

DRAFT

The Personalized Alternate Assessment Portfolio (PAAP) Rubrics

Including Definitions of PAAP Levels of Assistance

In order to inform teaching and learning, provide accountability, and certify student progress towards Maine's *Learning Results*, all students must be a part of state and district components of the Local Comprehensive Assessment System. The system must be flexible enough to ensure access for all students while maintaining technical soundness (validity and reliability). To these ends, the Personalized Alternate Assessment Portfolio (PAAP) has been designed to provide an appropriate avenue to the MEA for those students who require accommodations so significant that they would compromise the content validity of the assessment.

The PAAP allows integration of the assessment with the individual student's instructional program. Drafts of state rubrics in the content areas assessed by the PAAP (English/Language Arts, Mathematics, Science and Technology, and Social Studies) have been developed to support this integration; serving as common elements for planning and scoring. The intent of the rubrics is to ensure entry to assessment for all students by defining developmental steps towards the *Learning Results* Performance Indicators. They have been reviewed by both content area experts, and special education personnel, to ensure that the integrity and validity of the Content Standards have not been compromised, that the descriptors are flexible enough to support the use of age appropriate tasks, whatever the assigned grade level of a student, and that the language used does not limit access (i.e., avoiding tasks that limit evidence to spoken or written language).

Three levels of assistance are built into the rubrics: **1) Support 2) Prompting 3) Limited Prompting**. These levels are related to student response formats rather than to formats for delivery of directions related to the tasks to be performed. In order to provide for consistency of administration, each of these terms has been defined. **ASSISTANCE IS ALLOWED IN ORDER TO ENSURE THAT ALL STUDENTS CAN ACCURATELY DEMONSTRATE THE LEVEL OF THEIR ACHIEVEMENT RELATIVE TO MAINE'S LEARNING RESULTS. ASSISTANCE WHICH IMPACTS THE PERFORMANCE LEVEL OF THE STUDENT IS NOT PERMITTED.** Clarification of the levels follows:

Support is a level of assistance that is specific to the task, may require the use of materials, and requires significant time on the part of the teacher to prepare, and/or of both the teacher and student for use, in most instances.

This level of assistance is characterized by such techniques as:

- > Repeated modeling
- > Providing/structure specific to the task
- > Teacher highlighting
- > Breaking down a task into pieces and focusing student attention on one specific aspect or piece of the task at a time

Prompting is a level of assistance that is specific to the task, may be provided verbally, visually, or through other non-verbal means, and usually requires less time for implementation than support. This level of assistance is characterized by such techniques as:

- > Use of general cues (ex., Questions – "What strategies do you use to figure out a word you don't know?" or Gestures – pointing, signing, touch cues)
- > Use of clues (ex., "Read the rest of the sentence. What word might make sense there? What letter does it begin with?", or circling beginning letter/underlining key word to call student attention to it).
- > Framing question linguistically for English as a Second Language population
- > Setting the parameters of thought (ex., providing a web for student use, or asking clarifying questions that help generate thought but don't provide clues to specific answers)
- > Encouragement specific to the task

Limited Prompting is a level of assistance that is not specific to the task. It is provided to keep the student focused on the question, and requires little time for implementation. This level of assistance is characterized by such techniques as:

- > Responding to student answer by saying, "Tell me more", or signaling student that you want more information.
- > Giving general statements of encouragement (ex., "You're doing a great job. You have only two more questions to answer.")

During the baseline years 2001-2002, and 2002-2003, feedback related to the rubrics will be gathered from those using them, in order to make final revisions prior to 2003-2004, when PAAP scores will be submitted to the state for aggregation and disaggregation.

