

## California State

### AIMS Activities supporting Kindergarten Mathematics Standards of Learning

By the end of kindergarten, students understand small numbers, quantities, and simple shapes in their everyday environment. They count, compare, describe and sort objects, and develop a sense of properties and patterns.

#### NUMBER SENSE

**1.0 Students understand the relationship between numbers and quantities (i.e., that a set of objects has the same number of objects in different situations regardless of its position or arrangement):**

**1.1 Compare two or more sets of objects (up to ten objects in each group) and identify which set is equal to, more than, or less than the other.**

“Pockets,” AIMS: X.2

*The students will practice counting skills using one-to-one correspondence. They will record the data of pockets per child on a class graph.*

“More Than, Less Than,” Math Series A (Counting)

*The students will construct an understanding of more than and less than.*

“Massing About Bats,” Bats Incredible

*The student will find objects equal to the mass of microbats and megabats.*

“Pumpkin Pumpkin Seed,” AIMS: XII.3

“Bear Shares,” AIMS: VII.1

**1.2 Count, recognize, represent, name, and order a number of objects (up to 30).**

“Pumpkin Cover Up,” AIMS: VIII.3

*The student will use manipulatives to explore numbers and group them into sets of fives and tens.*

“The Jar That Keeps You Guessing,” Primarily Bears

*The student will use a jar of small objects to build their skills in estimation and counting strategies*

“Five as a Counting Benchmark,” Math Series A (Sample Lesson 11)

*The student will use 5 as a benchmark or anchor in their counting methods.*

**1.3 Know that the larger numbers describe sets with more objects in them than the smaller numbers have.**

“A Fish Story More or Less,” AIMS: VIII.6

*The student will use a number line to assist them in understanding greater than, less than,*

**2.0 Students understand and describe simple additions and subtractions:**

**2.1 Use concrete objects to determine the answers to addition and subtraction problems (for two numbers that are each less than 10).**

“A Pig’s Tale,” AIMS: VII.10

*The student will use a story board and manipulatives to solve simple addition and subtraction problems.*

“Making Ten, My Way,” AIMS: VIII.10

*The student will gather objects from around the classroom and group them into arrangements that will, when added together, equal combined sets of 10.*

“Five as a Counting Benchmark.” Math Series A (Sample Lesson 11)  
*Students will use five as a benchmark when solving addition and subtraction problems.*  
Resource: “Sum Song,” (song) AIMS: X.8

### **3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones and tens places:**

#### **3.1 Recognize when an estimate is reasonable.**

“Pumpkin, Pumpkin Seed.” AIMS: XII.4  
*The student will guess, investigate, estimate and compare the number of seeds in small and large pumpkins.*

“The Jar That Likes to Keep You Guessing,” Primarily Bears  
*The student will use a jar of small objects to build their skills in estimation, counting, strategies, and place value.*

“The Remarkable Peanut,” AIMS: XII.7  
*The student will estimate, count, and group peanuts according to attributes*

## **ALGEBRA AND FUNCTIONS**

### **1.0 Students sort and classify objects:**

#### **1.1 Identify, sort, and classify objects by attribute and identify objects that do not belong to a particular group (e.g., all these balls are green, those are red).**

“Sherlock Combs The Yard,” AIMS: I.10  
*The student will identify sets of objects according to a common attribute.*

“Stamping Into Spring,” AIMS: XII.10  
*The student will classify postage stamps according to different attributes using a variety of organizational strategies.*

“Sort Three,” AIMS: XI.9  
*The student will compare cards from a set which contains 3 different shapes, 3 different designs, and 3 different numbers.*

“Gingerbread Kids Make Connections,” AIMS: VI.5  
*The student will sort and graph gingerbread figures.*

Resource: “Patterns of Nature,” (series) AIMS: IX.3-7

## **MEASUREMENT AND GEOMETRY**

### **1.0 Students understand the concept of time and units to measure it; they understand that objects have properties, such as length, weight, and capacity, and that comparisons may be made by referring to those properties:**

#### **1.1 Compare the length, weight, and capacity of objects by making direct comparisons with reference objects (e.g., note which object is shorter, longer, taller, lighter, heavier, or holds more).**

“Bear Facts,” Hardhatting in a Geo World

“All Around the Apple,” AIMS: V.2  
*The students will use an apple to explore measurement and fractional parts.*

