

■ Math in kindergarten focuses on developing an understanding of numbers. Based on national curriculum recommendations and reflecting Ohio Academic Content Standards, the following describes some of the central mathematical skills and understandings that students should acquire by the end of kindergarten.

## ■ Number and Operations – Represent Numbers

1. Count, read, and write numbers up to 30 and match them to sets of objects
2. Count orally to 100 by 1s and count to 30 by 2s and 5s
3. Compare and order numbers to 30 and describe them using phrases such as “more than” or “less than” (e.g., 6 is 1 more than 5)
4. Create, describe, and extend simple number patterns (e.g., 3, 4, 5,   ,   ,   , 9)
5. Represent story problems involving addition or subtraction situations using drawings, descriptions, and number sentences with numbers up to 10

## ■ Geometry – Shapes and Solids

6. Name, sort, and describe shapes (e.g., triangle, square, rectangle, and circle) by attributes and identify shapes that do not belong to a particular group (e.g., which shape is different from the others?)



7. Identify, name, and describe solid shapes (e.g., sphere, cone, cube, cylinder, rectangular prism) by attributes and relate them to familiar objects inside and outside the classroom
8. Create, describe, and extend simple geometric patterns

*(continued on inside)*

## Mathematics — Kindergarten (cont.)

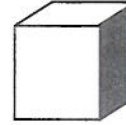
### ■ Measurement – Length, Weight and Time

9. Use length and weight to compare and order a set of two or more objects (e.g., the crayon is longer than the paper clip)
10. Know and use common words for parts of the day (e.g., morning, afternoon, evening, night), relative time (e.g., yesterday, tomorrow, last week, last year)
11. Use simple directions to integrate understanding of geometry, measurement, and number (e.g., “Walk forward 10 steps, turn right, and walk forward 5 steps.”)

## Glossary — Kindergarten

- **Attributes** – words that describe an object; characteristics such as size (e.g., length, number of sides, weight, capacity, time, shape, etc.)

- **Cube** – represented by a block; composed of six square faces, 8 corners (vertices), and 12 edges



- **Cone** – represented by a party hat






- **Cylinder** – represented by a soup can



- **Rectangular Prism** – represented by a cereal box



- **Simple Geometric Patterns** – patterns made from shapes that repeat in “units”

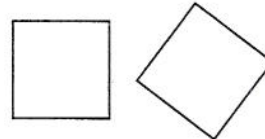
Example: The unit    is repeated 3 times in the following:



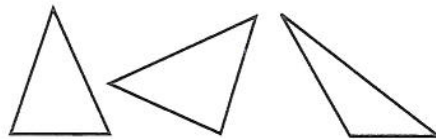
- **Sphere** - represented by a ball



- **Square** - a closed figure made with four straight line segments connected at the end points with all sides the same length and four corners



- **Triangle** - a closed figure made from three straight line segments connected at the end points; has three angles at the corners





## Tips and Activities for Parents

- Play number games and do mathematics activities with your child. When you empty a grocery bag, count the number of items or the number of apples in a bag. Count the number of steps from the door to a chair.
- Ask your child to find triangles and rectangles on signs and everyday objects.
- Ask your child questions like "Which object is bigger or smaller?" "Which person is taller or shorter?" "Which object is heavier?"
- Put things into groups. For example, when sorting laundry have your child put all the socks in one pile, all the shirts in one pile and all the pants in another pile. Sort and count the socks by color. For example, 4 red socks, 10 blue socks and 8 white socks.
- When taking a walk or while shopping, ask your child to point to objects that are the same shape, ones that are shaped like a cone or ones that are shaped like a square.
- Draw circles on paper. Write a numeral in each circle. Have your child place that number of small objects such as crayons or candies in each circle.

## Internet Resources for Kindergarten Math

This website provides math practice for kindergarten students including addition facts - an introduction and practice - number train, counting sets and subtraction.

<http://www.montgomeryschoolsmd.org/schools/takomaparkes/TPES%20BF%20Website/Kindergarten%20Websites.htm>

Parents can help to create virtual learning environments that engage students and help them visualize relationships and applications.

[www.wellesley.mec.edu/wes/pages/curriculum/Kcurr/KMath.htm](http://www.wellesley.mec.edu/wes/pages/curriculum/Kcurr/KMath.htm)

The contents of this website are intended to be used for the enhancement of instruction only and are especially helpful for parents who wish to help their young child with mathematics.

<http://www.picadome.fcps.net/lab/interactive/kindergarten.htm>

This site contains a large number of interactive mathematics activities and resources for the kindergarten students.

[www.pitt.edu/~poole/kindergarten.html](http://www.pitt.edu/~poole/kindergarten.html)

Math for Kids in Kindergarten, 1st Grade, 2nd Grade

[www.kids.aol.com/homework-help/junior/math](http://www.kids.aol.com/homework-help/junior/math)

Visit "Mathematics Counts & Science Matters" at [www.promse.msu.edu](http://www.promse.msu.edu)

Local Partner: SMART Consortium [www.smartconsortium.org](http://www.smartconsortium.org)

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"Mathematics Counts & Science Matters" provides parents of children in grades K-8 with helpful resources they can use to support their child's math learning. The content of this guide is based on grade-level recommendations from the National Council of Teachers of Mathematics, the National Mathematics Panel, and PROM/SE: Promoting Rigorous Outcomes in Mathematics and Science Education.

These recommendations may be more advanced than state guidelines. Mathematics Counts & Science Matters is developed by Michigan State University's PROM/SE (Promoting Rigorous Outcomes in Mathematics and Science Education).

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