DRAFT Entry Level 1 - PAAP Mathematics Performance Indicator Rubric

Math Content Standard A - Numbers and Number Sense

Students will understand and demonstrate a sense of what numbers mean and how they are used.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>A1. Using objects, words, or symbols, student can copy a model set with up to 5 members, with support.</p> <p>A2. Student can identify one real-life use of numbers (e.g., prices, recipes, measurement, games, directions in play), with support.</p> <p>A3. *Using objects, words, or symbols, student can identify a given number, with support.</p> <p style="padding-left: 20px;">*Student can rote count 1-10, with prompting.</p> <p style="padding-left: 20px;">*Student can make a group of 10, with support.</p> <p style="padding-left: 20px;">*Given two sets, student can identify which has more/is bigger, with support.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student can match written or oral numerals to a given set of objects with up to 5 members, with prompting.</p> <p>A2. Student can identify two real-life uses of numbers (e.g., prices, recipes, measurement, games, directions in play), with prompting.</p> <p>A3. *Student can identify a number to 10 when presented with the number, with prompting.</p> <p style="padding-left: 20px;">*Student can rote count to 20, independently.</p> <p style="padding-left: 20px;">*Student can make and count groups of 10, with prompting.</p> <p style="padding-left: 20px;">*Given two sets, student can identify which has more/is bigger, independently.</p> <p style="padding-left: 20px;">*Student can match written or oral numerals to a given set of objects with up to 10 members.</p> <p style="padding-left: 20px;">*With or without objects, student can identify the number of tens in a given number, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student independently matches numerals to a given set of objects (5 to 10).</p> <p>A2. Student can demonstrate understanding of two or more real-life uses of numbers (e.g., prices, recipes, measurement, games, directions in play), with limited prompting.</p> <p>A3. *Student can identify a number to 100 when presented with the number, with limited prompting.</p> <p style="padding-left: 20px;">*Student can rote count to 100 and order numbers 1-20, independently.</p> <p style="padding-left: 20px;">*Student can make and count groups of two, five, and ten (up to 100), with prompting</p> <p style="padding-left: 20px;">*Given three sets, student can identify the biggest and smallest, with prompting.</p> <p style="padding-left: 20px;">*Student can match written or oral numerals to a given set of objects (more than 10) with limited prompting.</p> <p style="padding-left: 20px;">*With or without objects, student can identify the number of tens in a given number up to 100.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student independently matches numerals to a given set of objects (10 to 20), independently.</p> <p>A2. Student can demonstrate understanding of three or more uses of numbers (e.g., prices, recipes, measurement, games, directions in play), independently.</p> <p>A3. *Student can identify a number to 1000 when presented with the number, independently.</p> <p style="padding-left: 20px;">*Student can rote count to 100 and order over 20 up to 1000, independently.</p> <p style="padding-left: 20px;">*Student can make and count groups of two, five, and ten (between 100 to 1000 and below), independently.</p> <p style="padding-left: 20px;">*Given three or more sets, student can identify the biggest and smallest, independently.</p> <p style="padding-left: 20px;">*Student can match numerals to a given set of objects (more than 10), independently.</p> <p style="padding-left: 20px;">*With or without objects, student can identify the number of tens in a given number up to 1000, independently.</p>	<p>Students will be able to:</p> <p>A1. Demonstrate an understanding of what numbers mean (e.g., that the number 7 stands for a group of objects).</p> <p>A2. Understand the many uses of numbers (e.g., prices, recipes, measurement, directions in play).</p> <p>A3. Order, compare, read, group, and apply place value concepts to numbers up to 1,000.</p>

Draft Entry Level 1 - PAAP Mathematics Performance Indicator Rubric (continued)

Math Content Standard A - Numbers and Number Sense

Students will understand and demonstrate a sense of what numbers mean and how they are used.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>A4. Given a real-life math problem involving quantities and its solution, the student can indicate whether or not the answer is correct (ex. activity demonstrating one-to-one correspondence), with support.</p>	<p>Portfolio contains evidence that:</p> <p>A4. Given real-life math problems involving quantities and their solutions, the student can correctly determine whether the solutions are reasonable or not most of the time, (ex. Student responds "yes" or "no" to a question about the reasonableness of a solution), with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A4. Given real-life math problems, involving quantities with and without their solutions, the student can correctly determine whether the solutions (given or created) are reasonable or not most of the time, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A4. Given real-life math problems, involving quantities with or without their solutions, the student can correctly determine whether the solutions (given or created) are reasonable or not, independently.</p>	<p>Students will be able to:</p> <p>A4. Determine reasonableness of results when working with quantities.</p> <p>EXAMPLE</p> <p>*Show that 6 is larger than 3, using beans in a cup.</p> <p>*Explain different ways to make 263, using hundreds, tens, and ones.</p>