“Look at Me Now.” AIMS: VIII.2  
*The student will investigate changes in their growth through measurement activities.*

- “Mitten, An Integrated Unit,” *AIMS*: V.6  
*The student will explore the concept of capacity and place value*
- “Fold to Hold,” Under Construction  
*The student will use manipulatives to examine the capacity of a student made container.*
- “Rows of Bows,” *AIMS*: XI.6  
*Students will compare lengths of ribbon.*
- Various Activities Measurement Book

**1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar).**

- “Counting On 100,” *AIMS*: VIII.7  
*The student will perform various activities within 100 seconds*
- “Melt an Ice Cube,” *AIMS*: VII.4  
*The student will time the melting rate of ice*
- “Golden House,” Cycles of Knowing and Growing  
*The student will observe changes over time while and keep a recording what happens to a pumpkin that has been carved.*
- Time—Refer to Math Series B

**1.3 Name the days of the week.**

**1.4 Identify the time (to the nearest hour) of everyday events (e.g., lunch time is 12 o’clock; bedtime is 8 o’clock at night).**

Refer to Math Series B

**2.0 Students identify common objects in their environment and describe the geometric features:**

**2.1 Identify and describe common geometric objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone).**

- “Exploring Geometric Solids,” Math Series A  
*The student will compare and contrast common geometric solids and mathematical models of the same shapes.*
- “Shape Search,” Sense-able Science  
*Using only the sense of touch, the student will identify shapes by feeling sand paper cutouts.*
- “Bags of Beads,” Sense-able Science  
*The student will use various shaped beads to complete a pattern.*
- “Busy With Buses,” *AIMS*: X.6  
*The student will use measurement and geometry, to learn about their school bus.*

**2.2 Compare familiar plane and solid objects by common attributes (e.g., position, shape, size, roundness, number of corners).**

- “Exploring Geometric Solids,” Math A Series  
*The student will use geometric solids in various sizes, and different orientations, to determine similarities and differences*
- Geometry section, Math Series A

**STATISTICS, DATA ANALYSIS AND PROBABILITY**

**1.0 Students collect information about objects and events in their environment:**

**1.1 Pose information questions; collect data; and record the results using objects, pictures, and picture graphs.**

“Rock Groups.” Primarily Earth

*The student will observe physical properties of rocks and graph them according to certain attributes.*

“You Can Count on Us.” Fall Into Math and Science

*The student will graph the number of girls and boys in the classroom*

“Pockets,” AIMS: X.2

*The student will graph the number of pockets per child in the class.*

“Thanksgiving Soup,” AIMS: VI.4

*The student will graph contributions to a class soup.*

“Apples A Peel To Me,” Fall Into Math & Science

*The student will sort and graph different varieties of apples.*

“You Drive Me Crackers,” Fall Into Math & Science

*The student will graph crackers according to shape.*

**1.2 Identify, describe, and extend simple patterns (such as circles or triangles) by referring to their shapes, sizes, or colors.**

“Going Nuts,” AIMS: XIV.3 and new Winter Book

“Bags of Bead,” Sense-able Science

*The student will complete a given pattern made of various shaped beads.*

“Peeking At Patterns,” Sense-able Science

*The student will record and graph patterns found inside and outside the classroom.*

“Patterns, Patterns, Patterns,” Math Series A

*Students will describe, create, and extend a wide variety of patterns.*

**MATHEMATICAL REASONING**

**1.0 Students make decisions about how to set up a problem:**

**1.1 Determine the approach, materials, and strategies to be used.**

**1.2 Use tools and strategies, such as manipulatives or sketches, to model problems.**

**2.0 Students solve problems in reasonable ways and justify their reasoning:**

**2.1 Explain the reasoning used with concrete objects and/or pictorial representations.**

**2.2 Make precise calculations and check the validity of the results in the context of the problem.**

**California State**  
**AIMS Activities supporting Grade One Mathematics Standards of Learning**

**By the end of grade one, students understand and use the concept of ones and tens in the place value number system. Students add and subtract small numbers with ease. They measure with simple units and locate objects in space. They describe data and analyze and solve simple problems.**

