DELAWARE VALLEY SCHOOL DISTRICT

PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Mathematics

Grade Level: 1

Date of Board Approval: 2017

DELAWARE VALLEY SCHOOL DISTRICT

Planned Instruction

Title of Planned Instruction: Grade 1 Mathematics

Subject Area: Mathematics Grade(s): 1

Course Description:

The first grade math program is designed to allow students to build a foundation upon which to apply mathematical understanding to real world situations. Students actively participate in calculation of concepts. Students will demonstrate and apply concepts which include Problem Solving, Computation, Numbers and Operations in Base Ten, Operations and Algebraic Thinking, Geometry, and Measurement and Data.

Time/Credit for the Course:

Full Year

Curriculum Writing Committee:

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Curriculum Map

1. **Marking Period One**
   Addition Concepts (14 days)
   Subtraction Concepts (15 days)
   Addition Strategies (16 days)

2. **Marking Period Two**
   Subtraction Strategies (13 days)
   Addition and Subtraction Relationships (16 days)
   Count and Model Numbers (16 days)

3. **Marking Period Three**
   Compare Numbers (11 days)
   Measurement (15 days)
   Three-Dimensional Geometry (7 days)
   Two-Dimensional Geometry (12 days)

4. **Marking Period Four**
   Represent Data (9 days)
   Two-Digit Addition and Subtraction (16 days)
   Second Grade Booster (20 days)

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Curriculum Plan

Mathematical Standard Areas:

Algebraic Concepts

A) Operations and Algebraic Thinking

Addition Concepts
Subtraction Concepts
Addition Strategies
Subtraction Strategies
Addition and Subtraction Concepts

Standards Addressed: CC.2.2.1.A1, CC.2.2.1.A2

Link to Standards in SAS http://static.pdesas.org/content/documents/PA%20Core%20Standards%20Mathematics%20PreK-12%20March%202014.pdf

Goals:

- Students will represent and solve problems involving addition and subtraction within 20.
- Students will understand and apply properties of operations and the relationship between addition and subtraction.

Objectives:

Students will be able to:

- Use pictures and concrete objects and the strategy make a model to solve "adding to" and "putting together" addition problems. (DOK - Level 2)
- Understand, apply, and explore the Additive Identity Property for Addition and the Commutative Property of Addition. (DOK - Level 4)
- Model and record all the ways to put together numbers within 10. (DOK - Level 2)
- Build fluency for addition within 10. (DOK - Level 1)
- Use pictures and concrete objects and the strategy make a model to solve "taking from" and "taking apart" subtraction problems. (DOK - Level 2)
- Compare pictorial groups to understand subtraction. (DOK - Level 2)
- Identify how many are left when subtracting all or 0. (DOK - Level 1)
- Model and compare groups to show the meaning of subtraction. (DOK - Level 3)

- Model and record all of the ways to take apart numbers within 10. (DOK - Level 2)
- Build fluency for subtraction within 10. (DOK - Level 1)
- Understand and apply the Commutative Property of Addition for sums within 20. (DOK - Level 4)
- Use the following strategies to find sums within 20: count on 1, 2, or 3, doubles, doubles plus 1 and doubles minus 1, or make a ten. (DOK - Level 1)
- Use doubles to create equivalent but easier sums. (DOK - Level 4)
- Use a ten frame to add 10 and an addend less than 10. (DOK - Level 2)
- Understand and apply the Associative Property or Commutative Property of Addition to add three addends. (DOK - Level 4)
- Solve adding to and putting together situations using the strategy draw a picture. (DOK - Level 1)
- Use the following strategies to find differences within 20: count back 1, 2, or 3, use addition to subtract, or make a ten. (DOK - Level 3)
- Recall addition facts to subtract numbers within 20. (DOK - Level 1)
- Subtract by breaking apart to make a ten. (DOK - Level 2)
- Solve subtraction problem situations using the strategy act it out. (DOK - Level 4)
- Solve addition and subtraction problem situations using the strategy make a model. (DOK - Level 2)
- Identify and record related facts within 20 and use them to subtract. (DOK - Level 1)
- Apply the inverse relationship of addition and subtraction. (DOK - Level 4)
- Represent equivalent forms of numbers using sums and differences within 20. (DOK - Level 2)
- Determine if an equation is true or false. (DOK - Level 3)
- Add and subtract facts within 20 and demonstrate fluency for addition and subtraction within 10. (DOK - Level 1)

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Mathematical Standard Areas:

Numbers and Operations

B) Numbers in Operations in Base Ten

Count and Model Numbers
Compare Numbers

Standards Addressed: CC.2.1.1.B1, CC.2.1.1.B2

Link to Standards in SAS http://static.pdesas.org/content/documents/PA%20Core%20Standards%20Mathematics%20PreK-12%20March%202014.pdf

Goals:

- Students will extend the counting sequence to read and write numerals to represent objects.
- Students use place-value concepts to represent amounts of tens and ones and to compare two digit numbers.