DRAFT Entry Level 2 - PAAP Mathematics Performance Indicator Rubric

Math Content Standard A - Numbers and Number Sense

Students will understand and demonstrate a sense of what numbers mean and how they are used.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>A1. Student can read whole numbers up to ten thousand, with limited prompting.</p> <p>A2. Student can read $\frac{1}{2}$ and $\frac{1}{4}$ and demonstrate understanding by representing $\frac{1}{2}$ and $\frac{1}{4}$ with a model.</p> <p>A3. Student can find and identify decimal points in various monetary values, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student can read and either compare, order, classify or explain whole numbers up to ten thousand, with prompting.</p> <p>A2. Student can read $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{6}$, with a model.</p> <p>A3. Student can demonstrate one use and/or application of decimals and integers, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student can read and either compare, order, classify or explain whole numbers up to one million, with prompting.</p> <p>A2. Student can read $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{6}$ and, in addition, do two of the following: compare, order, classify or explain $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{6}$ fractions, with prompting.</p> <p>A3. Student can demonstrate two uses and/or applications of decimals and integers, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student can read, compare, order, classify, and explain whole numbers up to one million, independently.</p> <p>A2. Student can read, compare, order, classify, and explain simple fractions through tenths, independently.</p> <p>A3. Student can demonstrate understanding of the meaning of decimals and integers through multiple uses and/or applications, independently.</p>	<p>Students will be able to:</p> <p>A1. Read, compare, order, classify, and explain whole numbers up to one million.</p> <p>A2. Read, compare, order, classify, and explain simple fractions through tenths.</p> <p>A3. Demonstrate knowledge of the meaning of decimals and integers and an understanding of how they may be used. EXAMPLES *Using pattern blocks, represent equivalent fractions, such as $\frac{1}{3}$, $\frac{2}{6}$, $\frac{4}{12}$. *Show how three pizzas can be shared equally by four people.</p>

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Math Content Standard B - Computation

Students will understand and demonstrate computation skills.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>B1. Student can use estimation related to non-standard or standard measurement (volume, temperature, weight, size), with prompting.</p> <p>B2. Student can, using manipulatives, apply a single strategy to the solving of problems involving addition of whole numbers, with prompting.</p> <p>B3. Student can show understanding of addition by using a variety of materials and strategies, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>B1. Student can use estimation related to non-standard or standard measurement (volume, temperature, weight, size) and quantity, with prompting.</p> <p>B2. Student can, using manipulatives, apply a strategy to the solving of problems involving addition and subtraction of whole numbers, with prompting.</p> <p>B3. Student can show understanding of addition and subtraction by using a variety of materials and strategies, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>B1. Student can use and apply estimation related to non-standard or standard measurement (volume, temperature, weight, size), quantity, computation, and problem-solving, with prompting.</p> <p>B2. Student can, with or without manipulatives, apply multiple strategies to the solving of problems involving addition and subtraction of whole numbers, with prompting.</p> <p>B3. Student can show understanding of addition and subtraction by using a variety of materials, strategies, and numerical symbols, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>B1. Student can use and apply estimation with quantities, measurements, computations, and problem-solving, independently.</p> <p>B2. Student can, with or without manipulatives, apply multiple strategies to the solving of problems involving addition and subtraction of whole numbers, independently.</p> <p>B3. Student can show understanding of addition and subtraction by using a variety of materials, strategies, and numerical symbols, independently.</p>	<p>Students will be able to:</p> <p>B1. Use and apply estimation with quantities, measurements, computations, and problem-solving.</p> <p>B2. Use multiple strategies in solving problems involving addition and subtraction of whole numbers.</p> <p>B3. Show understanding of addition and subtraction by using a variety of materials, strategies, and symbols.</p> <p><i>*Estimate reasonably and count accurately the number of seeds in a container.</i> <i>*Solve a problem such as: we have 24 seats and 19 children. How many seats will be empty after all the children are in their chairs?</i> <i>*Show different coin combinations to make 75¢.</i></p>
<i>*Non-standard units might be hands, foot size, string, etc.</i>				

