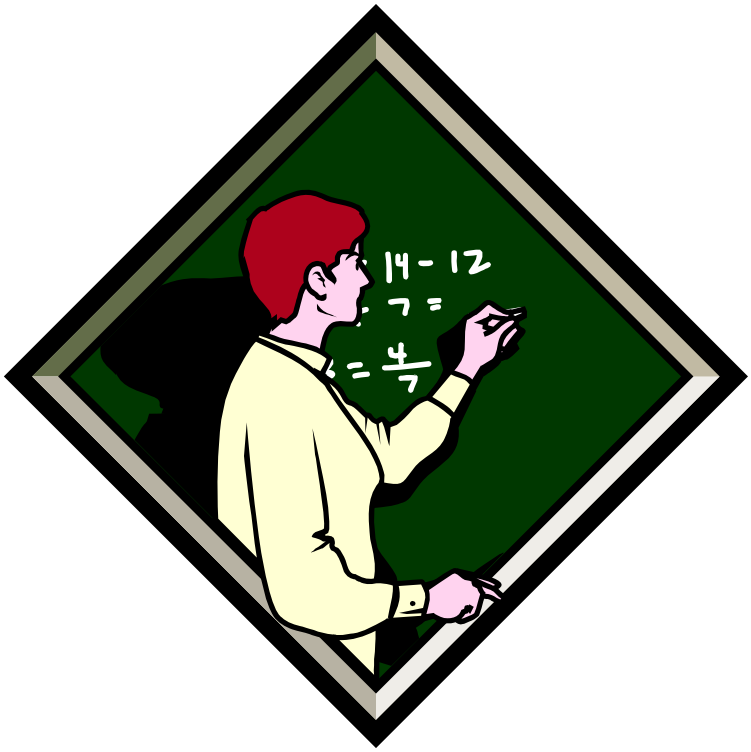
Mathematics Extended Grade Band Objectives and Achievement Descriptors



Wisconsin Extended Standards and Instructional Achievement Descriptors
Mathematics - Grade Band 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.

(Note: Students perform math processes in demonstrations of the content that follows.)

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.a.: Concepts

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Ba1 Order or rote count numbers 0-20 and represent numbers 0-10. **MathematicsBa2 Sort coins to like groups.**	Advanced students perform without support the following: • **Order or rote count numbers 0-50 and represent numbers 0-20.** EX: Count numbers verbally; write, type, point, stamp, or use communication device; use manipulation devices. EX: Use pictures, objects, or fingers to show a requested number. • **Sort and name coins into like groups.** EX: Sort coins into labeled containers. EX: Point to or indicate a coin by name**.**
	Proficient students perform without support the following: • **Order or rote count numbers 0-20 and represent numbers 0-10.** EX: Count verbally; write, type, point, stamp, or use communication device; use manipulation devices. EX: Use pictures, objects, or fingers to show a requested number. • **Sort coins to like groups.** EX: Given all coins, students can sort into groups of penny, nickel, dime, quarter.

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
	Basic students perform with minimal support the following: • **Rote count numbers 0-10.** EX: Count verbally; write, type, point, stamp, or use communication device; use of manipulation devices. • **Separate 2 different kinds of coins.** EX: Separate a penny from a quarter, a dime from a penny.
	Minimal students attempt to perform with significant support the following: • **Recognize numbers.** EX: Indicate one object when requested. EX: Point to or indicate a number versus another symbol.

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.b.: Computation

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Bb1 Add and subtract one-step, single-digit number problems. **Mathematics Bb2 Combine and separate numbers or objects 0-20 into requested equal groups.**	Advanced students perform without support the following: • **Solve addition and subtraction one-step single-digit number problems using symbols.** EX: Solve written or verbal problem using paper and pencil or other communication device. • **Combine or separate numbers or objects 0-20 into requested equal groups.** EX: Given a bag of colored squares sort into equal groups.
	Proficient students perform without support the following: • **Add and subtract one-step single-digit number problems.** EX: Solve written or verbal problem using manipulatives or pictures. • **Combine or separate numbers or objects 0-20 into requested equal groups.** EX: Given a group of objects will sort into requested groups (sort into 2s, 5s, etc.). EX: Given 4 groups of 5 state or indicate that there are 20 total.
	Basic students perform with minimal support the following: • **Add one-step single-digit number problems.** EX: Solve problem using manipulatives or pictures.
	Minimal students attempt to perform with significant support the following: • **Add one to a group of objects.** EX: Add a block or indicate a block needs to be added.

Model Academic Standard:

C. Geometry: Students will be able to use geometric concepts, relationships, and procedures to interpret, represent, and solve problems.

Subskill C.a.: Describing Figures
Subskill C.b: Spatial Relationships and Transformations

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Ca1 Identify and match 3 basic shapes.	Advanced students perform without support the following: • **Identify and match 4 basic shapes.** EX: State, indicate, or point to requested shape, such as triangle, square, circle rectangle (basic 2D shapes). EX: Complete a non-interlocking puzzle with the 4 basic shapes, placing pieces when requested by name of shape.
	Proficient students perform without support the following: • **Identify and match 3 basic shapes.** EX: State, indicate, or point to requested shape, such as triangle, square, circle (basic 2D shapes). EX: Complete a non-interlocking puzzle with the 3 basic shapes, placing pieces when requested by name of shape (wooden peg puzzles).
	Basic students perform with minimal support the following: • **Identify and match 2 basic shapes.** EX: State, indicate, or point to requested shape, such as triangle, square, circle (basic 2D shapes).
	Minimal students attempt to perform with significant support the following: • **Match 1 basic shape.** EX: Indicate or point to matching shapes, such as triangle to triangle.

Model Academic Standard:

C. Geometry: Students will be able to use geometric concepts, relationships, and procedures to interpret, represent, and solve problems.