**NUMBER SENSE**

**1.0 Students understand and use numbers up to 100:**

**1.1 Count, read, and write whole numbers to 100.**

“Seed Sort,” Primarily Plants

*The student will sort and count seeds.*

“Scoops of Loops,” Math Series A

*The student will practice grouping large quantities of cereal into sets of 10.*

“A Fit Mitten,” AIMS: V.6

*The student will explore the concept of capacity and place value.*

“Counting On 100,” AIMS: VIII.7

*The student will perform various activities using quantities of 100*

**1.2 Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >).**

“Math with Candies,” Primarily Bears

*The student will use < > symbols to compare sets of candies*

“Shell Hounds and Bears,” Math Series A

*The student use < > symbols to compare sets of shells.*

“A Fish Story, More or Less,” AIMS: VIII.6

*The student will use a number line to assist them in understanding greater than, less than.*

“Bunches of Lunches,” AIMS: V.2

*The student will use < > symbols to compare types of lunch pails.*

**1.3 Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as  $4 + 4$ ,  $5 + 3$ ,  $2 + 2 + 2 + 2$ ,  $10 - 2$ ,  $11 - 3$ ).**

“Making 10 My Way,” AIMS: VIII.10

*The student will discover number combinations to 10 using manipulatives*

“Matching Tops and Bottoms,” AIMS: X.8

*The student will discover multiple combinations that equal a given number*

“Teddy Bears Take A Stand,” AIMS: VIII.8

*The student will represent multiple number combinations of a given number up to 15*

“Counting on combinations,” AIMS X.1

*Students will generate number combinations to the sum of 10*

**1.4 Count and group object in ones and tens (e.g., three groups of 10 and 4 equals 34, or  $30 + 4$ ).**

“Ten Gallon Hat,” Math Series A

*The student will practice grouping counters into sets of tens and ones.*

“Raisin Fun,” AIMS: VI.2

*The student will count and record data from a slice of raisin bread and from examining miniature boxes of two brands of raisins.*

“A Pumpkin Cover up,” AIMS: VIII.3

*The student will use manipulatives to explore large numbers and group them into sets of five’s and tens.*

“Ten Tower Town,” Math Series A (Place Value Readiness)

*The student will practice grouping Unifix cubes in sets of ten.*

“Popped...Or Not,” AIMS: VII.10

*The student will determine differences in the masses of popped and unpopped popcorn.*

### **1.5 Identify and know the value of coins and show different combinations of coins that equal the same value.**

“Quick Quilts 1 and 2,” AIMS: VII.8

*The student will use a specified amount of money to purchase items to be used to decorate the quilt square.*

“Money Activities,” Math Series B

## **2.0 Students demonstrate the meaning of addition and subtraction and use these operations to solve problems:**

### **2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.**

“Pumpkin, Pumpkin Seed,” AIMS: XII.4

*The student will use pumpkin seeds to generate addition facts and corresponding subtraction facts.*

“Matching Tops & Bottoms,” AIMS: X.8

*The student will use manipulatives to create corresponding addition and subtraction facts.*

### **2.2 Use the inverse relationship between addition and subtraction to solve problems.**

### **2.3 Identify one more than, one less than, 10 more than, and 10 less than a given number.**

### **2.4 Count by 2s, 5s, and 10s to 100.**

“A Festival of Thanksgiving,” AIMS: XI.4

*The student will use measurement and skip counting to play games and cook.*

### **2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).**

“Matching Tops and Bottoms,” AIMS: X.8

*The student will use manipulatives to join and take apart sets to represent addition and subtraction problems.*

“Story Boards,” Math Series A

*The student will use stories to perform mathematical operations and solve problems.*

“Counting on Combinations: AIMS: X.7

*The student will generate number combinations to the sum of fourteen.*

### **2.6 Solve addition and subtraction problems with one- and two-digit numbers (e.g., $5 + 58 = \underline{\quad}$ ).**

“Base 10 Counting Up/Addition,” Math Series A (Place Value/Counting: Sample Lesson 1))

*The student will use manipulatives to construct addition and subtraction problems on a Place Value Board.*

“Base 10,” Math Series A (Place Value/Counting: Sample Lesson 2)

*The student will use Place Value Boards and Place Value Recording Strips to build and record numbers from 0 - 99.*

“Base 10 Counting Down/Subtraction,” Math Series A (Place Value/Counting: Sample Lesson 3)