DRAFT Entry Level 2 - PAAP Mathematics Performance Indicator Rubric

Math Content Standard B - Computation

Students will understand and demonstrate computation skills.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>B1. Student can solve single step, real-life problems using addition and subtraction with whole numbers.</p> <p>B2. Student can solve real-life problems involving addition of simple fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$) using concrete models (ex., pattern blocks).</p> <p>B3. Student can, given a problem, identify an appropriate tool or technology to solve it, with prompting.</p> <p>B4. Student demonstrates proficiency with addition and subtraction facts and addition algorithms when working with two 2 digit whole numbers, by using a variety of materials, strategies, and technologies, with limited prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>B1. Student can solve two step, real-life problems using addition and subtraction with whole numbers.</p> <p>B2. Student can solve real-life problems involving addition of simple fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{16}$) using concrete models (ex., pattern blocks, geoboards).</p> <p>B3. Student can, given a problem, use an appropriate tool or technology to solve it, with limited prompting.</p> <p>B4. Student demonstrates proficiency with the addition and subtraction facts and addition and subtraction algorithms, when working with up to two, 2 digit whole numbers, by using mental math and a variety of materials, strategies, and technologies, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>B1. Student can solve multi- step, real-life problems using addition and subtraction with whole numbers and single step, real-life problems using multiplication of whole numbers.</p> <p>B2. Student can solve real-life problems involving addition and/or subtraction of simple fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{16}$) using concrete models (ex. pattern blocks, geoboards).</p> <p>B3. Student can, given a problem, use appropriate tools and technology to solve it and describe/demonstrate the problem-solving process applied, with limited prompting.</p> <p>B4. Student demonstrates proficiency with the addition, subtraction, multiplication, and division facts and addition, subtraction, and multiplication algorithms, when working with whole numbers with two or more digits, using mental math and a variety of materials, strategies, and technologies, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>B1. Student can solve multi-step, real-life problems using all four operations with whole numbers.</p> <p>B2. Student can solve real-life problems involving addition <u>and</u> subtraction of simple fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{16}$), independently.</p> <p>B3. Student can, given a problem, use appropriate tools and technology to solve it, describe/demonstrate the process applied, and defend the reasonableness of results, independently.</p> <p>B4. Student demonstrates proficiency with the facts and algorithms of the four operations when working with whole numbers, using mental math and a variety of materials, strategies, and technologies, independently.</p>	<p>Students will be able to:</p> <p>B1. Solve multi-step, real-life problems using the four operations with whole numbers.</p> <p>B2. Solve real-life problems involving addition and subtraction of simple fractions.</p> <p>B3. Demonstrate and explain the problem-solving process using appropriate tools and technology and defend the reasonableness of results.</p> <p>B4. Develop proficiency with the facts and algorithms of the four operations on whole numbers using mental math and a variety of materials, strategies, and technologies.</p> <p>EXAMPLES *Solve problems such as finding the number of rectangular arrangements for 36 like objects. *Organize a budget for a project.</p>

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Content Standard C - Data Analysis and Statistics
Students will understand and apply concepts of data analysis.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>C1. Student can collect or arrange data, with support.</p> <p>C2. Student can tally information gathered from immediate surroundings, with support.</p>	<p>Portfolio will provide evidence that:</p> <p>C1. Student can collect and arrange data, with prompting.</p> <p>C2. Student can tally information gathered from immediate surroundings, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>C1. Student can formulate and solve problems by collecting, arranging, and interpreting data, with prompting.</p> <p>C2. Student can tally and graph information gathered from immediate surroundings, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>C1. Student can formulate and solve problems by collecting, arranging, and interpreting data, independently.</p> <p>C2. Student can tally and graph information gathered from immediate surroundings, independently.</p>	<p>Students will be able to:</p> <p>C1. Formulate and solve problems by collecting, arranging, and interpreting data.</p> <p>C2. Make tallies and graphs of information gathered from immediate surroundings.</p> <p>EXAMPLE *Make a graph to represent the number of family members for students in the class and use this graph to amount of refreshments needed for a family-night presentation</p>

DRAFT Entry Level 2 - PAAP Mathematics Performance Indicator Rubric

Content Standard C - Data Analysis and Statistics

Students will understand and apply concepts of data analysis.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>C1. Student can make generalizations and draw conclusions using one type of graph, chart, <u>or</u> table, with prompting.</p> <p>C2. Student can read displays of data, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>C1. Student can make generalizations and draw conclusions using two of the three following options: graph, chart, table, with prompting.</p> <p>C2. Student can read displays of data, with limited prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>C1. Student can make generalizations and draw conclusions using one type of graph, one type of chart, and one type of table, with limited prompting.</p> <p>C2. Student can read displays of data and interpret displays of data, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>C1. Student can make generalizations and draw conclusions using various types of graphs, charts, and tables, independently.</p> <p>C2. Student can consistently read and interpret displays of data, independently.</p>	<p>Students will be able to:</p> <p>C1. Make generalizations and draw conclusions using various types of graphs, charts, and tables.</p> <p>C2. Read and interpret displays of data. EXAMPLE</p> <p>*Predict the number of buttons per student in the room. *Collect data on the number of buttons for each student in the room, display the data on a line plot, and analyze it to determine the average number of buttons per student.</p>

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Content Standard D - Probability

Students will understand and apply concepts of probability.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio will provide evidence that: D1. Given an event with two possible outcomes, student can choose more likely or less likely outcomes to occur, with support.	Portfolio will provide evidence that: D1. Given an event with two possible outcomes, student can choose more likely or less likely outcomes to occur, with prompting.	Portfolio will provide evidence that: D1. Student can record outcomes of simple events, and choose concepts of chance related to the outcomes, with prompting.	Portfolio will provide evidence that: D1. Student can apply concepts of chance (ex., predictions of outcomes) and verify them by recording outcomes of simple events, independently.	Students will be able to: D1. Use concepts of chance and record outcomes of simple events. EXAMPLE * Investigate the possible and likely outcomes when rolling a number cube.