Subskill C.c.: Coordinate Systems

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Cc1 Recognize basic positional concepts (such as behind, over, under, in front of, next to).	Advanced students perform without support the following: • **Recognize basic positional concepts (such as behind, over, under, in front of, next to, and left, right).** EX: Manipulate object or indicate picture which shows positional concept. EX: Indicate left or right when prompted by raising correct hand. EX: Point to an object on the right or left in addition to above, below etc. as requested.
	Proficient students perform without support the following: • **Recognize basic positional concepts (such as behind, over, under, in front of, next to).** EX: Manipulate object or indicate picture which shows positional concept. EX: Move hand to behind, next to, and above table when requested.
	Basic students perform with minimal support the following: • **Recognize 2 basic positional concepts (such as over, under, in front of, in, out, top, bottom).** EX: Manipulate object or indicate picture that shows positional concept. EX: Place a ball in front of themselves when prompted.
	Minimal students attempt to perform with significant support the following: • **Recognize 1 basic positional concept (such as in, out, top, bottom).** EX: Manipulate object or self to show a positional concept. EX: When requested, move to or indicate the front of the line.

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.

Subskill D.a.: Measurable Attributes
Subskill D.b.: Direct Measurement
Subskill D.c.: Indirect Measurement

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Da1 **Compare 2 objects by size or weight.** **Mathematics Da2** **Identify purpose of basic tools of measurement (e.g., calendar, clock, ruler).**	Advanced students perform without support the following: • **Compare 3 objects by size or weight.** EX: Point to or identify the large/medium/small object. EX: Given a picture of 3 different sizes of the same object, indicate which is large, medium, and small. • **Identify and use tools of measurement (e.g. calendar, analog and digital clocks, ruler).** EX: Use a ruler to measure. EX: Match digital to analog time.
	Proficient students perform without support the following: • **Compare 2 objects by size or weight.** EX: Point to or identify the larger/smaller, heavier/lighter, longer/shorter object. EX: Given a marble and a tennis ball and asked which is larger, indicate the tennis ball. EX: Given a rock and a feather and asked which is lighter, identify the feather. • **Identify purpose of basic tools of measurement (e.g., calendar, clock, ruler).** EX: Identify which tool measures time. EX: Hand teacher the tool to measure water upon request.
	Basic students perform with minimal support the following: • **Compare 2 objects by size.** EX: Point to or identify the larger/smaller object when asked. • **Identify tools of measurement.** EX: Identify one of the following tools: clock, calendar, ruler, scales. EX: Hand teacher a ruler upon request.

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
	Minimal students attempt to perform with significant support the following: • **Identify a clock or calendar.** EX: Point to clock or calendar when prompted for each.

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

E. Statistics and Probability

Subskill E.a.: Data analysis and statistics
Subskill E.b.: Probability

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Ea1 Identify most, least, and same on a graph or chart.	Advanced students perform without support the following: • **Identify and display graph showing most, least, and same.** EX: Given a bag of different colored objects (e.g., erasers, rubber balls, mini toys) graph amount of different colors on paper or manipulate into columns in order to show more, least, and same.
	Proficient students perform without support the following: • **Identify most, least, and same on a graph or chart.** EX: Given a bar graph, point to or show concept of least, most, and same. EX: Given a block graph, indicate when asked which row has the least blocks, most blocks, and the same number of blocks.
	Basic students perform with minimal support the following: • **Identify most and least on a graph or chart.** EX: Given a graph, point to or show concept of same. EX: Given a block graph, indicate when asked which rows are the same.
	Minimal students attempt to perform with significant support the following: • **Recognize a graph or chart.** EX: Point to a graph.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.a: Patterns, Relations, and Functions

Extended Grade Band 3-4 Objectives	Instructional Achievement Descriptors
Mathematics Fa1 Recognize or extend two-part A/B pattern.	Advanced students perform without support the following: • **Recognize and extend three-part A/B/C pattern.** EX: Use manipulative shapes or objects to complete or extend a given three-part pattern. EX: When started with red, green, yellow, red, green, yellow, indicate whether red, green, or yellow object comes next.
	Proficient students perform without support the following: • **Recognize or extend two-part A/B pattern.** EX: Use manipulative shapes or objects to complete or extend a given two-part pattern. EX: When started with red, green, red, green, indicate whether red or green object comes next.
	Basic students perform with minimal support the following: • **Copy a two-part pattern from an existing pattern.** EX: Match pictures of two patterns. EX: Recreate a pattern from an example. EX: Use pictorial form to put pegs in a board of the same pattern. EX: Use a communication device to indicate which comes next in the pattern to recreate it.
	Minimal students attempt to perform with significant support the following: • **Extend a sequence of like pictures or objects.** EX: Given five apples in a row, choose another apple to come next instead of an orange. EX: Given a sequence of the same picture or object and asked what goes here, indicate the matching object/picture.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.b.: Expressions, Equations, and Inequalities
Subskill F.c.: Properties

(Expressions, Equations, Inequalities, and Properties are too abstract for this population to permit linkage at this grade band.)

Mathematics Extended Grade Band 3-4
Alternate Assessment Achievement Descriptors

Achievement Level	Achievement Descriptor
Advanced	Students performing at the Advanced Level: • Order or rote count numbers 0-50, represent numbers 0-20. • Add or subtract one-step single-digit number problems, and combine or separate numbers or objects 0-20 into requested equal groups. • Sort and name coins, sort the four basic shapes into like groups, and compare three objects by size. • Recognize basic positional concepts (such as behind, over, under, in front of, next to and left, right) and extend three-part A/B/C pattern. • Identify and use tools of measurement (e.g., calendar, analog, and digital clocks, ruler) • Identify and display graph showing most, least, and same.
Proficient	Students performing at the Proficient Level: • Order or rote count numbers 0-20 and represent numbers 0-10, add and subtract one-step single-digit number problems, and combine or separate numbers or objects 0-20 into requested equal groups. • Sort coins by likeness and two objects by size. • Recognize basic positional concepts (such as behind, over, under, in front of, next to); match 3 basic shapes; indicate most, least, and same on a graph; and extend simple patterns. • Identify purpose of basic tools of measurement (e.g., calendar, clock, ruler).
Basic	Students performing at the Basic Level: • Rote count numbers 0-10, add one-step single-digit number problems. • Match two basic shapes, coins and objects, and copy a two-part pattern from an existing pattern. • Recognize two basic positional concepts (such as behind, over, under, in front of, next to, in, out, top, bottom). • Identify tools of measurement (e.g., clock, calendar, ruler, scales). • Identify what is the same on a graph.
Minimal	Students performing at the Minimal Level: • Add one to a group of objects. • Match one basic shape. • Recognize a number, clock, calendar, graph, and one basic positional concept (such as in, out, top, bottom).

