Students scramble to make sure they find the correct tool of measurement. |
| Provide a set of pictures of different tools of measurement and a set of pictures depicting the tools being used. Have student match the picture of the tool to the picture that depicts its use. Have student identify another way the tool is used.  | Provide a set of pictures of different tools of measurement and a set of pictures depicting the tools being used. Have student match the picture of the tool to the picture that depicts its use.   | Provide a set of pictures of different tools of measurement and a set of pictures depicting the tools being used. Have student identify all the pictures of the tools.  | Have student identify the clock and the calendar in the classroom.  |
| Provide pictures or actual tools of measurement, e.g. digital clocks, analog clocks, watches, hourglass, clock, ruler, yardstick, tape measure, balance scale, and floor scale. Have student make groups according to like purpose of the same unit of measurement, e.g. weight, length, time, etc. Have student identify the unit of measure. | Provide pictures or actual tools of measurement, e.g. digital clocks, analog clocks, watches, hourglass, clock, ruler, yardstick, tape measure, balance scale, and floor scale. Have student make groups according to like purpose of the same unit of measurement, e.g. weight, length, time, etc. | Provide pictures or actual tools of measurement and objects or pictures of objects that are not tools of measurement. Have student identify the objects that are used for measurement.  | Provide student with groups of calendars and clocks or pictures of calendars and clocks. Have student group all the calendars together and all the clocks together.   |

**Model Academic Standard E: Statistics and Probability – Students will use data collection and analysis, statistics and probability in problem-solving situations, employing technology where appropriate.**

**Subskills: E.a. Data Analysis and Statistics  
E.b. Probability**

| <i>EXTENDED GRADE BAND OBJECTIVE: Ea1</i>  |   |   |  |
|--|---|---|--|
| <b>Identify Most, Least, and Same on a Graph or Chart</b>  |   |   |  |
| <i>Instructional Achievement Descriptors</i>   |   |   |  |
| <b>Advanced</b>  | <b>Proficient</b>   | <b>Basic</b>  | <b>Minimal</b>   |
| <i>Identify and display graph showing most, least, same</i>  | <i>Identify most, least, and same on a graph or chart</i>   | <i>Identify most and least on a graph or chart</i>  | <i>Recognize a graph or chart</i>  |
| Have student taste several flavors of gum, e.g. grape, spearmint, bubble gum, cinnamon and identify their favorite. Have student record the results on a bar graph. Have student identify which flavor was the most favorite, least favorite, and if any were the same.                              | Have student taste several flavors of gum, e.g. grape, spearmint, bubble gum, cinnamon and identify their favorite. Create a bar graph for student to use as a guide to identify which flavor was the most favorite, least favorite, or the same. | Have student taste several flavors of gum, e.g. grape, spearmint, bubble gum, cinnamon and identify their favorite. Create a bar graph for student to use to identify the most and least favorite flavor. | Have student taste several flavors of gum, e.g. grape, spearmint, bubble gum, cinnamon and identify their favorite. Create a bar graph depicting the results. Have student identify the graph. |
| Select groups of students of significantly different heights and have them line up in the front of the class. Have student interpret the human graph to answer questions, e.g. Who is the tallest? Shortest? Are any students the same height? Have student create a bar graph from the human graph. | Select groups of students of significantly different heights and have them line up in the front of the class. Have student interpret the human graph to answer questions, e.g. Who is the tallest? Shortest? Are any students the same height?    | Select groups of students of significantly different heights and have them line up in the front of the class. Have student interpret the human graph to answer questions, Who is the tallest? Shortest?   | Select two students of significantly different heights and have them stand up in the front of the class. Have student interpret the human graph to answer question, Who is the tallest?        |
| Conduct a class survey about the number and types of pets students have. Have student create a pictograph to show the results. Have student identify the most and least popular pet in the class.  | Conduct a class survey about the number and types of pets students have. Create a pictograph to show the results. Have student identify the most and least popular pet in the class.  | Create a pictograph to show the number and type of pets students in the class have at home. Have student identify the most and least popular pet in the class.  | Display a class created pictograph to showing the number and type of pets students in the class have at home. Have student identify the chart on the wall.                                     |

