



## Teaching a New Kindergarten Unit: Where to Start

These *Where to Start* documents are designed to provide an overview of the activities that address the important math content in the Kindergarten units. They can be used to orient individuals or groups to the units they are preparing to teach.

### Kindergarten Unit 1: Who Is in School Today?

#### Where to Start

This unit is the 1<sup>st</sup> of 7 units in Kindergarten. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 10.

#### Investigation 1: The *Attendance and Calendar Routines*

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 19)
- Investigation 1 Planner (pp. 20 & 22)

The following activities and information support the key math ideas:

- Activities: Introducing *Attendance* (p. 25), Counting Around the Circle (p. 33), and the Attendance Stick (p. 48)
- Activity: Introducing Math Workshop and Materials (p. 26)
- Math Workshops: Exploring Materials (pp. 27-31) and Exploring More Materials (pp. 50-51)
- Activities: Introducing the *Calendar* Routine (p. 37) and Special Days on the *Calendar* (p. 42)

#### Investigation 2: The *Counting Jar*

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 53)
- Investigation 2 Planner (pp. 54 & 56)

The following activities and information support the key math ideas:

- Activity: Introducing the Counting Jar (p. 59) and Discussion: How Many Did You Find? (p. 87)
- Activities: Using the Attendance Stick (p. 65) and *Attendance: Introducing a Labeled Attendance Stick* (p. 83)
- Discussion: Describing Buttons (p. 67)
- Activities: Introducing *Button* (p. 71) and *Attribute Block* (p. 77) *Match-Up*

#### Preparation

- Materials to Gather and Prepare (pp. 21, 23, 55, 57, 91, 93)
- Read *Attendance, Calendar, Today's Question* (pp. 22-25, 26-27, and 28-29 of *Implementing Investigations* at Kindergarten)

#### Assessment

- Assessment (p. 14)
- Activity 2a (p. 60, 103)
- Teaching Notes about Assessment and Portfolio Opportunities (p. 102, 103)

#### Practice & Review

- Classroom Routines (p. 16)
- Practice and Review (p. 17)

### **Investigation 3: The *Today's Question* Routine**

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 89)
- Investigation 3 Planner (pp. 90 & 92)

The following activities and information support the key math ideas:

- Activity: Introducing the *Today's Question* Routine (p. 95) and Discussion: *Today's Question* (p. 97)
- Activity: Counting Jar: Introducing Recording (p. 101) and Discussion: How Did You Record? (p. 122)
- Activity: Sorting People (p. 107)
- Activity: Introducing *Sorting Attribute Blocks* (p. 111)
- Activity (p. 113) and Discussion (p. 117): *Today's Question: Are You the Oldest Child in Your Family?*

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### Kindergarten Unit 2: Counting and Comparing

This document is designed to provide an overview of the activities that address the important math content in this unit. It can be used to orient individuals or groups as they prepare to teach the unit.

This unit is the 2<sup>nd</sup> of 7 units in Kindergarten. It is part of the K-5 number and operations strand, and is the 1<sup>st</sup> of 3 units that focus on measurement, the number system, and addition and subtraction at this grade. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 10.

#### Investigation 1: Counting

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 21)
- Investigation 1 Planner (pp. 22 & 24)

The following activities and information support the key math ideas:

- Activities: A Counting Book (p. 27), and Introducing (p. 28) and Discussing (p. 63) Counting Books
- Discussions: How Did I Count? (p. 49), Does Order Matter When You Count? (p. 53), and Strategies for Accurate Counting (p. 72)
- Teacher Notes: Counting is More Than 1, 2, 3 (p. 151) and Observing Kindergarteners as They Count (p. 152)

#### Investigation 2: Comparing

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 75)
- Investigation 2 Planner (pp. 76, 78 & 80)

The following activities and information support the key math ideas:

- Teacher Note: Learning about Length: Direct Comparison (p. 160)
- Activities: Using Towers to Compare (p. 83), Introducing the Measuring Table (p. 84), and Discussing The Longer/Shorter Hunt (p. 125)
- Activities: Introducing the Game of *Compare* (p. 101)
- Discussion: Comparing Two Inventory Bags (p. 108)
- Activity: Introducing Comparing Names (p. 122)
- Math Workshop: Comparing and Ordering (p. 136)
- Discussion: Ordering Our Names (p. 146)

#### Preparation

- Materials to Gather and Prepare (pp. 23, 25, 77, 79, 81)
- Plan for how students will make Name Towers (p. 112)
- Plan for the End-of-Unit Assessment (Teaching Note, p. 141)

#### Assessment

- Assessment (p. 14)
- Teaching Notes about Assessment Opportunities (pp. 30, 68; p. 86; p. 97)
- Teaching Notes about Portfolio Opportunities (pp. 41, 45, 68)
- Teacher Note (p. 153)
- End-of-Unit Assessment Activities (pp. 143, 146)

#### Practice & Review

- Classroom Routines (p. 18)
- Practice and Review (p. 19)

## Teaching a New Kindergarten Unit: Where to Start

### Kindergarten Unit 3: What Comes Next?

This document is designed to provide an overview of the activities that address the important math content in this unit. It can be used to orient individuals or groups as they prepare to teach the unit.