*The student will work with base 10 numbers on Place Value Boards.*

## **2.7 Find the sum of three one-digit numbers.**

“Pumpkin, Pumpkin Seeds,” AIMS: XII.4

*The student will find the sum of three and one-digit numbers using pumpkin seeds as counters.*

“Making Ten, My Way,” AIMS: VIII.10

*The student will gather objects from around the classroom and group them into arrangements that will, when added together, equal combined sets of 10.*

## **3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, and hundreds places:**

### **3.1 Make reasonable estimates when comparing larger or smaller numbers.**

## **ALGEBRA AND FUNCTIONS**

### **1.0 Students use number sentences with operational symbols and expressions to solve problems:**

#### **1.1 Write and solve number sentences from problem situations that express relationships involving addition and subtraction.**

“Story Boards,” Math Series A

*The student will use stories to perform mathematical operations and solve problems.*

#### **1.2 Understand the meaning of the symbols +, -, =.**

“Story Boards,” Math Series A

*The student will use stories to perform mathematical operations and solve problems.*

“Let Me Count The Ways,” Primarily Bears

*The student will create and record number sentences using mathematical symbols.*

“Teddy Bear Clubs Go Weighing,” Primarily Bears

*The student will record number combinations created by using given sets of manipulatives.*

#### **1.3 Create problem situations that might lead to given number sentences involving addition and subtraction.**

“Story Boards,” Math Series A

*The student will use stories to perform mathematical operations and solve problems.*

## **MEASUREMENT AND GEOMETRY**

**1.0 Students use direct comparison and nonstandard units to describe the measurements of objects:**

**1.1 Compare the length, weight, and volume of two or more objects by using direct comparison or a nonstandard unit.**

“Body Units,” Math Series A

*The student will compare lengths of objects using the thumbs, hands, legs, and feet.*

“Fold To Hold,” Under Construction

*The student will use manipulatives to measure the capacity of student made containers.*

“Measurement Section,” Math Series A

*The student will compare the length and mass of two or more objects by using direct comparison, nonstandard units, and standard units.*

“Let Me Count The Ways,” Primarily Bears

*The student will weigh various objects with Teddy Bear counters.*

**1.2 Tell time to the nearest half hour and relate time to events (e.g., before/after, shorter/longer).**

“Time Activities,” Math Series B

“An All Around Day,” AIMS: X.1

*The student will construct a timeline to record the pattern of the daily classroom routine making observations of events before and after.*

**2.0 Students identify common geometric figures, classify them by common attributes, and describe their relative position or their location in space:**

**2.1 Identify, describe, and compare triangles, rectangles, squares, and circles, including the faces of three-dimensional objects.**

“Exploring Geometric Solids,” Math Series A

*The student will identify, describe, and compare three-dimensional objects.*

**2.2 Classify familiar plane and solid objects by common attributes, such as color, position, shape, size, roundness, or number of corners, and explain which attributes are being used for classification.**

“Geometry Section,” Math Series A

*The student will classify familiar plane and solid objects by common attributes.*

**2.3 Give and follow directions about location.**

“Describing Shapes Part 1 and 2,” Math Series A (Geometry Task Card 13, 14)

*The student will apply geometric vocabulary to describe positional relationships of common objects and geometric models.*

“Phone Home,” Out of This World

*The student will follow positional directions using a variety of geometric shapes.*

“Bear Logic: Teddy Bear Totem Poles,” Primarily Bears

*The student will apply positional vocabulary to arrange Teddy Bear counters.*

“Teddy Bears Find Homes,” Primarily Bears

*The student will apply positional vocabulary to arrange Teddy Bear counters.*

- 2.4 Arrange and describe objects in space by proximity, position, and direction (e.g., near, far, below, above, up, down, behind, in front of, next to, left or right of).**

## **STATISTICS, DATA ANALYSIS, AND PROBABILITY**

- 1.0 Students organize, represent, and compare data by category on simple graphs and charts:**

- 1.1 Sort objects and data by common attributes and describe the categories.**

“If the Shoe Fits,” Glide Into Winter

*The student will identify the attributes by which shoes are sorted.*

“Shape Takers,” *AIMS: XI.3*

*The student will compare and contrast geometric shapes of different orientations and sizes.*