DRAFT Entry Level 2 - PAAP Mathematics Performance Indicator Rubric

Content Standard D - Probability

Students will understand and apply concepts of probability.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>D1. Given an event with two possible outcomes, student can explain/demonstrate more likely or less likely outcomes to occur, with prompting.</p> <p>D2. After completing multiple trials that are recorded, the student will estimate the least or most likely of the outcomes, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>D1. Given an event with two possible outcomes, student can explain/demonstrate more likely and less likely outcomes to occur.</p> <p>D2. After completing multiple trials that are recorded, the student will estimate the least or most likely of the outcomes, with limited prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>D1. Student can explain/demonstrate the concept of chance in predicting the outcomes of simple events, with prompting.</p> <p>D2. Student can estimate probability from a sample of observed outcomes and simulations, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>D1. Student can explain/demonstrate the concept of chance in predicting outcomes, independently.</p> <p>D2. Student can estimate probability from a sample of observed outcomes and simulations, independently.</p>	<p>Students will be able to:</p> <p>D1. Explain the concept of chance in predicting outcomes.</p> <p>D2. Estimate probability from a sample of observed outcomes and simulations. EXAMPLE *Investigate the possible and likely outcomes when rolling a number cube.</p>

DRAFT Entry Level 1 - PAAP Mathematics Performance Indicator Rubric

Content Standard E - Geometry
Students will understand and apply concepts from geometry.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>E1. Student can identify 2D shapes, with support.</p> <p>E2. Student can combine two 2D shapes to cover a 2D shape, with support.</p> <p>E3. Given one positional word describing the relationship between two objects (e.g., over, under, beside, to the left) student can model the relationship, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>E1. Student can identify and model 2D shapes, with prompting.</p> <p>E2. Student can combine 2D shapes to cover a 2D shape, with prompting.</p> <p>E3. Given positional word(s) describing the relationship among three or more objects (e.g., over, under, beside, to the left) student can model the relationship, independently.</p>	<p>Portfolio will provide evidence that:</p> <p>E1. Student can identify, model and classify 2D shapes, with limited prompting.</p> <p>E2. Student can demonstrate and predict the results of combining, dividing, and changing 2D shapes, with prompting.</p> <p>E3. Given positional word(s) describing the relationship among three or more objects (e.g., over, under, beside, to the left) student can model and describe the relationship, independently.</p>	<p>Portfolio will provide evidence that:</p> <p>E1. Student can describe, model, and classify 2D shapes and selected 3D figures, independently.</p> <p>E2. Student can investigate and predict the results of combining, dividing, and changing 2D shapes, independently.</p> <p>E3. Student can use positional words to describe the relationship (e.g., over, under, beside, to the left) of two or more objects, independently.</p>	<p>Students will be able to:</p> <p>E1. Describe, model, and classify 2D shapes and selected 3D figures.</p> <p>E2. Investigate and predict the results of combining, dividing, and changing 2D shapes.</p> <p>E3. Use positional words to describe the relationship of two or more objects (e.g., over, under, beside, to the left).</p> <p>EXAMPLES *Find all the shapes you can make with five squares of the same size if the sides touch completely. *Create symmetrical designs with pattern blocks and indicate lines of symmetry.</p>

DRAFT Entry Level 2 - PAAP Mathematics Performance Indicator Rubric

Content Standard E - Geometry

Students will understand and apply concepts from geometry.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>E1. Student can classify 2D shapes and 3D figures using applicable properties, with prompting.</p> <p>E2. Through experimentation, students will be able to identify congruent shapes, with prompting.</p> <p>E3. Student uses transformations such as slides and flips, with prompting.</p> <p>E4. Student can identify shapes and figures in the physical world, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>E1. Student can classify and model 2D shapes and 3D figures using applicable properties, with prompting.</p> <p>E2. Through experimentation students will be able to identify and model congruent shapes and lines of symmetry, with prompting.</p> <p>E3. Student uses transformations such as slides and flips, with limited prompting.</p> <p>E4. Student can identify shapes and figures in the physical world, independently.</p>	<p>Portfolio will provide evidence that:</p> <p>E1. Student can classify, model and describe shapes and figures using applicable properties, with prompting.</p> <p>E2. Through experimentation, students will be able to identify and model congruent shapes and lines of symmetry, with limited prompting.</p> <p>E3. Student uses transformations such as slides, flips, and rotations, with prompting.</p> <p>E4. Student can use the properties of shapes and figures to describe the physical world, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>E1. Student can model, describe, and classify shapes and figures using applicable properties.</p> <p>E2. Student uses experimentation with shapes and figures to make generalizations regarding congruency, symmetry, and similarity, independently.</p> <p>E3. Student uses transformations such as slides, flips, and rotations, independently.</p> <p>E4. Student can use the properties of shapes and figures to describe the physical world, independently.</p>	<p>Students will be able to:</p> <p>E1. Describe, model, and classify shapes and figures using applicable properties.</p> <p>E2. Experiment with shapes and figures to make generalizations regarding congruency, symmetry, and similarity.</p> <p>E3. Use transformations such as slides, flips, and rotations.</p> <p>E4. Use the properties of shapes and figures to describe the physical world. EXAMPLES *Design a nine patch quilt in which each patch is a nine inch square. Squares, triangles, rectangles, and/or parallelograms can be used for the design of each square. *Create symmetrical designs with pattern blocks and indicate the lines of symmetry.</p>