Wisconsin Extended Standards and Instructional Achievement Descriptors
Mathematics - Grade Band 5-6

Model Academic Standard:

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

(Note: Students perform math processes in demonstrations of the content that follows.)

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.a.: Concepts

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Ba1 **Recognize, count, and order numbers to 50.** **Mathematics Ba2** **Indicate parts of a whole.** **Mathematics Ba3** **Identify and count like coins up to one dollar and bills up to five dollars.**	Advanced students perform without support the following: • **Recognize, count, and order numbers beyond 50.** EX: Count objects greater than 50. EX: Place numbers in sequential order. • **Indicate parts of a whole.** EX: Show five out of eight pieces of pizza. EX: Organize parts of a circle to create a whole (1/2 + 1/2 = __). • **Identify and count coins of more than one value up to a dollar and bills up to five dollars.** EX: Count money greater than one dollar with like coins. EX: Count dollar bills to amounts greater than five dollars.

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
	Proficient students perform without support the following: • **Recognize, count, and order numbers to 50.** EX: Put numbers in order up to 50. EX: Count to 50. • **Indicate parts of a whole.** EX: Indicate the number of pieces of pizza in a pie. EX: Indicate if a puzzle is complete or missing parts. • **Identify and count like coins up to one dollar and bills up to five dollars.** EX: Count nickels to one dollar. EX: Count dimes to one dollar. EX: Count one-dollar bills to five dollars.
	Basic students perform with minimal support the following: • **Recognize, represent, count, and order numbers to 10.** EX: Count to 10. EX: Place numbers in order to 10. • **Identify and count like coins.** EX: Sort coins into like values. EX: Count quarters to make a vending machine purchase.
	Minimal students attempt to perform with significant support the following: • **Rote count or identify numbers 0-3.** EX: Say, write, type, point, stamp, use a communication device, or use manipulatives to rote count or identify numbers. • **Recognize a coin.** EX: Given a picture or an object, indicate if it is a coin.

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.b.: Computation

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Bb1 Solve single-digit addition and subtraction problems, and multiply and divide sets of objects by 2. **Mathematics Bb2 Compare two groups based on more or less.**	Advanced students perform without support the following: • **Solve two-digit addition and subtraction problems without regrouping.** EX: 25+10=__. EX: 25-10=__. • **Multiply and divide sets of objects by number greater than 2.** EX: Divide objects into three groups. EX: Make three groups of four objects when shown the equation 3 x 4. • **Compare two groups based on smallest and biggest.** EX: When given two groups, put them in order according to size.
	Proficient students perform without support the following: • **Solve single-digit addition and subtraction problems.** EX: 5+2=__. EX: 5-2=__. • **Multiply and divide sets of objects by 2.** EX: Given 10 balls, student can divide into two equal groups. EX: Make two groups of three objects when given the equation 2 x 3. • **Compare two groups based on more or less.** EX: When given two groups, indicate which has more objects. EX: Which class has more students?
	Basic students perform with minimal support the following: • **Solve single-digit addition and subtraction problems to 5.** EX: 1+2=__. EX: 3-1=__.

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
	Minimal students attempt to perform with significant support the following: • **Demonstrate a one-to-one correspondence.** EX: Given three spaces, place one object in each space. EX: Put one egg in each hole of an egg carton.

Model Academic Standard:

C. Geometry: Students will be able to use geometric concepts, relationships, and procedures to interpret, represent, and solve problems.

Subskill C.a.: Describing Figures
Subskill C.b: Spatial Relationships and Transformations
Subskill C.c.: Coordinate Systems

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Ca1 Name and compare basic shapes (e.g., circle, rectangle, square, and triangle). **Mathematics Ca2 Identify directions (e.g., east, west, north, south, and left and right).**	Advanced students perform without support the following: • **Name and compare basic shapes and identify how they are different.** EX: Indicate how many sides a square has compared to a triangle. EX: Identify two shapes and name one attribute that makes them different. • **Apply directional concepts (e.g., east, west, north, south, and left and right).** EX: Tell which direction their house is from another location. EX: What direction to the principal's office?
	Proficient students perform without support the following: • **Name and compare basic shapes (e.g., circle, rectangle, square, and triangle).** EX: Differentiate a square from a triangle. EX: Identify a square when asked to select from shapes or pictures and indicate how many sides a square has. • **Identify directions (e.g., east, west, north, south, and left and right).** EX: Looking at a map, indicate a direction. EX: Point south on a map.
	Basic students perform with minimal support the following**:** • **Identify basic shapes (e.g., circle, rectangle, square, and triangle).** EX: Sort two like shapes. EX: Identify two shapes. • **Recognize four basic positional concepts (such as top, bottom, front, back, in, out).** EX: Indicate the bottom of an object.

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
	Minimal students attempt to perform with significant support the following: • **Identify basic shapes (e.g., circle, rectangle, square, and triangle).** EX: Match the triangle to a picture of a triangle. EX: Hand me the square. • **Recognize two basic positional concepts (top, bottom, in, out, front, back).** EX: Put the ball in the box.

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.