“Sherlock Combs The Yard,” *AIMS: I.10*

*The student will identify sets of objects according to a common attribute.*

“Gingerbread Kids Make Connections,” *AIMS: VI.5*

*The student will use measurement and observe attributes to sort and graph gingerbread figures.*

- 1.2 Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs.**

Math Series A (Data Collection)

*The student will use graphic organizers to represent and compare data.*

“How Much of Our World Is Water?” Science Series II

*The student will compare the relative surface amounts of water and land on earth using tally marks to represent the data.*

“Rock Groups,” Primarily Earth

*The student will graph and interpret data gathered from a collection of rocks to determine the frequency of attributes represented.*

“Tally Time,” Math Series A (Place Value Readiness)

*The student will count, tally, and record groups of objects.*

- 2.0 Students sort objects and create and describe patterns by numbers, shapes, sizes, rhythms, or colors:**

- 2.1 Describe, extend, and explain ways to get to a next element in simple repeating patterns (e.g., rhythmic, numeric, color, and shape).**

“Patterns, Patterns, Patterns,” Math Series A

*The student will describe, create, and extend a wide variety of patterns.*

## **MATHEMATICAL REASONING**

- 1.0 Students make decisions about how to set up a problem:**

- 1.1 Determine the approach, materials, and strategies to be used.**

- 1.2 Use tools, such as manipulatives or sketches, to model problems.**

- 2.0 Students solve problems and justify their reasoning:**

- 2.1 Explain the reasoning used and justify the procedures selected.**

**2.2 Make precise calculations and check the validity of the results from the context of the problem.**

**3.0 Students note connections between one problem and another.**

**California State**  
**AIMS Activities supporting Second Grade Science Standards of Learning**

**By the end of grade two, students understand place value and number relationships in addition and subtraction, and they use simple concepts of multiplication. They measure quantities with appropriate units. They classify shapes and see relationships among them by paying attention to their geometric attributes. They collect and analyze data and verify the answers.**

**NUMBER SENSE**

**1.0 Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:**

**1.1 Count, read, and write whole numbers to 1,000 and identify the place value for each digit.**

“Place Value Activities,” Math Series A

*The student will complete a variety of activities to count, read, and write whole numbers and identify the place value for each digit.*

“Pumpkin Caper,” Overhead Underfoot

*The student will record information related to pumpkins to provide practice using whole numbers and place value.*

**1.2 Use words, models, and expanded forms (e.g.,  $45 = 4 \text{ tens} + 5$ ) to represent numbers (to 1,000).**

“Addition Using A Place Value Model,” Math Series A

*The student will represent large numbers using a Place Value Board.*

**1.3 Order and compare whole numbers to 1,000 by using the symbols  $<$ ,  $=$ ,  $>$ .**

**2.0 Students estimate, calculate, and solve problems involving addition and subtraction of two- and three-digit numbers:**

“A Close Call,” AIMS: VI.1

*The student will estimate the number of objects in a container and devise a strategy for calculating a close approximation to the exact number without counting each one.*

**2.1 Understand and use the inverse relationship between addition and subtraction (e.g., an opposite number sentence for  $8 + 6 = 14$  is  $14 - 6 = 8$ ) to solve problems and check solutions.**

**2.2 Find the sum or difference of two whole numbers up to three digits long.**

“Place Value Boards,” Math Series A

*The student will find the sum or difference of two whole numbers up to three digits long.*

“Marvelous Sums,” AIMS: II.2

*The student will find the sum or difference of two whole numbers up to three digits long.*

**2.3 Use mental arithmetic to find the sum or difference of two two-digit numbers.**

**3.0 Students model and solve simple problems involving multiplication and division:**

**3.1 Use repeated addition, arrays, and counting by multiples to do multiplication.**

“Skip to My Rule,” *AIMS: XI.3*

*The student will construct flower plots to join equal rows of objects to the products generated in the multiplication tables.*

“Amazing Arithmetic Arrays,” *AIMS: XIII.2*

*The student will use repeated addition, arrays, and counting by multiples to complete multiplication.*

**3.2 Use repeated subtraction, equal sharing, and forming equal groups with remainders to do division.**

“Cookies for All,” *AIMS: VIII.1*

*The student will practice the skill of fair shares with remainders.*

“Bear Shares,” *AIMS: VIII.1*

*The student will discover properties of division through a manipulative approach.*