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Content Standard F - Measurement

Students will understand and demonstrate measurement skills.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>F1. Student can compare two items or events based on length, temperature, and weight, with support.</p> <p>F2. Student can match coins (penny, nickel, dime, and quarter) to the coin's name, given orally or in writing, with support.</p> <p>F3. Student can use nonstandard tools for determining length, with support.</p>	<p>Portfolio will provide evidence that:</p> <p>F1. Student can measure (using non-standard of standard units) length, temperature, weight, and time, with prompting.</p> <p>F2. Student can match coins (penny, nickel, dime, and quarter) to the coin's name, given orally or in writing, with prompting.</p> <p>F3. Student can select and use appropriate standard and nonstandard tools for determining length, weight, and capacity, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>F1. Student can estimate and measure length, temperature, weight, time, and capacity, with prompting.</p> <p><i>EXAMPLE: Put several objects in rank order by length or weight, first by estimating and then by measuring exactly.</i></p> <p>F2. Student can identify and give the value of the penny, nickel, dime, and quarter, with prompting.</p> <p>F3. Student can select and use appropriate standard and nonstandard tools for determining length, temperature, weight, time, and capacity, independently.</p>	<p>Portfolio will provide evidence that:</p> <p>F1. Student can estimate and measure length, temperature, weight, time, and capacity, independently.</p> <p><i>EXAMPLE: Put several objects in rank order by length or weight, first by estimating and then by measuring exactly.</i></p> <p>F2. Student can identify and give the value of the penny, nickel, dime, and quarter, independently.</p> <p>F3. Student can select appropriate standard and nonstandard tools for determining length, temperature, weight, time, and capacity, and use them to solve every day problems, independently.</p>	<p>Students will be able to:</p> <p>F1. Estimate and measure length, time, temperature, weight, and capacity.</p> <p>F2. Identify and give the value of different coins.</p> <p>F3. Select standard and non-standard tools for determining length, time, temperature, weight, and capacity, and use them to solve every day problems.</p> <p>EXAMPLE *Put five objects, such as books, rocks, or pumpkins, in rank order by weight, first by estimating and then by measuring exactly.</p>

**Non-standard units might be hands, foot size, string, etc.)*

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Content Standard F - Measurement

Students will understand and demonstrate measurement skills.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>F1. Student can solve real-life problems involving the measurement of time, length, weight, and temperature, with prompting.</p> <p>F2. Student can select measuring tools that are appropriate for what is being measured, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>F1. Student can solve real-life problems involving the measurement of time, length, weight, and temperature, with limited prompting.</p> <p>F2. Student can select measuring tools that are appropriate for what is being measured, independently.</p>	<p>Portfolio will provide evidence that:</p> <p>F1. Student can solve real-life problems involving the measurement of time, length, weight, temperature, area, perimeter, mass, capacity, and volume, with prompting.</p> <p>F2. Student can select measuring tools and units of measurement that are appropriate for what is being measured, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>F1. Student can solve and justify solutions to real-life problems involving the measurement of time, length, weight, temperature, area, perimeter, mass, capacity, and volume, independently.</p> <p>F2. Student can select measuring tools and units of measurement that are appropriate for what is being measured, independently.</p>	<p>Students will be able to:</p> <p>F1. Solve and justify solutions to real-life problems involving the measurement of time, length, area, perimeter, weight, temperature, mass, capacity, and volume.</p> <p>F2. Select measuring tools and units of measurement that are appropriate for what is being measured.</p> <p>EXAMPLES</p> <p>*Find all of the rectangular areas, measured in whole square inches, for a particular perimeter, such as 24 inches and see if the same pattern of shapes holds for another perimeter.</p> <p>*Determine what time it is necessary to leave the house for the fifteen minute walk to the bus stop and 1-1/4 hour bus ride to the 7:30 concert.</p> <p>Explain the answer.</p>

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Content Standard G - Patterns, Relations, Functions

