| ✓ Checklist of Mathematical Emphases for *Mathematical Thinking in Kindergarten* | Student's Name | Student's Name | Student's Name |
|---|---|---|---|
| **1** Explores the following materials and their attributes:<br> **a** color tiles<br> **b** pattern blocks<br> **c** Geoblocks<br> **d** interlocking cubes | | | |
| **2** Counts with one-to-one correspondence to at least 6 | | | |
| **3** Keeps track while counting a set of at least 6 objects | | | |
| **4** Begins to connect numerals and number names to the quantities they represent | | | |
| **5** Uses the correct sequence of number names when counting orally to 12 | | | |
| **6** Creates a set of a given size, using from 5 to 12 objects | | | |
| **7** Develops methods for recording numerical information (e.g., pictures, words, and/or numbers) | | | |
| **8** Becomes familiar with units of time represented on a calendar (i.e., days, weeks, and months) | | | |
| **9** Explores and describes geometric shapes | | | |
| **10** Describes data represented on a graph | | | |
| **11** Counts and compares the quantities in two different sets (e.g., numbers of students) | | | |

## ✓ Checklist of Mathematical Emphases for *Pattern Trains and Hopscotch Paths*

| | Student's Name | Student's Name | Student's Name | Student's Name |
|---|---|---|---|---|
| **1** Observes and describes attributes of objects and sets of objects, such as size, color, shape, and quantity | | | | |
| **2** Recognizes and describes a repeating pattern; discriminates between a pattern and a random arrangement or design | | | | |
| **3** Decides which attribute to focus on when constructing a pattern | | | | |
| **4** Copies, constructs, and extends patterns, such as *a-b, a-a-b-b,* and *a-a-b* | | | | |
| **5** Records a pattern | | | | |
| **6** Predicts and verifies what comes next in a pattern | | | | |
| **7** Begins to identify and construct the unit of a pattern (i.e., the element that repeats) | | | | |
| **8** Begins to decompose patterns into their units | | | | |
| **9** Adds units to continue a pattern | | | | |
| **10** Begins to make and compare patterns that use the same unit structure (i.e., recognizes similarities among several different kinds of *a-b* patterns) | | | | |
| **11** Constructs and extends patterns that grow (or shrink) in predictable ways | | | | |
| **12** Defines a "rule" for how a pattern grows (or shrinks) | | | | |
| **13** Creates, represents, and interprets patterns of physical movements, such as hopping or jumping | | | | |
| **14** Constructs a linear pattern in a rectangular frame | | | | |

| Checklist of Mathematical Emphases for Collecting, Counting, and Measuring | Student's Name | Student's Name | Student's Name |
|---|---|---|---|
| **1** Recognizes numerals and number names (0–10) | | | |
| **2** Connects numerals to the quantities they represent (0–10) | | | |
| **3** Uses the correct sequence of numbers when counting orally up to 20 | | | |
| **4** Creates a set of a given size, using from 5 to 12 objects | | | |
| **5** Uses an accurate strategy for counting (a strategy that includes one-to-one correspondence), and can keep track of quantities of up to 12 objects | | | |
| **6** Records and represents quantities using objects, pictures, numbers, and/or words | | | |
| **7** Recognizes length as an attribute of an object | | | |
| **8** Measures length by direct comparison | | | |
| **9** Uses language to describe and compare lengths (longer than, shorter than, the same as) | | | |
| **10** Compares two quantities up to 10 and can identify which quantity is more and which is less | | | |
| **11** Uses language to describe and compare amounts (less, least, more, most, same, equal) | | | |
| **12** Orders quantities from least to most and from most to least | | | |
| **13** Finds the total of two single-digit numbers | | | |
| **14** Keeps track of the size of a growing collection of up to 10 objects | | | |
| **15** Finds and records different ways to arrange a set of 6 objects | | | |

