DELAWARE VALLEY SCHOOL DISTRICT

PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Mathematics

Grade Level: 2

Date of Board Approval: 2017

DELAWARE VALLEY SCHOOL DISTRICT

Planned Instruction

Title of Planned Instruction: Grade 2 Mathematics

Subject Area: Mathematics **Grade(s):** 2

Course Description: The following is the district's plan for the implementation of key instruction of PA Core Standards for mathematics. The focus is on number concepts, numbers to 1,000, basic facts and relationships, 2-digit addition and subtraction, money, time, length using customary units, geometry, fraction concepts, data, and 3-digit addition and subtraction.

Time/Credit for the Course: Full Course 1 year

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Curriculum Map

1. **Marking Period One**

Number Concepts (16 days)
Numbers to 1,000 (20 days)
Basic Facts & Relationships (9 days)

2. **Marking Period Two**

Basic Facts & Relationships Continued (10 days)
2-digit Addition (20 days)
2-digit Subtraction (15 days)

3. **Marking Period Three**

2-digit Subtraction Continued (4 days)
Money & Time (11 days)
Length in Customary Units (15 days)
Geometry and Fraction Concepts (11 days)
Data (4 days)

4. **Marking Period Four**

Data Continued (2 days)
3-digit Addition & Subtraction (17 days)
Getting Ready for Third Grade (26 days)

- equal groups of 2
- equal groups of 5
- equal groups of 10
- hour before and hour after
- fraction models: thirds and sixths
- fraction models: fourths and eighths
- compare fraction models

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Curriculum Plan

Mathematical Standard Areas: Number and Operations

-Numbers and operations in Base Ten

Algebraic Concepts

-Operations and algebraic thinking

-Expressions and equations

Standards Addressed: CC.2.1.2. B.1, CC2.1.2. B.2,

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

Goals:

Students will understand even and odd numbers
Students will skip count by 5's 10's and 100's
Students will understand that each of the digits in a number represent amounts of ones, tens, and hundreds
Students will read, and write numbers using base-ten numerals, word form, expanded form Students will use place value to determine which number would come before or after a given number
Students will compare numbers using place value to determine which number has a greater/lesser value
Students will compare numbers using correct symbols

Objectives:

Students will be able to:

- Identify the value of a number based on what place it holds (DOK Level-1)
- Tell numbers to 1,000 using base ten numbers, word form, and expanded form (DOK Level-1)
- Differentiate that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. (DOK Level-3)
- Mentally add or subtract 10 or 100 to a given number 100-900 (DOK Level-2)
- Recall the number before or after a given number DOK Level-1)
- Compare numbers based on their value from least to greatest or greatest to least (DOK Level-2)
- Write an expression to compare two numbers using the correct symbol based on their meanings (DOK – Level-3)
- Differentiate whether a group of objects is an odd or even number. (DOK Level-3)

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Curriculum Plan

Mathematical Standard Areas: Numbers and Operations,

- Counting and cardinality
- Numbers and operations in base ten

Algebraic Concepts

Standards Addressed: CC.2.2.2. A.1, CC.2.2.2. A.2, CC.2.2.2. A3, CC.2.1.2. B.1, CC.2.1.2. B.2, CC.2.1.2B3

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

Goals:
Students will add and subtract fluently within 20
Students will use addition within 20 to solve one- and two- step word problems involving situations of adding to, putting together, and comparing with unknowns in all positions.
Students will use subtraction within 20 to solve one- and two- step word problems involving situations of taking apart, taking from, and comparing with unknowns in all positions.
Students will employ different strategies to find sums and differences of 2 1-digit numbers.
Students will determine if order is important when adding or subtracting
Students will use the relationship between addition and subtraction to find missing numbers in all positions
Students will use mental math when adding and subtracting
Students will understand that each of the digits in a number represent amounts of ones, tens, and hundreds
Students will read, and write numbers using base-ten numerals, word form
Students will use place value to determine which number would come before or after a given number
Students will compare numbers using place value to determine which number has a greater/lesser value
Students will use correct symbols when comparing numbers
Students will fluently use addition within 100 to solve one- and two- step word problems involving situations of adding to, putting together, and comparing with unknowns in all positions
Students will use subtraction within 100 to solve one- and two- step word problems involving situations of taking apart, taking from, and comparing with unknowns in all positions
Students will employ different strategies to find sums and differences of 2 2-digit numbers
Students will use mental math when adding and subtracting
Students will add up to 4 2-digit numbers