This unit is the 3<sup>rd</sup> of 7 units in Kindergarten. It is part of the K-5 patterns and functions strand. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 10.

#### Investigation 1: What Do You Notice?

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 21)
- Investigation 1 Planner (pp. 22 & 24)

The following activities and information support the key math ideas:

- Discussion: Can You Do What I Do? (p. 36)
- Activity: Making Cube Trains (p. 42) and Discussion: Sorting Cube Trains (p. 43)
- Activity: Introducing Cube Train Patterns (p. 46) and Discussion: Comparing Cube Train Patterns (p. 48)
- Teacher Note: Repeating Patterns (p. 147)
- Dialogue Box: What Might Come Next? (p. 159)

#### Investigation 2: Constructing Patterns

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 51)
- Investigation 2 Planner (pp. 52, 54 & 56)

The following activities and information support the key math ideas:

- Activity: Introducing Making Patterns (p. 59)
- Activity: Introducing Recording Cube Train Patterns (p. 71)
- Activity: Introducing *What Comes Next?* (p. 86)
- Discussion: Is This a Pattern? (p. 93)
- Activities: Introducing (p. 100) and Discussing (p. 102) *Add On*
- Dialogue Box: A “Harder” Pattern (p. 163)

#### Investigation 3: What’s the Unit?

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 109)
- Investigation 3 Planner (pp. 110 & 112)

The following activities and information support the key math ideas:

- Activity: Introducing *Break the Train* (p. 115) and Discussion: Recording *Break the Train* (p. 117)
- Discussion: What’s the Unit? (p. 122)
- Activity: Introducing *How Many Cars?* (p. 125)
- Activity: Introducing 12 Chips (p. 135)
- Discussion: Comparing Patterns (p. 141)
- Dialogue Boxes: What’s the Unit? (p. 152) and *Break the Train* (p. 153)

#### Preparation

- Materials to Gather and Prepare (pp. 23, 25, 53, 55, 57, 111, 113)

#### Assessment

- Assessment (p. 14)
- Teaching Notes about Assessment Opportunities (p. 47; p. 116)
- Teacher Note (p. 149)
- End-of-Unit Assessment Activities (pp. 139, 144)

#### Practice & Review

- Classroom Routines (p. 18)
- Practice and Review (p. 19)

## Teaching a New Kindergarten Unit: Where to Start

### Kindergarten Unit 4: Measuring and Counting

This document is designed to provide an overview of the activities that address the important math content in this unit. It can be used to orient individuals or groups as they prepare to teach the unit.

This unit is the 4<sup>th</sup> of 7 units in Kindergarten. It is part of the K-5 number and operations strand, and is the 2<sup>nd</sup> of 3 units that focus on measurement, the number system, and addition and subtraction at this grade. This unit builds on the work of the previous unit in this strand. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 12.

#### Investigation 1: Measuring and Counting

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 23)
- Investigation 1 Planner (pp. 24 & 26)

The following activities and information support the key math ideas:

- Teacher Note: Learning about Length: Lining Up Units (p. 169)
- Activity: Introducing Measuring with Sticks (p. 39)
- Dialogue Box: Measuring with Sticks (p. 181)

#### Investigation 2: Counting Some, Counting More

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 53)
- Investigation 2 Planner (pp. 54 & 56)

The following activities and information support the key math ideas:

- Activity: Introducing *Collect 10 Together* (p. 66)
- Discussion: *Roll and Record 2* (p. 78)
- Activity: *Quick Images*: Ten-Frames (p. 81)

#### Investigation 3: Changing Quantities: How Many Now?

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 85)
- Investigation 3 Planner (pp. 86 & 88)

The following activities and information support the key math ideas:

- Activity: Introducing *Racing Bears* (p. 91)
- Activity: Three Story Problems (p. 96) and Discussion: More or Less at the End? (p. 111)
- Activity: Introducing *One More, One Fewer* (p. 101)
- Discussion: Who Has More? (p. 119)

#### Preparation

- Materials to Gather and Prepare (pp. 25, 27, 55, 57, 87, 89, 123, 125, 127)
- Review the logistics of Introducing Math Workshop Activities (p. 34)
- Learn the variations of *Grab and Count* (p. 59), *Roll and Record* (p. 77), *Build It* (pp. 72 & 114) and *Compare* (p. 105) that are introduced in this unit.
- Plan for the End-of-Unit Assessment (Teaching Note, p. 161)