*Collecting, Counting, and Measuring*

| Checklist of Mathematical Emphases for *Counting Ourselves and Others* ✓ | Student's Name | Student's Name | Student's Name |
|---|---|---|---|
| **1** Has a strategy for accurately counting up to 20 objects | | | |
| **2** Recognizes situations of one-to-one correspondence | | | |
| **3** Recognizes situations of two-to-one correspondence (e.g., number of eyes/number of people) | | | |
| **4** Identifies and describes attributes (e.g., physical, functional) of objects | | | |
| **5** Identifies similarities and differences when comparing objects | | | |
| **6** Sorts a collection of objects according to one attribute | | | |
| **7** Sorts a collection of objects in multiple ways | | | |
| **8** Uses counting to collect data | | | |
| **9** Describes categories for sorting | | | |
| **10** Represents data using:<br>**a** concrete materials<br>**b** pictures<br>**c** labels or words<br>**d** numbers | | | |
| **11** Observes and describes different representations of the same data | | | |
| **12** Makes sense of data representations (explains, interprets, and presents) | | | |
| **13** Composes yes/no survey questions | | | |
| **14** Collects, records, and shares yes/no survey data | | | |
| **15** Compares sizes of different groups | | | |
| **16** Solves a mathematical problem based on data | | | |

## ☑ Checklist of Mathematical Emphases for *Making Shapes and Building Blocks*

| | Student's Name | Student's Name | Student's Name |
|---|---|---|---|

**2-Dimensional Shapes**

1. Observes and describes 2-D shapes as wholes
2. Becomes familiar with mathematical vocabulary to describe and name 2-D shapes
3. Observes and describes attributes of 2-D shapes, including parts of the shapes
4. Constructs 2D shapes (i.e., coordinates parts to make a whole)
5. Uses shapes to create pictures
6. Relates 2-D shapes to real-world objects
7. Combines 2-D shapes to form larger 2-D shapes
8. Finds combinations of shapes to fill an area
9. Visualizes and selects shapes to fill a design
10. Visualizes turning and moving a shape to fit a given space
11. Explores relationships among pattern blocks
12. Analyzes visual images, using a strategy for describing, remembering, and replicating those images
13. Describes the positions of shapes or objects and the spatial relationships among them

**3-Dimensional Shapes**

14. Recognizes 3-D shapes in the environment
15. Observes and describes 3-D shapes as wholes
16. Observes and describes attributes of 3-D shapes, including parts of the shapes
17. Becomes familiar with mathematical vocabulary (e.g., face, edge) for describing 3-D shapes
18. Puts 3-D shapes together to make other shapes
19. Relates a 3-D shape to a 2-D representation of that shape
20. Observes similarities and differences between the faces of 3-D shapes
21. Matches a 3-D block to a 2-D outline of one of its faces

## Checklist of Mathematical Emphases for *How Many in All?*

| | Student's Name | Student's Name | Student's Name |
|---|---|---|---|
| **1** Counts a set of up to 20 objects accurately; demonstrates understanding of one-to-one correspondence; keeps track of the count, and double-checks the total | | | |
| **2** Compares two quantities up to 20 and can identify which quantity is more and which is less | | | |
| **3** Keeps track of the size of a growing collection of up to 15 objects | | | |
| **4** Records and represents quantities using pictures, numbers, and/or words | | | |
| **5** Repeats a nonstandard unit (e.g., a craft stick) to measure a length up to 3 units long | | | |
| **6** Records and represents measurements using pictures, numbers, and/or words | | | |
| **7** Describes and compares lengths (longer than, shorter than, the same as) | | | |
| **8** Describes and compares quantities (less, least, more, most, same, equal) | | | |
| **9** Describes the positions of objects and the spatial relationships among objects in an arrangement | | | |
| **10** Uses numbers to describe arrangements of objects and to record how many in all | | | |
| **11** Is familiar with number combinations totaling up to 6 | | | |
| **12** Makes sense of combining and separating stories by acting out and retelling the stories | | | |
| **13** Models number stories and number combinations using objects | | | |
| **14** Develops strategies for solving combining and separating stories | | | |
| **15** Finds the total of two quantities up to 12 | | | |
| **16** Records and represents problem solutions, strategies, and number combinations using pictures, numbers, and/or words | | | |
| **17** Recognizes that some problems have more than one solution each | | | |

*How Many in All?*