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Objectives:

Students will be able to:

- Connect content vocabulary when appropriate (DOK Level 4)
- Apply tools (number lines, 100's charts, and other manipulatives) to develop a foundation of addition and subtraction (DOK Level 4)
- Recall addition and subtraction facts within 20 (DOK Level 1)
- Construct models to represent addition and subtraction expressions (DOK- Level 2)
- Interpret the representation of models for addition and subtraction expressions (DOK Level 2)
- Apply known combinations to add 2 or more combinations and tell whether order is important when combining addends (DOK Level 4)
- Apply known combinations to subtract 2 numbers and tell whether the order the numbers are subtracted is important to finding a correct solution (DOK Level 4)
- Connect mental strategies when adding and subtracting numbers within 20 (DOK Level 4)
- Create strategies that can be used to formulate addition and subtraction number sentences to solve stories about joining and separating (DOK Level 4)
- Summarize the strategies they used to solve addition and subtraction problems and will compare them with the strategies of others (DOK Level 2)
- Connect subtraction facts to addition facts (DOK Level 4)
- Create an expression to represent any number (DOK Level 4)
- Analyze the value of a number based on what place it holds (DOK Level-4)
- Identify numbers to 100 using base ten numbers and word form (DOK Level-2)
- Compare the number before or after a given number DOK Level-3)
- Compare numbers based on their value from least to greatest or greatest to least (DOK Level-3)
- Create an expression to compare two numbers using the correct symbol DOK Level-4)
- Apply tools such as number lines, 100s charts, and other manipulatives to develop an understanding of adding or subtracting 2 2-digit numbers (DOK Level-4)
- Construct models to represent addition and subtraction expressions involving 2 2-digit numbers (DOK- Level 2)
- Interpret the representation of models for addition and subtraction expressions involving two 2-digit numbers (DOK Level- 2)
- Apply mental strategies when adding and subtracting numbers involving two 2-digit numbers (DOK Level -4)
- Create strategies that can be used to formulate addition and subtraction number sentences to solve stories about joining and separating (DOK Level -4)
- Summarize the strategies they used to solve addition and subtraction problems and will compare them with the strategies of others (DOK Level -2)
- Compare strategies used to add and subtract 2 2-digit numbers with the strategies of others (DOK Level -2)

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Curriculum Plan

Mathematical Standard Areas: Measurement, Data, and Probability (Money)

-Measurement and data

Standards Addressed: CC.2.4.2.A.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 the appropriate signs when representing money
Students will name and identify the value of coins and paper currency
Students will solve addition and subtraction problems involving money
Students will solve addition and subtraction word problems involving money
Students will count collections of coins
Students will show amounts in multiple ways

Objectives:

Students will be able to:

- Identify coins by their names and values (DOK Level-1)
- Calculate the value of a group of coins and paper currency (DOK Level-1)
- Compare different coin equivalencies (DOK Level-3)
- Distinguish correct sign when writing money (DOK Level-2)
- Apply concepts to construct solutions to story problems involving adding and subtracting money (DOK Level-4)

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Curriculum Plan

Mathematical Standard Areas: Measurement, Data, and Probability (Time)

-Measurement and data

Standards Addressed: CC.2.4.2. 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 associate analog time with digital time
Students will read time to 5 minutes
Students will associate AM and PM with designated periods of time

Objectives:

Students will be able to:

- Name, tell, and notate time to five minutes (DOK Level-1)
- Tell the number of minutes in an hour, half hour and quarter hour (DOK Level-1)
- Tell time to 5 minutes (DOK Level- 1)
- Connect, apply, and relate skip counting and content vocabulary (DOK Level 4)
- Distinguish whether an event occurs in the AM or the PM part of the day (DOK Level-2)
- Compare analog time to digital time (DOK Level-2)

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Curriculum Plan

Mathematical Standard Areas: Measurement, Data, and Probability (Length in Customary Unit)
-measurement and data

