# Bermudian Springs Pennsylvania Core Standards
# Math Framework
# Kindergarten

# Introduction

Bermudian Springs School District, in partnership with all stakeholders, recognizes the importance of our students being able to use mathematics in everyday life and in the workplace. New knowledge, tools, and ways of solving math problems will significantly enhance opportunities for shaping our students future. Math competencies open doors to productive futures. All students should have the opportunity and support necessary to learn significant math with depth and understanding. Common Core has provided critical areas designed to bring focus to the standards at each grade by describing key concepts in order to guide instruction. The critical areas for instructional focus for kindergarten math outlined by the *Common Core* include the following two areas:

1. **Representing, relating, and operating on whole numbers, initially with sets of objects.** 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; and modeling 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 student writing of equations in Kindergarten is encouraged, but it is not required.) 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, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

2. **Describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.** 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.

**Adapted from: commoncore.org, 2013; parcconline.org, 2013; pdesas.org, 2013**

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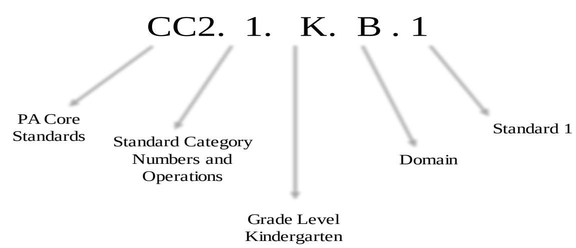
Standard Taxonomy



| 2.1 Number and Operations | |
|---|---|
| **Domain:** (A) Counting and Cardinality | |
| **Standard: CC.2.1.K.A.1** Know number names and write and recite the count sequence | |
| **Key Concepts** | **Key Vocabulary** |
| Names, writes and reads numbers | numbers, count, ones, tens |

**Competencies**
*Describe what students should be able to do (key skills) as a result of this instruction*

- read numbers 0-20 in random order
- write numbers 0-20 in sequential order
- order numbers 0-20
- orally count by 10s to 100
- write numbers 0-20 in random order
- orally count to 100
- names the number that comes before or after a given number to 10

| 2.1 Number and Operations | |
|---|---|
| **Domain:** (A) Counting and Cardinality | |
| **Standard:** **CC.2.1.K.A.2** Apply one-to one correspondence to count the number of objects. | |
| **Key Concepts** | **Key Vocabulary** |
| Counts objects | count, number, object |
| **Competencies**<br>*Describe what students should be able to do (key skills) as a result of this instruction* | |
| • count 20 objects<br>• count objects to answer number stories | |

| 2.1 Number and Operations | |
|---|---|
| **Domain:** (A) Counting and Cardinality | |
| **Standard: CC.2.1.K.A.3** Apply the concept of magnitude to compare numbers and quantities | |
| **Key Concepts** | **Key Vocabulary** |
| Compares groups of objects and numbers | bigger, smaller, greater than, less than, equal to, more, less |
| **Competencies**<br>*Describe what students should be able to do (key skills) as a result of this instruction* | |
| • compare groups of objects to 20<br>• compare numerals to 20 | |

| 2.2 Algebraic Concepts | |
|---|---|
| **Domain:** (A) Operations and Algebraic Thinking | |
| **Standard:** **CC.2.2.K.A.1** Extend the concepts of putting together and taking apart to add and subtract within 10. | |
| **Key Concepts** | **Key Vocabulary** |
| Addition to 10, subtraction to 10, composing and decomposing numbers to 10 | add, subtract, equal, taking away, number story, greater than, less than, equal to, plus, minus |
| **Competencies**<br>*Describe what students should be able to do (key skills) as a result of this instruction* | |
| • match numbers to tens frames<br>• divide numbers to 10 into two groups<br>• represent numbers 11-19 as ten plus some more<br>• represent addition and subtraction number stories with objects/drawings<br>• write an equation to represent teen numbers shown with tens frames as ten plus some more<br>• represent 11-19 with tens and ones<br>• represent equivalent names for numbers<br>• represent numbers 11-19 using an equation of ten plus some more | |

| 2.3 Geometry | |
|---|---|
| **Domain:** (A) Operations and Algebraic Thinking | |
| **Standard: CC.2.3.K.A.1** Identify and describe two- and three- dimensional shapes. | |
| **Key Concepts** | **Key Vocabulary** |
| Identify two and three dimensional shapes, explain their attributes | square, circle, rectangle, triangle, hexagon, cube, sphere, cone, cylinder, above, below, beside, in front of, behind, next to, flat, solid |

**Competencies**
*Describe what students should be able to do (key skills) as a result of this instruction*

- name triangle, circle, square, rectangle, hexagon
- Describe the attributes of triangle, circle, square, rectangle, hexagon
- Draw a triangle, circle, square, and rectangle,
- name a cube and sphere
- name a cone and cylinder

| 2.3 Geometry | |
|---|---|
| **Domain:** (A) Operations and Algebraic Thinking | |
| **Standard: CC.2.3.K.A.1** Identify and describe two- and three- dimensional shapes. | |
| **Key Concepts** | **Key Vocabulary** |
| Explore and compare two and three dimensional shapes, make two and three dimensional shapes | square, circle, rectangle, triangle, hexagon, cube, sphere, cone, cylinder |
| **Competencies**<br>*Describe what students should be able to do (key skills) as a result of this instruction* | |
| • Draw a triangle, circle, square, and rectangle,<br>• Compare the attributes of a cube and sphere | |

| 2.4 Measurement, Data and Probability | |
|---|---|
| **Domain:** (B) Measurement and Data | |
| **Standard: CC.2.4.K.A.1** Describe and compare attributes of length, area, weight, and capacity of everyday objects. | |
| **Key Concepts** | **Key Vocabulary** |
| Identify length, area, weight, and capacity of objects | attributes, length, area, weight, more of, less of, taller, shorter, longer, smaller, bigger, more, less, heavy, light |
| **Competencies**<br>*Describe what students should be able to do (key skills) as a result of this instruction* | |
| • Compare length of two objects<br>• Use nonstandard units to measure objects<br>• Use standard units to measure length<br>• Compares the weight of two objects<br>• Describe the length and weight of an object<br>• Compares the length and weight of two objects | |

| 2.4 Measurement, Data and Probability | |
|---|---|
| **Domain:** (B) Measurement and Data | |
| **Standard: CC.2.4.K.A.4** Classify objects and count the number of objects in each category. | |
| **Key Concepts** | **Key Vocabulary** |
| Sorts objects into groups, counts the objects in each group | count, number, sort |

**Competencies**

*Describe what students should be able to do (key skills) as a result of this instruction*

- Sort objects by a given rule
- Sort and describe according to color, shape, and size
- Sort and describe objects in more than one way