

PETERS TOWNSHIP SCHOOL DISTRICT

CORE BODY OF KNOWLEDGE

MATHEMATICS

KINDERGARTEN

For each of the sections that follow, students may be required to understand, apply, analyze, evaluate or create the particular concepts being taught.

COURSE DESCRIPTION: This course will include the study of counting and cardinality, operations and algebraic thinking, number and operations in base ten, measurement and data.

STUDY SKILLS:

- Use of technology in classroom activities
- Complete assignments on homework calendars
- Practice Mathematical concepts
- Participate in class
- Acquire new vocabulary
- Ask for help when needed
- Work independently

Counting and Cardinality

1. Numbers 1-5
 - Know number names and the count sequence
 - Count to tell the number of objects
 - Writing Numbers
2. Comparing and Ordering Numbers 0-5
 - Know number names and the count sequence
 - Count to tell the number of objects
 - Compare numbers
 - Writing Numbers
3. Numbers 6-10
 - Know number names and the count sequence
 - Count to tell the number of objects
 - Writing Numbers
4. Comparing and Ordering Numbers 0-10
 - Know number names and the count sequence
 - Count to tell the number of objects
 - Compare numbers
 - Writing Numbers

5. Numbers to 20

- Know number names and the count sequence
- Count to tell the number of objects
- Writing Numbers

6. Numbers to 100

- Know number names and the count sequence
- Count to tell the number of objects
- Writing Numbers

Operations and Algebraic Thinking

1. Addition

- Understand addition as putting together and adding to
- Complete mathematical problems in joining groups
- Writing addition sentences

2. Subtraction

- Understand subtraction as taking apart and taking away from
- Complete mathematical problems in removing from groups
- Writing subtraction sentences

3. Addition and Subtraction

- Choosing to use addition or subtraction based on the information in the problem
- Solving addition and subtraction problems
- Writing number operation sentences

Number and Operations in Base Ten

1. Composing Numbers 11 to 19

- Work with numbers 11 to 19 to gain foundations for place value
- Represent numbers 11-19 as the sum of 10 and some more

2. Decomposing Numbers 11 to 19

- Work with numbers 11 to 19 to gain foundations for place value
- Show more than one way to make a number
- Numbers 11 to 10 can be decomposed as the sum of 10 and some ones (for example 12 is decomposed $10 + 2$)

Measurement and Data

1. Measurement
 - Describe objects by more than one attribute
 - Compare objects by length, height, capacities and weight
2. Sorting, Classifying, Counting and Categorizing Data
 - Sort objects by one attribute
 - Sort objects by more than one attribute
 - Categorize attributes into graphs

Geometry

1. Identifying and Describing Shapes
 - Identify and describe squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders and spheres
2. Position and Location of Shapes
 - Describe position of objects using the following terms: inside, outside, above, below, on, in front of, behind, left and right
3. Analyzing, Comparing and Composing Shapes
 - Create 2-D shapes
 - Make shapes from other shapes
 - Compare solid figures
 - Build with solid figures

Problem Solving

1. Use problem solving skills throughout the daily concepts of the mathematical units
 - Use objects to act out the actions in a problem
 - Patterns have a predictable and countable change from one part to the next
 - Problems can be solved by reasoning conditions in the problem
 - Problems can be solved by identifying elements that repeat in a predictable way
 - Information in a problem can be shown in a picture or diagram to understand and solve the problem
 - Sometimes problems can be solved by making, reading and analyzing a graph
 - Data can be collected and represented using different types of graphs
 - Graphs can be used to answer questions

MATERIALS:

- Pearson Realize envision Math