Standards Addressed: CC.2.4.2. A.1, CC.2.4.2. A.4, CC.2.4.2. A.6

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

Goals:

Students will identify the tools used to measure length
Students will estimate and measure lengths of objects using non-standard and standard units of measure
Students will compare the lengths of objects using standard units of measurement
Students will add and subtract in inches Students will use line plots to display measurement data

Objectives:

Students will be able to:

- Estimate the length of an object (DOK Level -2)
- Investigate and measure length in non-standard and standard units of measure (DOK Level-1, Level -3)
- Measure and analyze the same object more than once using two different units of measure (DOK Level-1, Level -4)
- Calculate the solution to word problems involving lengths with the same unit of measure (DOK Level-1)
- Analyze the lengths of objects (DOK Level-4)
- Collect and display data of objects measured using a line plot (DOK Level -2)

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Curriculum Plan

Mathematical Standard Areas: Geometry

-Geometry

Standards Addressed: CC.2.3.2. A.1

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

Goals:

Students will analyze 2-D and 3-D shapes and identify them by their attributes
Students will identify angles within shapes
Students will build 2-D and 3-D shapes

Objectives:

Students will be able to:

- Identify, sort, and name 2-D shapes based on the number of sides the shape has (DOK Level- 1)
- Identify, sort, and name 3-D shapes based on their attributes (DOK Level-1)
- Match 3-D shapes with the plane shape used to make its face (DOK Level-1)
- Identify angles within shapes (DOK Level-1)
- Compare different 2-D and 3-D shapes based on their attributes (DOK 3)
- Construct 2-D and 3-D shapes based on specified attributes (DOK 3)

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Curriculum Plan

Mathematical Standard Areas: Geometry

-Fractions

Standards Addressed: CC.2.3.2. 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 recognize wholes and equal parts of shapes
Students will match a fraction with its name and numerical representation
Students will divide shapes into halves, thirds and fourths
Students will divide a shape into a fraction in more than one way for the same fraction
Students will describe equal parts of shapes

Objectives:

Students will be able to:

- Draw fraction representations for halves, thirds and fourths (DOK Level- 1)
- Use the correct terminology when identifying a fractional representation (DOK Level- 1)
- Match fractions with the correct numerical representation (DOK Level-1)
- Show how a given fraction can be made in different ways with the same shape (DOK Level-2)
- Partition circles and rectangles into two, three, or four equal shares. (DOK Level-2)

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Curriculum Plan

Mathematical Standard Areas: Measurement, Data, and Probability

-Measurement and Data

Standards Addressed: CC.2.4.2. 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 gather data
Students will read picture graphs
Students will organize data into tally charts and graphs
Students will describe data
Students will analyze and compare data

Objectives:

Students will be able to:

- Collect data (DOK Level- 2)
- Compare data found on a graph (DOK Level-3)
- Create a line plot, pictograph and bar graph to represent data (DOK Level-4)
- Summarize information found on a graph (DOK Level-2)

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Curriculum Plan

Mathematical Standard Areas: Numbers and Operations

-numbers and operations in base ten

Standards Addressed: CC.2.1.2. 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 develop strategies for adding and subtracting numbers up to 1000 Students will use mental math with multiples of 10 and 100 when adding and subtracting Students will relate and explain strategies for adding and subtracting

Objectives:

Students will be able to:

- Construct strategies for adding and subtracting 3-digit numbers (DOK Level-3)
- Use mental math when adding and subtracting 3-digit numbers (DOK Level-1)
- Use concrete regrouping strategies (DOK Level-2)
- Show and share the strategies they have developed for adding and subtracting (DOK Level-2)
- Construct equivalent expressions for a number (DOK Level-2)

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Assessments:

- See District Assessment Plan
- Core program assessments
- Math fact fluency
- STAR

Extensions:

- Core program resources
- FASTT Math
- Xtra Math
- Math Seeds
- Rocket Math

Correctives:

- Core program resources
- FASTT Math
- Xtra Math
- Math Seeds
- Rocket Math

Materials and Resources:

- Core program resources
- FASTT Math
- Xtra Math
- Math Seeds
- Rocket Math
- SMART Exchange