



Critical Areas for COHERENCE in Mathematics in Kindergarten

More learning time in Kindergarten should be devoted to number than to other topics.

In Kindergarten, instructional time should focus on **three** critical areas:

1. **Representing and comparing whole numbers, initially with sets of object.**

Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals. Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes. Students understand “teen” numbers are ten ones and some more ones.

2. **Understanding addition as putting together and adding to, and subtraction as taking apart and taking from.**

Students begin to model simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 - 2 = 5$. (Kindergarten students should see addition and subtraction equations, and students writing of equations in kindergarten is encouraged, but it is **not** required.). Students apply effective strategies for counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away but are not expected to work above 10.

3. **Describing shapes and space.**

Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.