Subskill D.a.: Measurable Attributes
Subskill D.b.: Direct Measurement
Subskill D.c.: Indirect Measurement

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Da1 Connect calendars and clocks to everyday situations.	Advanced students perform without support the following: • **Utilize calendars and clocks in everyday situations.** EX: Match clock time to activity. EX: Match noon to lunch. EX: Use calendar to determine date or day.
	Proficient students perform without support the following: • **Connect calendars and clocks to everyday situations.** EX: Recognize schedule or routine and sequence of events (such as morning/night, before/after, today/tomorrow). EX: When asked when do you eat breakfast, indicate morning by pointing, signing, or using a communication device.
	Basic students perform with minimal support the following: • **Match situation to use of clock or calendar in everyday situations.** EX: When asked what tool is needed to tell time, indicate the use of a clock. EX: When asked what tool is needed to find the day or date, indicate a calendar.
	Minimal students attempt to perform with significant support the following: • **Recognize a calendar or clock.** EX: Point to the calendar or clock when prompted.

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

E. Statistics and Probability

Subskill E.a.: Data analysis and statistics

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Ea1 Sort and display data on a grid to make a simple graph.	Advanced students perform without support the following: • **Sort and display data on a grid to make a simple graph including labels.** EX: Given a bag of objects of at least 3 different colors or sizes, create a graph based on colors or size and numbers. EX: Create a graph that shows classmates' birthdays by month.
	Proficient students perform without support the following: • **Sort and display data on a grid to make a simple graph.** EX: Create a graph that shows numbers of objects based on colors. EX: Create a graph that shows classmates' favorite toys.
	Basic students perform with minimal support the following: • **Sort and place on a grid, data based on one attribute.** EX: Sort two colors of objects by color and put them into a given grid. EX: Sort boys and girls in the class.
	Minimal students attempt to perform with significant support the following: • **Select data based on one attribute.** EX: Point to the blue marbles.

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

E. Statistics and Probability

Subskill E.b.: Probability

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Eb1 Determine whether or not a situation is fair.	Advanced students perform without support the following: • **Determine whether or not a situation is fair and why.** EX: Play a game and identify fairness or unfairness. EX: Indicate why sharing is fair.
	Proficient students perform without support the following: • **Determine whether or not a situation is fair.** EX: Identify when a situation is fair.
	Basic students perform with minimal support the following: • **Determine if two amounts are the same.** EX: Recognize that portions or shares are equal.
	Minimal students attempt to perform with significant support the following: • **Demonstrate sharing.** EX: Share a box of crayons with another student.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.a: Patterns, Relations and Functions

Extended Grade Band 5-6 Objectives	Instructional Achievement Descriptors
Mathematics Fa1 Recognize or extend a three-part A/B/C pattern.	Advanced students perform without support the following**:** • **Recognize, create, extend, and explain a three-part A/B/C pattern.** EX: Create and explain how a pattern is created using objects and/or numbers. EX: Put missing objects into a pattern.
	Proficient students perform without support the following: • **Recognize or extend three-part A/B/C pattern.** EX: Use manipulative shapes or objects to complete or extend a given three-part pattern. EX: When started with red, green, yellow, red, green, yellow, indicate whether red, green, or yellow object comes next. EX: When given examples, identify which one is a pattern.
	Basic students perform with minimal support the following: • **Recognize and extend a one- or two-part pattern.** EX: Continue a pattern by adding one or two parts. EX: Add next piece to a pattern.
	Minimal students attempt to perform with significant support the following: • **Identify one piece of the pattern.** EX: Shown a pattern of block, triangle, block, triangle, choose from a triangle and circle the piece that fits into a pattern of objects.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.b.: Expressions, Equations and Inequalities
Subskill F.c.: Properties

(Expressions, Equations, Inequalities, and Properties are too abstract for this population to permit linkage at this grade band.)

Mathematics Extended Grade Band 5-6
Alternate Assessment Achievement Descriptors

Achievement Level	Achievement Descriptor
Advanced	Students performing at the Advanced Level: • Recognize, count, and order numbers (to 50) and money (like coins more than a dollar and bills to five dollars). Solve mathematical calculations (+,-, x, ÷) of single-digit whole numbers. • Compare patterns, including parts of a whole, in daily situations. • Apply directional concepts (e.g., east, west, north, south, and left and right). • Choose and use appropriate mathematical tools and shapes and sizes to make comparisons, sort, and display information. • Utilize calendars and clocks to everyday situations.
Proficient	Students performing at the Proficient Level: • Recognize, identify, and count numbers (to 50) and money (like coins to a dollar and bills to five dollars) and solve basic math computations (+ and -). • Sort and compare data to discover or extend patterns (parts of a whole, part of group, more or less, fair or unfair). • Identify basic shapes (circle, rectangle, square, and triangle) and basic directional concepts (east, west, north, south, left and right). • Identify purpose of basic tools of measurement, connect calendars and clocks to everyday situations.
Basic	Students performing at the Basic Level: • Recognize and manipulate numbers from 0-10. • Identify coins, basic shapes (circle, square, rectangle, and triangle), and positional concepts (top, bottom, front, back, in, and out). • Recognize how different groups of objects are the same and different. • Match situation to use of clock or calendar in everyday situations.
Minimal	Students performing at the Minimal Level: • Identify numbers (0-3) and basic positional concepts (top, bottom, in, out, front, and back). • Demonstrate an understanding of one-to-one correspondence and sharing. • Identify basic tools of math (circle, triangle, coin, calendar, clock).

Wisconsin Extended Standards and Instructional Achievement Descriptors
Mathematics - Grade Band 7-8

Model Academic Standard:

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

(Note: Students perform math processes in demonstrations of the content that follows.)

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.a.: Concepts

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Ba1 Read, write, represent whole numbers to 100+. **Mathematics Ba2 Use basic fractions 1/2, 1/4, 1/3.** **Mathematics Ba3 Count and compare coins and bills of differing values.**	Advanced students perform without support the following: • **Read, write, represent, and order numbers to 100+.** EX: Given set of numbers, arrange in the correct order. • **Identify and compare fractions 1/2, 1/4, 1/3, 1/8, 1/10.** EX: Divide a pizza into 8 equal pieces. • **Count and compare coins and bills of differing values to make change.** EX: Count a variety of coins and bills to make change.