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| <p>Have student create a three-column chart to track the weather for two weeks. Label the column with words or symbols for sunny, cloudy and rainy. Use tallies to record the type of weather for each day. At the end of two weeks using the chart as a guide, have student determine if there were more sunny or cloudy days. How many days did it rain? Is that more, less, or the same amount of days we had sun?</p>   | <p>Create a three-column chart to track the weather for two weeks. Label the column with words or symbols for sunny, cloudy and rainy. Use tallies to record the type of weather for each day. At the end of two weeks using the chart as a guide, have student determine if there were more sunny or cloudy days. How many days did it rain? Is that more, less, or the same amount of days we had sun?</p>  | <p>Provide student with a tally chart, created by the class, depicting the number of cloudy and sunny days for the past two weeks. Have student determine if there were more sunny or cloudy days over the two week period.</p>   | <p>Create a three-column chart to track the weather for two weeks. Label the column with words or symbols for sunny, cloudy, and rainy. Hang the chart on the wall in the classroom. Have student identify the chart each day and put a tally mark in the appropriate column as directed.</p> |
| <p>Have each student survey 10 people not in their class, asking the question, What is your favorite color? Have student create a bar graph to take with them as they conduct the survey. Label the y-axis with numbers and the x-axis with colors. When the person indicates a color, student will shade a square on the bar graph that matches the response. After the completing the survey, have student determine the favorite color of the people surveyed. Compare results with the others in the class.</p> | <p>Have student survey 10 people not in their class, asking the question, What is your favorite color? Create a bar graph for student to take with them as they conduct the survey. Label the y-axis with numbers and the x-axis with colors. When the person indicates a color, student will shade a square on the bar graph that matches the response. After the completing the survey, have student determine the favorite color of the people surveyed.</p> | <p>Have student survey people in their class, asking the question, What is your favorite color? Create a bar graph for student. Label the y-axis with numbers and the x-axis with colors. When the person indicates a color, have student shade a square on the bar graph that matches the response. After completing the survey, have student determine the favorite color of the class.</p> | <p>Provide student with a bar graph depicting the survey results determining the favorite color of the students in the class. Have student identify the tallest bar on the graph.</p>   |

**Model Academic Standard F: Algebraic Relationships**  
**Subskill F. a. Patterns, Relationships, and Functions**

| <i>EXTENDED GRADE BAND OBJECTIVE: F.a.1</i>   |   |   |   |
|---|---|---|---|
| <b>Recognize or Extend Two-Part A/B Pattern</b>   |   |   |   |
| <i>Instructional Achievement Descriptors</i>  |   |   |   |
| <b>Advanced</b>   | <b>Proficient</b>   | <b>Basic</b>  | <b>Minimal</b>  |
| <i>Recognize and extend three-part A/B/C pattern</i>  | <i>Recognize or extend two-part A/B pattern</i>   | <i>Copy a two-part pattern from an existing pattern</i>   | <i>Extend a sequence of like pictures or objects</i>  |
| Provide student with a set of stickers. Have student complete an A/B/C pattern, e.g. star, circle, square, star, circle, square, __ , __ , __ , etc.                                  | Provide student with a set of stickers and have student complete an A/B pattern, e.g. star, circle, star, circle, __ , __ , etc.  | Provide student with a set of stickers and have student copy a pattern of stickers in an A/B pattern, e.g. star, circle, star, circle, star , __ , etc.                     | Provide student with a set of stickers and have student extend a pattern of stickers in a sequence, e.g. star, star, star, ____ ,etc.           |
| Provide student with three different kinds of cereal or colored beads. Have student use the colored beads or cereal to make necklaces using color to form a repeating A/B/C pattern.  | Provide student with two different kinds of cereal or colored beads. Have student use colored beads or cereal to make necklaces using color to form a repeating A/B pattern.      | Provide student with two different kinds of cereal or colored beads. Have student make a necklace or bracelet by copying an example with beads or cereal in an A/B pattern. | Provide student with a sequence of colored beads. Have student make a necklace by using a sequence of only one color of bead.                   |
| Provide students with a sports team record that follows an A/B/C pattern of wins and losses. Have student identify the pattern and extend the A/B/C pattern through six more games.   | Provide students with a sports team record that follows an A/B pattern of wins and losses. Have student identify the pattern and extend the A/B pattern through four more games.  | Provide students with a sports team record that follows an A/B pattern of wins and losses. Have student copy the A/B pattern of wins and losses for another team.           | Have students line up boy, girl, boy, girl sequence. Have student identify if a boy or a girl comes next in the sequence.                       |
| Create several patterns using shape blocks including one with an A/ B/C pattern. Have student identify the A/B/C pattern.   | Create several patterns using shape blocks including one with an A/B pattern. Have student identify the A/B pattern.  | Create a pattern using shape blocks in an A/B pattern. Have student re-create the pattern with blocks.  | Create a sequence using shape blocks. Have student identify the next block in the sequence.   |
| Create an A/B/C pattern using coins or coin stamps. Provide student with set of coins or coin stamps. Have student recognize and extend the A/B/C pattern using coins or coin stamps. | Create an A/B pattern using coins or coin stamps. Provide student with set of coins or coin stamps. Have student recognize and extend the A/B pattern using coins or coin stamps. | Create an A/B pattern using coins or coin stamps. Provide student with set of coins or coin stamps. Have student re-create an A/B pattern using coins or coin stamp.        | Create a sequence of like coins using coins or coin stamps. Provide student with set of coins or coin stamps. Have student extend the sequence. |