#### Assessment

- Assessment (p. 16)
- Teaching Notes about Assessment Opportunities (pp. 30, 50, 75; 62; 102)
- Teaching Notes about Assembling a Portfolio (pp. 36, 78, 160)
- Teacher Note (p. 176)
- End-of-Unit Assessment Activities (p. 163, 166)

#### Practice & Review

- Classroom Routines (p. 20)
- Practice and Review (p. 21)

#### **Investigation 4: Ways to Make Numbers**

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 121)
- Investigation 4 Planner (pp. 122, 124 & 126)

The following activities and information support the key math ideas:

- Activity: Introducing Six Tiles in All (p. 129)
- Activity: Introducing *Quick Images*: Square Tiles (p. 135) and *Quick Images* in Pairs (p. 149)
- Discussions: Tossing Six Chips (p. 155) and Different Arrangements of Six (p. 158)

## Teaching a New Kindergarten Unit: Where to Start

### Kindergarten Unit 5: Make a Shape, Build a Block

This document is designed to provide an overview of the activities that address the important math content in this unit. It can be used to orient individuals or groups as they prepare to teach the unit.

This unit is the 5<sup>th</sup> of 7 units in Kindergarten. It is part of the K-5 geometry strand. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 10.

#### Investigation 1: Describing and Making 2-D Shapes

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 17)
- Investigation 1 Planner (pp. 18 & 20)

The following activities and information support the key math ideas:

- Discussion: Circles and Rectangles (p. 30)
- Discussion: Triangles and Squares (p. 37)
- Activity: Making Clay Shapes (p. 41) and Discussion: Sharing Our Clay Shapes (p. 42)
- Teacher Notes: How Young Children Learn About Shapes (p. 133) and Learning to Name and Classify Shapes (p. 135)
- Dialogue Box: Three Pointy Corners (p. 147)

#### Investigation 2: Making and Combining 2-D Shapes

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 53)
- Investigation 2 Planner (pp. 54 & 56)

The following activities and information support the key math ideas:

- Activity: Introducing the Shape Mural (p. 59) and Discussion: Our Shape Mural (p. 79)
- Activity: Introducing Pattern Block Puzzles (p. 65)
- Activity: Introducing *Fill the Hexagons* (p. 70) and Discussion: Ways to Make a Hexagon (p. 83)

#### Investigation 3: Describing, Making and Combining 3-D Shapes

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 85)
- Investigation 3 Planner (pp. 86, 88 & 90)

The following activities and information support the key math ideas:

- Activities: Looking at 3-D Shapes (p. 93) and Shape Hunt (p. 96)
- Discussion: A Close Look at Geoblocks (p. 100)
- Discussion: Finding a Match (p. 114) and Activity: Introducing *Geoblock Match-Up* (p. 117)
- Activity: Introducing *Build a Block* (p. 122)
- Discussion: Comparing 3-D Shapes (p. 130)
- Dialogue Boxes: It Looks Like a Ball (p. 150) and Mine Looks Like a Ramp (p. 151)

#### Preparation

- Materials to Gather and Prepare (pp. 19, 21, 55, 57, 87, 89, 91)
- Plan for the End-of-Unit Assessment (Teaching Note, pp. 120, 124)
- If you plan to use the *Shapes* Software, read the Teacher Notes on pp. 138 & 141 and familiarize yourself with the *Shapes* Activities (pp. 34 & 66)

#### Assessment

- Assessment (p. 12)
- Teaching Notes about Assessment Opportunities (pp. 26, 61, 96; 41, 113; 67, 123)
- Teaching Notes about Portfolio Opportunities (pp. 26, 37, 47, 67, 74, 113)
- End-of-Unit Assessment Activities (pp. 126, 130)

#### Practice & Review

- Classroom Routines (p. 14)
- Practice and Review (p. 15)

## Teaching a New Kindergarten Unit: Where to Start

### Kindergarten Unit 6: How Many Do You Have?

This document is designed to provide an overview of the activities that address the important math content in this unit. It can be used to orient individuals or groups as they prepare to teach the unit.

This unit is the 6<sup>th</sup> of 7 units in Kindergarten. It is part of the K-5 number and operations strand, and is the 3<sup>rd</sup> of 3 units that focus on measurement, the number system, and addition and subtraction at this grade. This unit builds on the work of the previous units in this strand. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 12.