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
	Proficient students perform without support the following: • **Read, write, and represent whole numbers to 100+.** EX: Count and write numbers to 100 (use objects or manipulatives). EX: Match numbers to a number of objects. • **Use basic fractions 1/2, 1/4, 1/3.** EX: Select the appropriate measuring cup called for in a recipe. • **Count and compare coins and bills of differing values.** EX: Count a variety of coins and bills.
	Basic students perform with minimal support the following: • **Read, write, and represent whole numbers to 20.** EX: Count and write numbers to 20 (use objects or manipulatives). EX: Match numbers to a number of objects to 20. • **Identify basic fractions 1/2, 1/4.** EX: Select the appropriate measuring cup between 1/2 and 1/4. • **Identify value of coins and bills.** EX: Given a variety of coins and bills, accurately identify the value.
	Minimal students attempt to perform with significant support the following: • **Identify whole numbers to 10.** EX: Rote count to 10. • **Compare coins and bills.** EX: When given a collection of coins, sort them into groups of the same coin.

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.b.: Computation

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Bb1 Use four basic operations in everyday situations. **Mathematics Bb2 Estimate (without counting) group sizes based on more or less.**	Advanced students perform without support the following: • **Use four basic operations in everyday situations, including two-step problems.** EX: Given a bag of stickers (not evenly divisible), distribute stickers evenly among classmates and decide how many more they need for each person to receive the same amount. EX: Given a menu with prices listed, order two items and determine the cost. • **Estimate (without counting) more than two group sizes based on most and least.** EX: Given three containers with different amounts of pencils, estimate which one has the most/least.
	Proficient students perform without support the following: • **Use four basic operations in everyday situations.** EX: Given a bag of stickers (with an evenly divisible amount), distribute stickers evenly among classmates. • **Estimate (without counting) group sizes based on more or less.** EX: Given a group of 5 pencils to distribute to the class of 20, decide if they have enough or will need more. EX: When shopping, decide which line to go in based on which has less people in line.
	Basic students perform with minimal support the following: • **Use single-digit addition and subtraction in everyday situations.** EX: Using two picture cards with a number of objects on them, subtract the number of objects on each and find the card with the appropriate number of objects on it. - 4 + 5 = ___. - 6 – 2 = ___.
	Minimal students attempt to perform with significant support the following: • **Use addition to sums lower than 10 in everyday situations.** EX: Add two groups of objects together and find the total number of objects.

Model Academic Standard:

C. Geometry: Students will be able to use geometric concepts, relationships, and procedures to interpret, represent, and solve problems.

Subskill C.a.: Describing Figures
Subskill C.b.: Spatial Relationships and Transformations

<table>
<tr><th>Extended Grade Band
7-8 Objectives</th><th>Instructional
Achievement Descriptors</th></tr>
<tr><td rowspan="2">Mathematics Ca1 Sort and classify a variety of three-dimensional objects based on shape.

Mathematics Ca2 Identify lines that are parallel and intersecting.</td><td>Advanced students perform without support the following:
• Sort and classify a variety of three-dimensional objects based on shape and tell why the objects belong together.
EX: When given a variety of nuts and bolts, sort and tell why objects were grouped as they were.
EX: Shown cards of several shapes, put like shapes together and explain why the shapes go together.

• Identify lines that are parallel and intersecting in objects.
EX: When given a box, identify the parallel and intersecting faces.</td></tr>
<tr><td>Proficient students perform without support the following:
• Sort and classify a variety of three-dimensional objects based on shape.
EX: When given a variety of nuts and bolts, student can sort and classify objects.
EX: Shown objects of varying shapes, put objects of like shapes together.

• Identify lines that are parallel and intersecting.
EX: Identify parallel and intersecting lines on a football field.
EX: When given sets of lines that are either parallel or intersecting, student can identify the parallel lines.</td></tr>
<tr><td rowspan="2"></td><td>Basic students perform with minimal support the following:
• Sort and classify two types of three-dimensional objects.
EX: Given cubes and balls, sort them into like groups.
EX: Shown objects of two different shapes, put like-shaped objects together.

• Identify lines that do not cross.
EX: On a map, identify streets that go the same direction and streets that cross.</td></tr>
<tr><td>Minimal students attempt to perform with significant support the following:
• Identify a three-dimensional object.
EX: When given a picture of a circle and a real plate, identify which is three-dimensional.</td></tr>
</table>

Model Academic Standard:

C. Geometry: Students will be able to use geometric concepts, relationships, and procedures to interpret, represent, and solve problems.

Subskill C.c.: Coordinate Systems

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Cc1 Locate coordinates in a real-world context.	Advanced students perform without support the following: • **Identify and locate coordinates in a real-world context.** EX: Choose a town on a map, look up coordinates on a table, then locate town on map.
	Proficient students perform without support the following: • **Locate coordinates in a real-world context.** EX: Given a map and coordinates for location of a town, locate a particular town.
	Basic students perform with minimal support the following: • **Locate a picture on a coordinate grid.** EX: Given a 3x3 grid and letter, number coordinates, locate the object with the given coordinate.
	Minimal students attempt to perform with significant support the following: • **Locate an object on a number line.** EX: Given a number line with three buildings (a school, house, and store) that correspond to a given number, point to or indicate the correct building.

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.

Subskill D.a.: Measurable Attributes
Subskill D.b.: Direct Measurement

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Da1 Select the appropriate unit of measure to determine the length or weight of everyday objects.	Advanced students perform without support the following: • **Select and use the appropriate unit of measure to determine the length, liquid capacity, or weight of everyday objects.** EX: When asked to measure water, choose the appropriate unit of measurement (inches, pounds, or cups) and measure it.
	Proficient students perform without support the following: • **Select the appropriate unit of measure to determine the length or weight of everyday objects.** EX: When asked to measure a piece of string, choose the appropriate unit of measurement (inches, pounds). EX: Measure height and report in inches.
	Basic students perform with minimal support the following: • **Select the appropriate unit of measure to determine the weight of everyday objects.** EX: Use a scale to weigh themselves and report weight in pounds.
	Minimal students attempt to perform with significant support the following: • **Determine whether an everyday object is heavier or lighter than other objects.** EX: When asked which is lighter, choose the lighter of two objects.