Objectives:

Students will be able to:

- Use models and write to represent equivalent forms of ten and ones through 120. (DOK Level 2)
- Use objects, pictures, and numbers to represent numbers (or quantities) to 100. (DOK Level 2)
- Solve problems using the strategy make a model. (DOK Level 4)
- Count, read, and write numerals to represent a number of 100 to 120 objects. (DOK Level 1)
- Model and compare two-digit numbers using symbols. (DOK Level 3)
- Solve problems using the strategy make a model. (DOK Level 4)
- Identify numbers that are 10 less or 10 more than a given number. (DOK Level 1)

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Mathematical Standard Areas:

Measurement, Data, and Probability

A) Measurement and Data

Measurement

Standards Addressed: CC.2.4.1.A.1, CC.2.4.1.A.2

Link to Standards in SAS http://static.pdesas.org/content/documents/PA%20Core%20Standards%20Mathematics%20PreK-12%20March%202014.pdf

Goals:

- Students will order lengths and measure them both indirectly and by repeating length units.
- Students will tell and write time to the nearest half hour using both analog and digital clocks.

Objectives:

Students will be able to:

- Order objects by length. (DOK Level 3)
- Use the Transitivity Principle to measure indirectly. (DOK Level 3)
- Make a nonstandard measuring tool to measure length. (DOK Level 4)
- Solve measurement problems using the strategy act it out. (DOK Level 4)
- Tell times and write times to the hour and half hour. (DOK Level 1)

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Mathematical Standard Areas:
Geometry

Three-Dimensional Geometry
Two-Dimensional Geometry

Standards Addressed: CC.2.3.1.A.1, CC.2.3.1.A.2
Link to Standards in SAS http://static.pdesas.org/content/documents/PA%20Core%20Standards%20Mathematics%20PreK-12%20March%202014.pdf

Goals:

- Students will compose and distinguish between two- and three-dimensional shapes based on their attributes.
- Students will use the understanding of fractions to partition shapes into halves and quarters.

Objectives:

Students will be able to:

- Identify and describe three-dimensional shapes according to defining attributes. (DOK Level 1)
- Compose a new shape by combining three-dimensional shapes. (DOK Level 4)
- Use composite three-dimensional shapes to build new shapes. (DOK Level 4)
- Identify three-dimensional shapes used to build a composite shape using the strategy act it out. (DOK Level 4)
- Identify two-dimensional shapes on three-dimensional shapes. (DOK Level 1)
- Describe attributes of two-dimensional shapes and use defining attributes to sort shapes. (DOK Level 2)
- Compose a new shape by combining two-dimensional shapes. (DOK Level 4)

- Make new shapes from composite two-dimensional shapes using the strategy act it out. (DOK Level 4)
- Decompose combined shapes into shapes. (DOK Level 2)
- Identify equal and unequal parts (or shares) in two-dimensional shapes. (DOK Level 1)
- Partition circles and rectangles into two or four equal shares. (DOK Level 2)

Mathematical Standard Areas:

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Measurement, Data, and Probability

A) Measurement and Data

Represent Data

Standards Addressed: CC.2.4.1.A.4

Link to Standards in SAS http://static.pdesas.org/content/documents/PA%20Core%20Standards%20Mathematics%20PreK-12%20March%202014.pdf

Goals:

- Students will represent and interpret data using tables/charts.

Objectives:

Students will be able to:

- Analyze and compare data shown in a picture graph where each symbol represents one.

  (DOK Level 4)

- Make a picture graph. (DOK Level 4)
- Analyze and compare data shown in a bar graph or a tally chart. (DOK Level 4)
- Make a bar graph or a tally chart. (DOK Level 4)
- Solve problem situations using the strategy make a graph. (DOK Level 3)

Mathematical Standard Areas:

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Numbers and Operations

B) Numbers and Operations in Base Ten

Two-Digit Addition and Subtraction

Standards Addressed: CC.2.1.1.B.3

Link to Standards in SAS http://static.pdesas.org/content/documents/PA%20Core%20Standards%20Mathematics%20PreK-12%20March%202014.pdf

Goals:

- Students will use place-value concepts and properties of operations to add and subtract within 100.

Objectives:

Students will be able to:

- Add and subtract within 20. (DOK Level 2)
- Use and draw models and manipulatives to add two-digit numbers. (DOK Level 1)
- Solve and explain two-digit addition word problems using the strategy draw a picture.

  (DOK Level 4)

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Second Grade Booster

Numbers and Operations

- Ways to Expand Numbers
- Identify Place Value
- Use Place Value to Compare Numbers

Algebraic Concepts

- Add Three Numbers
- Add a One-Digit Number to a Two-Digit Number
- Add Two-Digit Numbers

Measurement, Data, and Probability

- Time to the Hour and Half Hour

Geometry

- Identify Shapes

Assessments: See District Assessment Plan
Teacher Observations,
Anecdotal Records,
STAR Math,
Checklists, Flashcards,
Timed Drills,
Projects,
Core Program Assessments

Extensions:
Ready to Use Readers,
Games,
Math Center Activities,
Math Journals,
Mathseeds,
Core Program Resources,
Projects

Correctives:
Manipulatives,
Flashcards,
Number Line,
Core Program Resources,

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Hundred Chart

Materials and Resources:

Pattern Blocks,
Dot Cubes,
Ten Frames,
Connecting Cubes,
Number Line,
Hundred Chart,
Counters,
Clock,
Gynzy,
Mathseeds,
Core Program Resources