**3.3 Know the multiplication tables of 2s, 5s, and 10s (to “times 10”) and commit them to memory.**

**4.0 Students understand that fractions and decimals may refer to parts of a set and parts of a whole:**

**4.1 Recognize, name, and compare unit fractions from  $1/12$  to  $1/2$ .**

“Gone Fishing,” Critters

*The student will recognize, name, and compare unit fractions from one-twelfth to one-half in a set model.*

“All Around the Apple,” *AIMS: V.2*

*The student will divide apples into fractional parts.*

**4.2 Recognize fractions of a whole and parts of a group (e.g., one-fourth of a pie, two-thirds of 15 balls).**

“Hide and Seek,” Critters

*The student will recognize fractions of a whole and parts of a group using a set model.*

“Gone Fishing,” Critters

*The student will recognize, name, and compare unit fractions from one-twelfth to one-half in a set model.*

**4.3 Know that when all fractional parts are included, such as four-fourths, the result is equal to the whole and to one.**

“Fractions with Pattern Blocks,” *AIMS: XII.4*

*The student will use pattern blocks as a model to explore fraction concepts such as equivalency, addition of fractions, and mixed numbers.*

“Fraction Dominoes,” *AIMS: III.9*

*The student will know that when all fractional parts are included, the result is equal to the whole.*

**5.0 Students model and solve problems by representing, adding, and subtracting amounts of money:**

**5.1 Solve problems using combinations of coins and bills.**

**5.2 Know and use the decimal notation and the dollar and cent symbols for money.**

“Pack and Post,” *AIMS: XII.10*

*The student will apply the use of decimal notation and dollar and cent symbols.*

**6.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, hundreds, and thousands places:**

**6.1 Recognize when an estimate is reasonable in measurements (e.g., closest inch).**

**ALGEBRA AND FUNCTIONS**

**1.0 Students model, represent, and interpret number relationships to create and solve problems involving addition and subtraction:**

**1.1 Use the commutative and associative rules to simplify mental calculations and to check results.**

**1.2 Relate problem situations to number sentences involving addition and subtraction.**

“A Bus for Us,” *AIMS: VII.1*

*The student will use stories to perform mathematical operations and solve problems.*

**1.3 Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences.**

“Data Section,” Math Series A

*The student will interpret various representations of data using addition and subtraction.*

“The Story of Data,” Math Series A

*The student will tell the story of the graph in terms of addition and subtraction.*

**MEASUREMENT AND GEOMETRY**

**1.0 Students understand that measurement is accomplished by identifying a unit of measure, iterating (repeating) that unit, and comparing it to the item to be measured:**

**1.1 Measure the length of objects by iterating (repeating) a nonstandard or standard unit.**

“Spread Your Wings,” Bats Incredible

*The student will measure the wing spans of a microbat and a megabat.*

“Measurement,” Math Series A

*The student will measure the length of objects by repeating a nonstandard or standard unit.*

“A Seed Grows,” Primarily Plants

*The student will apply measurement skills to record the growth of a bean seed.*

**“Show it Grow,” AIMS: XIII.10**

*The student will describe, measure, and graph the physical changes that occur in a bulb over several days and weeks.*

**1.2 Use different units to measure the same object and predict whether the measure will be greater or smaller when a different unit is used.**

**“Queen’s Bed,” AIMS: XIII.6**

*The student will construct a bed using different units to measure the length and width.*

**1.3 Measure the length of an object to the nearest inch and/or centimeter.**

**“Measurement,” Math Series A**

*The student will explore standard/nonstandard and customary/noncustomary measurement through a variety of activities.*

**“Look at Me Now,” Cycles of Knowing and Growing**

*The student will measure changes in their growth.*

**1.4 Tell time to the nearest quarter hour and know relationships of time (e.g., minutes in an hour, days in a month, weeks in a year).**

**“An All Around Day,” AIMS: X.1**

*The student will observe the pattern of their daily routine over a period of at least two weeks.*

**“Talk About Time,” AIMS: XI.1**

*The students will position the hands of an analog clock to correspond to various times of the day.*

**“Wrap Around the Clock,” AIMS: VIII.3**

*The student will determine the number of daylight hours and observe the changes of time.*