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.

Subskill D.c.: Indirect Measurement

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Dc1 Identify and describe perimeter/ circumference and area on a grid.	Advanced students perform without support the following: • **Identify, describe, and compute perimeter/circumference and area on a grid.** EX: When given a rectangle on a grid, figure out area and perimeter of the object.
	Proficient students perform without support the following: • **Identify and describe perimeter/circumference and area on a grid.** EX: Given two pictures of the same shape, one picture has the inside shaded in, the other has the shape outlined, decide which image shows area and why.
	Basic students perform with minimal support the following: • **Identify perimeter.** EX: Given a picture of a shape, point to the perimeter.
	Minimal students attempt to perform with significant support the following: • **Recognize outside of an object.** EX: Given a picture of a circle, point to or indicate the outside of the circle.

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

E. Statistics and Probability

Subskill E.a.: Data analysis and statistics

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Ea1 Interpret data from tables and simple graphs (e.g., pie, bar).	Advanced students perform without support the following: • **Create and interpret data from tables and simple graphs.** EX: Given the numbers of students in each grade level in a table, make a graph showing this information. Determine how many students are in each grade, which has the most, are there any the same, etc. EX: Given recorded daily temperature for a week, create a graph based on information.
	Proficient students perform without support the following: • **Interpret data from tables and simple graphs (e.g., pie, bar).** EX: Given a bar graph showing the number of students in each grade level, determine how many students are in each grade, which has the most. Are there any the same?
	Basic students perform with minimal support the following: • **Locate specific information on simple graphs.** EX: Given a simple graph, point to the number of boys in the class.
	Minimal students attempt to perform with significant support the following: • **Identify a graph in a given resource.** EX: Find a graph in a magazine.

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

E. Statistics and Probability

Subskill E.b.: Probability

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Eb1 Determine whether an event is impossible or certain.	Advanced students perform without support the following: • **Determine whether an event is impossible, certain, or likely.** EX: Could it snow in July in Wisconsin? (Always, sometimes, never.)
	Proficient students perform without support the following: • **Determine whether an event is impossible or certain.** EX: If you have one die, is it possible to roll a 7? If you have one die, is it possible to roll a 1 (or any number)?
	Basic students perform with minimal support the following: • **Determine whether an event is impossible.** EX: Given a bowl of red marbles, is it impossible to pick a green marble?
	Minimal students attempt to perform with significant support the following: • **Identify what is certain.** EX: Given pictures of two faucets, one with water coming out and one with basketballs coming out, which one is certain?

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.a: Patterns, Relations and Functions

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Fa1 Extend a given sequence.	Advanced students perform without support the following: • **Complete a given sequence of numbers.** EX: Given a sequence of numbers, 2, 4, _, 8, fill in the missing number.
	Proficient students perform without support the following: • **Extend a given sequence.** EX: Given a counting sequence, 1, 2, 3, 4, _ fill in the missing number.
	Basic students perform with minimal support the following: • **Repeat a two-item pattern.** EX: Given a pattern using two objects/pictures, repeat the pattern.
	Minimal students attempt to perform with significant support the following: • **Identify the next item in a pattern.** EX: Shown a pattern using two objects/pictures, choose which object would come next.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.b.: Expressions, Equations and Inequalities

Extended Grade Band 7-8 Objectives	Instructional Achievement Descriptors
Mathematics Fb1 Solve a simple one-step, open-equality sentence.	Advanced students perform without support the following: • **Solve a simple one-step, open sentence inequality problem.** EX: Given several simple equations, equaling less than 20, solve the problems.
	Proficient students perform without support the following: • **Solve a simple one-step, open-equality sentence.** EX: Given a number sentence with pictures above only the given numbers, fill in the missing number to complete the equation.
	Basic students perform with minimal support the following: • **Recognize equal quantities.** EX: When given a set of picture cards, students can place equal quantities on either side of an equal sign.
	Minimal students attempt to perform with significant support the following: • **Given a number, the student shows the addition of one more.** EX: Show one more.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.c.: Properties

(Properties are too abstract for this population to permit linkage at this grade band.)

Mathematics Extended Grade Band 7-8
Alternate Assessment Achievement Descriptors

Achievement Level	Achievement Descriptor
Advanced	Students performing at the Advanced Level: • Use numbers (100+) to solve problems using four basic operations (to two digits), use money to make change, and use basic fractions (1/2, 1/4, 1/3, 1/8, 1/10) in everyday life. • Select and use the appropriate unit of measure (length, liquid capacity, weight) for everyday objects; identify, describe, and compute perimeter/circumference and area on a grid. • Locate and identify coordinates, identify parallel and intersecting lines, and create and interpret data from tables and simple graphs in real-world context. • Sort and classify a variety of two- and three- dimensional objects based on shape and size, and tell why the objects belong together; estimate more than two group sizes based on most and least.
Proficient	Students performing at the Proficient Level: • Use whole numbers (100+) to solve problems using four basic operations (to two digits) and use money and basic fractions (1/2, 1/4, 1/3) in everyday life. • Select the appropriate unit of measure (length, liquid capacity, weight) for everyday objects, identify and describe perimeter/circumference and area on a grid. • Sort and classify a variety of three-dimensional objects based on shape. • Estimate two group sizes based on more or less. • Locate coordinates, identify parallel and intersecting lines, and interpret data from tables and simple graphs in real-world context.
Basic	Students performing at the Basic Level: • Use whole numbers (to 20) to solve problems using addition and subtraction (single digit) and identify value of money and basic fractions (1/2, 1/4) in everyday life. • Select the appropriate unit of measure (length, weight) for everyday objects, identify perimeter. • Sort and classify two types of three-dimensional objects and match images of figures based on size and location. • Determine whether an event is impossible and repeat a two-item pattern. • Locate a picture on a coordinate grid, identify parallel lines, and locate information on simple graphs.
Minimal	Students performing at the Minimal Level:

Achievement Level	Achievement Descriptor
	• Identify whole numbers (to 10). • Match basic shapes and coins; identify lines, three-dimensional objects, and the outside of an object. • Select the appropriate unit of measure to determine the weight of everyday objects. • Identify the next item in a pattern.