Students will understand that mathematics is the science of patterns, relationships, and functions.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>G1. Student can recognize and copy a pattern, using concrete materials, with support.</p> <p>G2. Student can explore the use of open sentences, with support.</p> <p>G3. Given a choice of two options, the student can select the correct geometric shape or numeric symbol that should be next in a pattern, with support.</p>	<p>Portfolio will provide evidence that:</p> <p>G1. Student can recognize, copy, and extend a pattern, with prompting.</p> <p>G2. Student can explore the use of open sentences, with prompting.</p> <p>G3. Given a choice of two options, the student can select the correct geometric shape or numeric symbol that should be next in a pattern, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>G1. Student can recognize, copy, describe, extend, and create a wide variety of patterns, with prompting.</p> <p>G2. Student can explore the use of variables and open sentences to describe relationships, with prompting.</p> <p>G3. Student can represent and describe both geometric and numeric relationships, with prompting.</p> <p>EXAMPLE: Recognize and describe the inverse relationship between addition and subtraction, e.g., $3 + \underline{\quad} = 7$, $\underline{\quad} + 3 = 7$, $7 - 3 = \underline{\quad}$, and $7 - \underline{\quad} = 3$.</p>	<p>Portfolio will provide evidence that:</p> <p>G1. Student can recognize, copy, describe, extend, and create a wide variety of patterns, independently.</p> <p>G2. Student can explore the use of variables and open sentences to describe relationships, independently.</p> <p>G3. Student can represent and describe both geometric and numeric relationships, independently.</p> <p>EXAMPLE: Recognize and describe the inverse relationship between addition and subtraction, e.g., $3 + \underline{\quad} = 7$, $\underline{\quad} + 3 = 7$, $7 - 3 = \underline{\quad}$, and $7 - \underline{\quad} = 3$.</p>	<p>Students will be able to:</p> <p>G1. Recognize, describe, extend, copy, and create a wide variety of patterns.</p> <p>G2. Explore the use of variables and open sentences to describe relationships.</p> <p>G3. Represent and describe both geometric and numeric relationships.</p> <p>EXAMPLE: Recognize and describe the inverse relationship between addition and subtraction, e.g., $3 + \underline{\quad} = 7$, $\underline{\quad} + 3 = 7$, $7 - 3 = \underline{\quad}$, and $7 - \underline{\quad} = 3$.</p>

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Content Standard G - Patterns, Relationships, Functions

Students will understand that mathematics is the science of patterns, relationships, and functions.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>G1. Student can copy patterns of numbers, geometry, and a variety of graphs, with prompting.</p> <p>G2. Student can use open sentences to express relationships, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>G1. Student can extend patterns of numbers, geometry, and a variety of graphs, with limited prompting.</p> <p>G2. Student can use open sentences to express relationships, with limited prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>G1. Student can create patterns of numbers, geometry, and a variety of graphs, with prompting.</p> <p>G2. Student can use variables and open sentences to express relationships, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>G1. Student can use patterns of numbers, geometry, and a variety of graphs to solve problems, independently.</p> <p>G2. Student can use variables and open sentences to express relationships, independently .</p>	<p style="text-align: center;">Students will be able to:</p> <p>G1. Use the patterns of numbers, geometry, and a variety of graphs to solve a problem.</p> <p>G2. Use variables and open sentences to express relationships.</p> <p>EXAMPLES</p> <p>*Find, make, and describe linear patterns on the 99-chart, for example 4, 14, 24, 34.</p>

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Content Standard H - Algebra Concepts

Students will understand and apply algebraic concepts.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>H1. Student can select the correct drawing for a problem situation in which there is an unknown, from among several drawings created, using varied tools and approaches, with support.</p> <p>H2. Student can select the numeral to match the sizes of a set, up to five members, with support.</p>	<p>Portfolio will provide evidence that:</p> <p>H1. Student can act out or model a problem situation in which there is an unknown, incorporating a choice of varied tools and approaches, with support.</p> <p>H2. Student can use concrete materials to express numerical and other relationships, with prompting. EXAMPLE *Using unifix cubes to show how $2 + 4$ and $4 + 2$ will equal 6.</p>	<p>Portfolio will provide evidence that:</p> <p>H1. Student can make drawings for problem situations and mathematical expressions, using a variety of tools and approaches, with prompting.</p> <p>H2. Student can use concrete materials to express numerical relationships and use numeric symbols to represent sums to 10, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>H1. Student can make drawings for problems situations and mathematical expressions, using a variety of tools and approaches independently.</p> <p>H2. Student can use language and numeric symbols to express numerical and other relationships, independently. EXAMPLE * Show all the ways to make 10 (e.g., $2 + x = 10$, $3 + x = 10$ and so forth) using objects.</p>	<p>Students will be able to:</p> <p>H1. Make drawings for problem situations and mathematical expressions in which there is an unknown, using a variety of tools and approaches.</p> <p>H2. Use language and symbols to express numerical and other relationships. EXAMPLE *Show all the ways to make 10 (e.g., $2 + x = 10$, and so forth) by using blocks or other objects to demonstrate mathematical statements.</p>