**1.5 Determine the duration of intervals of time in hours (e.g., 11:00 a.m. to 4:00 p.m.).**

**“Counting on 100,” AIMS: VIII.7**

*The student will perform various activities within 100 seconds*

**“Drying on the Line,” AIMS: IX.7**

*The student will observe the differences in evaporation by placing wet paper clothes in various conditions and recording results at three hour intervals.*

**“Washers and Dryers,” AIMS: VIII.2**

*The student will observe and measure changes in peeled apple slices as the fruit is exposed to the air over a period of time.*

**2.0 Students identify and describe the attributes of common figures in the plane and of common objects in space:**

**2.1 Describe and classify plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) according to the number and shape of faces, edges, and vertices.**

**“Find That Solid,” Task Mats Math Series A**

*The student will match the geometric solid to the footprint of the solid.*

**“3-D Line Plot,” AIMS: XI.10**

*The student will look for patterns when they place 3-D shapes that have been constructed by the student along a number line by counting surfaces, rims/edges, and vertices.*

“Geo-Panes,” Hardhatting In a Geo-World

*Students will construct two and three dimensional shapes and compare the edges, vertices, and faces.*

## **2.2 Put shapes together and take them apart to form other shapes (e.g., two congruent right triangles can be arranged to form a rectangle).**

“Pop-Out Patterns,” AIMS: IX.10

*The student will combine shapes to create a new shape.*

“3-D Designs,” Math Series A

*The student will combine shapes to build a cube using pipe cleaners and straws.*

“Tangrammy Squares,” AIMS: X.2

*The student will combine shapes using tangram pieces to build new shapes.*

## **STATISTICS AND PROBABILITY**

### **1.0 Students collect numerical data and record, organize, display, and interpret the data on bar graphs and other representations:**

#### **1.1 Record numerical data in systematic ways, keeping track of what has been counted.**

“Teddy Bears Playing in the Den,” Primarily Bears

*The student will record the results of random samples.*

“M&M Math,” Primarily Bears

*The student will estimate, count, and record the number of candies.*

#### **1.2 Represent the same data set in more than one way (e.g., bar graphs and charts with tallies).**

“Collecting Data,” AIMS: XII.9

*The student will collect data from their classmates and choose an appropriate organizer to display the organized data*

“Make Mine Porridge,” Sense-able Science

*The student will compare the tastes of three kinds of porridge by representing the same data in more than one way.*

“Let Me Count the Ways,” Primarily Bears

*The student will graph the weight of various objects.*

“Gone Fishing,” Critters

*The student will represent the same data in more than one way.*

“I Love Color,” Primarily Physics

*The student will use simple graphs to record their observations about colors.*

#### **1.3 Identify features of data sets (range and mode).**

“Raisin Fun,” AIMS: VI.2

*The student will explore range and mode comparing miniature boxes of two brands of raisins.*

“A Pumpkin Cover-Up,” AIMS: VIII.3

*The student will experience and count large numbers using range and mode.*

#### **1.4 Ask and answer simple questions related to data representations.**

“Bunches of Lunches,” AIMS: V.2

*The student will compare lunch boxes and bags in the classroom and graph them by type and color.*

Resource: “Thinking about Thinking,” AIMS: VIII.1,2,3,4,5

**2.0 Students demonstrate an understanding of patterns and how patterns grow and describe them in general ways:**

**2.1 Recognize, describe, and extend patterns and determine a next term in linear patterns (e.g., 4, 8, 12 . . . ; the number of ears on one horse, two horses, three horses, four horses).**

“Growing Patterns,” Math Series A

*The student will use their knowledge of pattern to build designs that increase in an orderly and predictable sequence.*

**2.2 Solve problems involving simple number patterns.**

“Exploring Patterns,” Math Series A

*The student will explore simple number patterns using their skills in problem solving and critical thinking.*

## **MATHEMATICAL REASONING**

**1.0 Students make decisions about how to set up a problem:**

**1.1 Determine the approach, materials, and strategies to be used.**

**1.2 Use tools, such as manipulatives or sketches, to model problems.**

**2.0 Students solve problems and justify their reasoning:**

**2.1 Defend the reasoning used and justify the procedures selected.**

**2.2 Make precise calculations and check the validity of the results in the context of the problem.**

**3.0 Students note connections between one problem and another.**