Wisconsin Extended Standards and Instructional Achievement Descriptors
Mathematics - Grade 10

Model Academic Standard:

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

(Note: Students perform math processes in demonstrations of the content that follows.)

Model Academic Standard:

B. Number Operations & Relationships: Students will use numbers effectively for various purposes, such as counting, measuring, estimating, and problem solving.

Subskill B.a.: Concepts
Subskill B.b.: Computation

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Ba1 Compare and order positive and negative integers -20 to 20. **Mathematics Ba2 Apply the idea of more or less using fractions, decimals, and percents.**	Advanced students perform without support the following: • **Solve problems using positive and negative integers.** EX: Solve problems using a constructed number line -20 to 20 with arrows. EX: Analyze the temperature over several days and arrange the temperatures from coldest to the warmest. • **Compare fractions, decimals, and percents in terms of more or less.** EX: Compare prices of three or more objects in terms of more than or less than. EX: Compare prices or sizes of three or more objects in terms of more than or less than (three sizes of juice containers, cost of the three juice containers, three bank balances, or three paychecks). EX: Compare which percent of the original price is the best buy between two or more objects (25%, 50%, 75%).
	Proficient students perform without support the following: • **Compare and order positive and negative integers -20 to 20.** EX: Can construct a number line from -20 to 20 with arrows. EX: Identify 0 as the origin on a number line. EX: Read a thermometer and decide what is appropriate to wear. • **Apply the idea of more or less using fractions, decimals, and percents.**

Extended Grade 10 Objectives	Instructional Achievement Descriptors
	EX: Identify the difference between 1/4 and 1/2 in terms of more than or less than (comparing 1/2 cup to 1/4 cup of flour for baking). EX: Compare prices or sizes between two objects in terms of more than or less than (12 oz. can of juice to 16 oz. can of juice, cost of the two juice containers, two bank balances, or two paychecks). EX: Identify which percent off the original price is the best buy (25%, 50%).
	Basic students perform with minimal support the following: • **Recognize positive and negative integers.** EX: Recognize the difference between positive and negative numbers on a thermometer (hot/cold). EX: Can locate a given point on a number line from -20 to 20 with arrows. EX: Recognize the negative or positive value of money (identify the balance on a checkbook). • **Identify the difference between two simple fractions, two decimals, or two percents.** EX: Identify the difference between 1/2 cup and 1 cup in terms of more than or less than (comparing 1/2 cup to 1 cup of flour for baking). EX: Distinguish the difference between two sets of money in terms of more or less (pennies, nickels, dimes, quarters, and bills). EX: State that 25% off is less than the whole price. EX: Compare the difference of objects in terms of more or less (price, weight, length).
	Minimal students attempt to perform with significant support the following: • **Identify and locate whole positive integers on a number line.** EX: Identify positive numbers on a number line. EX: Locate a given point on a number line from 0 to 20 with arrows.

Model Academic Standard:

C. Geometry: Students will be able to use geometric concepts, relationships, and procedures to interpret, represent, and solve problems.

Subskill C.a.: Describing Figures
Subskill C.b.: Spatial Relationships and Transformations
Subskill C.c.: Coordinate Systems

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Ca1 Identify lines that form a right angle.	Advanced students perform without support the following: • **Compare angles in relationship to a right angle.** EX: Sketch a right angle. EX: Sketch a simple map using intersecting lines that form right angles. EX: Group objects that contain right angles.
	Proficient students perform without support the following: • **Identify lines that form a right angle.** EX: Compare right and left turns to cardinal directions on a map. EX: Use maps to identify right angles.
	Basic students perform with minimal support the following: • **Identify right angle (corners).** EX: Identify angles in the real world that form right angles (tennis court, football field, room, bench press). EX: Given a rectangle, identify a right angle.
	Minimal students attempt to perform with significant support the following: • **Find the corner of an object.** EX: Find the corner on a piece of paper, book, or the room.

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.

Subskill D.a.: Measurable Attributes
Subskill D.b.: Direct Measurement

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Da1 Select and use tools, such as a ruler, tape measure, thermometer, meter stick, or scale, to determine the measurement of real objects.	Advanced students perform without support the following: • **Solve problems using measurement tools.** EX: Find the length and width of a room and decide how much carpet to buy to fit the room. EX: Measure and record temperature (of liquid or weather) over time and compare the difference.
	Proficient students perform without support the following: • **Select and use tools, such as a ruler, tape measure, thermometer, meter stick, or scale, to determine the measurement of real objects.** EX: Use a variety of measurement tools to measure everyday objects to the nearest whole unit. o Thermometer o Meter stick o Tape Measure o Scale EX: Measure for real-world connections, such as measuring for a room or a garden.
	Basic students perform with minimal support the following: • **Identify the appropriate tool used for measurement.** EX. Thermometer to measure the temperature (of food in cooking, body temperature, temperature of a liquid, weather). EX: Yard stick can be used to measure the height of a door frame, size of a carpet, or length of a track. EX: Tape measure can be used to measure the length of a pen, lumber, sporting event such as long jump, or waist measurement. EX: Scale to measure body weight, food, objects such as specimens in science (e.g., sand, rocks, and fish).
	Minimal students attempt to perform with significant support the following: • **Name a tool of measurement.** EX: o Thermometer o Yard stick o Tape Measure o Scale

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.