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Content Standard H - Algebra Concepts
Students will understand and apply algebraic concepts.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>H1. Student can supply missing elements in simple equations, with prompting. EXAMPLE $4 + 6 = \underline{\quad}$</p> <p>H2. Student can solve for a missing addend for sums up to 10, with prompting. EXAMPLE $3 + x = 10$</p>	<p>Portfolio will provide evidence that:</p> <p>H1. Student can use simple formulas in problem-solving contexts, with prompting.</p> <p>H2. Student can solve for a missing addend for sums up to 10, without prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>H1. Student can develop and use simple formulas in problem solving contexts, with prompting.</p> <p>H2. Student can find appropriate replacements for variables that make number sentences true, with prompting,</p>	<p>Portfolio will provide evidence that:</p> <p>H1. Student can develop, use, and evaluate simple formulas in problem-solving contexts, independently.</p> <p>H2. Student can find appropriate replacements for variables that make number sentences true independently.</p>	<p>Students will be able to:</p> <p>H1. Develop and evaluate simple formulas in problem-solving contexts.</p> <p>H2. Find replacements for variables that make simple number sentences true. EXAMPLE *Plot points on a coordinate graph according to the convention that (x,y) refers to the intersection of a given vertical line and a given horizontal line.</p>

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Content Standard I - Discrete Mathematics

Students will understand and apply concepts in discrete mathematics.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>11. Student can classify sets of objects into two groups using one attribute, with support.</p> <p>12. Student can match an organized list to the purpose for which it was prepared, with support.</p>	<p>Portfolio will provide evidence that:</p> <p>11. Student can classify sets of objects into two groups using one attribute, with prompting.</p> <p>12. Student can create an organized list, with prompting. EXAMPLE Given a list of items, student will sort them into related groups.</p>	<p>Portfolio will provide evidence that:</p> <p>11. Student can classify sets of objects into two or more groups, using two or more attributes, with prompting.</p> <p>12. Student can create and use an organized list to determine possible outcomes or solve problems, with prompting. EXAMPLES *Sort sets of tiles by color, size, and shape *Determine the possible arrangements for a triple ice cream cone given three flavors of ice cream.</p>	<p>Portfolio will provide evidence that:</p> <p>11. Student can classify sets of objects into two or more groups, using two or more attributes, independently.</p> <p>12. Student can create and use an organized list to determine possible outcomes or solve problems, independently. EXAMPLES *Sort sets of tiles by color, size, and shape *Determine the possible arrangements for a triple ice cream cone given three flavors of ice cream.</p>	<p>Students will be able to:</p> <p>11. Classify sets of objects into two or more groups using their attributes.</p> <p>12. Create and use an organized list to determine possible outcomes or solve problems. EXAMPLES *Sort sets of tiles by color, size, and shape *Determine the possible arrangements for a triple ice cream cone given three flavors of ice cream.</p>

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Content Standard I - Discrete Mathematics

Students will understand and apply concepts in discrete mathematics.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio will provide evidence that:</p> <p>I1. Student can use one of the following: organized lists, tree diagrams, Venn diagrams, networks; with prompting.</p> <p>I2. Student can describe/demonstrate what a mathematical solution is.</p>	<p>Portfolio will provide evidence that:</p> <p>I1. Student can use two of the following: organized lists, tree diagrams, Venn diagrams, networks; with limited prompting.</p> <p>I2. Student can define <u>or</u> explain infinite and finite, with prompting.</p>	<p>Portfolio will provide evidence that:</p> <p>I1. Student can create and use organized lists, tree diagrams, Venn diagrams, networks, with prompting.</p> <p>I2. Student can identify given solutions as finite or infinite.</p>	<p>Portfolio will provide evidence that:</p> <p>I1. Student can create and use organized lists, tree diagrams, Venn diagrams, networks, independently.</p> <p>I2. Student can give examples of infinite and finite solutions.</p>	<p>Students will be able to:</p> <p>I1. Create and use organized lists, tree diagrams, Venn diagrams, and networks.</p> <p>I2. Give examples of infinite and finite solutions. EXAMPLE *Use a Venn diagram to record the correlation between students who wore a sweater to school and students who walked to school.</p>