#### Investigation 1: Numbers of Tiles

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 23)
- Investigation 1 Planner (pp. 24 & 26)

The following activities and information support the key math ideas:

- Discussion: Arrangements of Six (p. 38)
- Activity: Introducing Arrangements of 5-10 Tiles (p. 42)
- Discussion: Checking In (p. 58)
- Teacher Note: Introducing Notation in Kindergarten (p. 163)

#### Investigation 2: Counting and Measuring

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 63)
- Investigation 2 Planner (pp. 64 & 66)

The following activities and information support the key math ideas:

- Discussion: Counting Jar (p. 72)
- Activity: Introducing Measuring Ourselves (p. 80)
- Discussion: Do We Have to Count Them All? (p. 84)
- Discussion: Representing an Inventory (p. 93)

#### Investigation 3: How Many in All?

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 95)
- Investigation 3 Planner (pp. 96 & 98)

The following activities and information support the key math ideas:

- Discussion: *Double Compare* (p. 108)
- Activity: Modeling Story Problems (p. 111)
- Activities: Introducing How Many Grapes? (p. 124) and How Do You Show the One That Is Gone? (p. 126)
- Teacher Note: Three Approaches to Story Problems in Kindergarten (p. 174)

#### Preparation

- Materials to Gather and Prepare (pp. 25, 27, 65, 67, 97, 99, 135, 137; also see the Teaching Notes on pp. 54, 58, & 90)
- Learn the variations of Six Tiles in *All* (p. 31), *Racing Bears* (p. 51), *Collect 10 Together* (p. 69 & 77), *Inventory Bags* (p. 75), *Roll and Record* (p. 101), *Build On* (p. 116) that are introduced in this unit.
- Review the process for Acting Out Story Problems (p. 103)
- Plan for the End-of-Unit Assessment (Teaching Notes, pp. 150 & 154)

#### Assessment

- Assessment (p. 16)
- Teaching Notes about Assessment Opportunities (pp. 43, 102; 47, 76; 92, 102)
- Teaching Notes about Assembling a Portfolio (pp. 43, 48, 76, 92, 102, 121, 139)
- Teacher Note (p. 168)
- End-of-Unit Assessment Activities (pp. 157, 160)

#### Practice & Review

- Classroom Routines (p. 20)
- Practice and Review (p. 21)

#### **Investigation 4: Ways to Make Numbers**

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 133)
- Investigation 4 Planner (pp. 134 & 136)

The following activities and information support the key math ideas:

- Activities: Introducing (p. 139), Doing (p. 139) and Discussing (p. 141) Five Crayons in All
- Teacher Note: How Students Approach Five Crayons in All (p. 179)
- Discussion: Combinations of Six (p. 144)
- Activities: Introducing (p. 147) and Discussing Strategies for (p. 156) *Total of Six*

## Teaching a New Kindergarten Unit: Where to Start

### Kindergarten Unit 7: Sorting and Surveys

This document is designed to provide an overview of the activities that address the important math content in this unit. It can be used to orient individuals or groups as they prepare to teach the unit.

This unit is the 7<sup>th</sup> of 7 units in Kindergarten. It is part of the K-5 data analysis and probability strand. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 10.

#### Investigation 1: How Many Noses? How Many Eyes?

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 19)
- Investigation 1 Planner (pp. 20 & 22)

The following activities and information support the key math ideas:

- Activity: Representing How Many Are We? (p. 26)
- Activities: Introducing How Many Eyes? (p. 38), How Many Eyes? (p. 39), and Introducing Eyes at Home (p. 49)
- Activity: Introducing How Many Chairs? (p. 44) and Discussion: Enough Chairs for the Class? (p. 54)

#### Investigation 2: How Are They the Same? How Are They Different?

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 57)
- Investigation 2 Planner (pp. 58 & 60)

The following activities and information support the key math ideas:

- Activities: Sorting People (p. 63) and Introducing Sorting Portraits (p. 67)
- Discussion: Same and Different Containers (p. 78)
- Activity: Introducing Attribute Dominoes (p. 85)
- Activities: Generating (p. 89) and Sorting (p. 92) Favorite Lunch Food Data

#### Investigation 3: Data Projects

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 97)
- Investigation 3 Planner (p. 98)

The following activities and information support the key math ideas:

- Activities: Introducing (p. 101) and doing (p. 107) “Do You Like...?” Surveys
- Discussions: Recording Responses (p. 109) and Sharing “Do You Like...?” Surveys (p. 112)

#### Preparation

- Materials to Gather and Prepare (pp. 21, 23, 59, 61, 99)
- Review the homework (p. 42) that will be used in Session 1.5
- Review the rules of Attribute Block Match Up (p. 70)
- Plan for how students will collect “Do You Like...?” data in Investigation 3 (see p. 101)

#### Assessment

- Assessment (p. 14)
- Teaching Notes about Assessment Opportunities (pp. 26, 34; 45, 115; 72, 77)
- Teaching Notes about Portfolio Opportunities (pp. 26, 35, 107)
- Teacher Note (p. 135)
- End-of-Unit Assessment Activities (pp. 115, 116, 120)

#### Practice & Review

- Classroom Routines (p. 16)
- Practice and Review (p. 17)