Subskill D.c.: Indirect Measurement

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Dc1 Determine perimeter, area, and circumference of regular shapes.	Advanced students perform without support the following: • **Determine perimeter and area of irregular shapes.** EX: Find the area or perimeter of an L-shaped room. EX: Find the area or perimeter of an irregular shaped garden. EX: Find the area or perimeter of a pool.
	Proficient students perform without support the following: • **Determine perimeter, area, and circumference of regular shapes.** EX: When provided a grid model, measure perimeter and area of a basic shape for building a fence (perimeter), a garden (area), or a swimming pool. EX: Using a direct measurement tool, measure the circumference of a circular object (can, globe, cup, or ball).
	Basic students perform with minimal support the following: • **Identify perimeter and area of regular shapes.** EX: Shade the area of a regular shape. EX: Trace the perimeter of a regular shape.
	Minimal students attempt to perform with significant support the following: • **Indicate a perimeter.** EX: Point to or indicate the outline of a regular shape as modeled by the teacher or proctor.

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

E. Statistics and Probability

Subskill E.a.: Data analysis and statistics

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Ea1 Organize, read, and compare data from simple graphs (e.g., table, line, pie, bar).	Advanced students perform without support the following: • **Collect and organize data in simple graphs using real-world contexts.** EX: Collect and organize data on a given graph (colored objects, coins from a bag of change, boys and girls in a class).
	Proficient students perform without support the following: • **Organize, read, and compare data from simple graphs (e.g., table, line, pie, bar).** EX: Organize objects on grid paper to represent a bar graph. EX: Read data from a given graph. EX: Compare the data in a given graph, such as the weather in two cities, best cell phone plan, best gas mileage of two vehicles, cheapest airline tickets.
	Basic students perform with minimal support the following: • **Identify points on a simple graph and identify their meaning.** EX: Identify the highest and lowest points on a graph (more green marbles). EX: Tell what the simple graph represents (this is a graph about the weather).
	Minimal students attempt to perform with significant support the following: • **Identify any part of a simple graph.** EX: Point to or indicate any part of a simple graph, such as the bar, section, color, item, piece.

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

E. Statistics and Probability

Subskill E.b.: Probability

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Eb1 Determine the likelihood of events occurring.	Advanced students perform without support the following: • **Predict and determine the likelihood of events occurring.** EX: Predict and determine how many heads will appear in 10 coin tosses (one out of two chances). EX: On a four-color spinner, what is the chance of landing on red?
	Proficient students perform without support the following: • **Determine the likelihood of events occurring.** EX: Sort and count coins and predict the probability of selecting a certain coin (such as a penny) from a bag.
	Basic students perform with minimal support the following: • **Determine if an event is impossible or certain**. EX: Rolling a six-sided number cube and getting a 7. EX: Toss a head or a tail on a two-sided coin.
	Minimal students attempt to perform with significant support the following: • **Identify data that can be used in a probability problem.** EX: o Coin o Spinner o Die

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.a.: Patterns, Relations and Functions
Subskill F.b.: Expressions, Equations and Inequalities

Extended Grade 10 Objectives	Instructional Achievement Descriptors
Mathematics Fa1 Relate simple formulas to practical problems. **Mathematics Fa2 Predict a simple mathematical pattern.**	Advanced students perform without support the following: • **Describe what the letters represent in a given formula.** EX: When given a formula such as D= RT, identify the meaning and the value of the variable. • **Predict or explain a simple mathematical pattern.** EX: Add multiples of 2 (2, 4, 6, 8). EX: Demonstrate multiplication by 2's. EX: Given a picture of 2 shoes, 2 boots, 2 gloves, then 1 shoe, 1 boot, __, tell what is next.
	Proficient students perform without support the following: • **Relate simple formulas to practical problems.** EX: You live 2 miles from school. It takes you 20 minutes to walk one mile; how long will it take to get to school? D=RT. EX: Given the distance traveled, find out how long it takes to get to Madison traveling 60 mph? D=RT. EX: Calculate miles per gallon or simple interest (MPG, I=PRT). • **Predict a simple mathematical pattern.** EX: Predict a pattern in a set of integers, such as counting integers by 2, 5, 10 or sets of objects up to 100.
	Basic students perform with minimal support the following: • **Solve a simple one-step, open-number sentence.** EX: o 1 + _ = 5 o 12 - _= 10 • **Continue a pattern in a set of numbers.** EX: Continue a pattern in a set of numbers 2, 4, 6, __.

Extended Grade 10 Objectives	Instructional Achievement Descriptors
	Minimal students attempt to perform with significant support the following: • **Continue a pattern in a set of numbers or objects.** EX: Continue a pattern in a set of objects such as circle, square, circle, square, __.

Model Academic Standard:

F. Algebraic Relationships: Students will discover, describe, and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Subskill F.c.: Properties

(Properties are too abstract for this population to permit linkage at this grade band.)

Mathematics Extended Grade 10
Alternate Assessment Achievement Descriptors

Achievement Level	Achievement Descriptor
Advanced	Students performing at the Advanced Level: • Solve problems using positive and negative integers; compare fractions, decimals, and percents in terms of more or less; compare angles in relationship to a right angle. • Solve problems using measurement tools; determine perimeter and area of irregular shapes. • Collect and organize data in simple graphs using real-world contexts; determine the likelihood of events occurring. • Describe what the letters represent in a given formula; predict a simple mathematical pattern.
Proficient	Students performing at the Proficient Level: • Compare and order whole positive and negative integers, -20 to 20; apply the idea of more or less using fractions, decimals, and percents. • Select and use tools to determine measurement; determine perimeter, area, and circumference of basic shapes; identify lines that form right angles. • Organize, read, and compare data from simple graphs; determine the likelihood of events occurring. • Relate simple formulas to practical problems; predict or explain a simple mathematical pattern.
Basic	Students performing at the Basic Level: • Recognize whole positive and negative integers; identify the difference between two simple fractions, decimals, or percents. • Recognize appropriate tools used for measurement; the perimeter and area of regular shapes; right angles as corners. • Recognize points on a simple graph and their meaning; determine if an event is impossible or certain. • Solve a simple one-step open number sentence; describe a simple mathematical pattern.
Minimal	Students performing at the Minimal Level: • Identify and locate whole positive integers 0-20 on a number line. • Find the corner of an object; name a tool of measurement. • Continue a pattern in a set of numbers or objects.