Course Description
In Grade 1, instructional time focuses on four critical areas: (1) addition and subtraction strategies within 20; (2) whole number relationships and place value; (3) meaning and processes of linear measurement, data; and (4) attributes of geometric shapes.

Scope And Sequence

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Course Rationale
In alignment with Common Core State Standards, the Park Hill School District's Mathematics courses provide students with a solid foundation in number sense while building to the application of more demanding math concepts and procedures. The courses focus on procedural skills and conceptual understandings to ensure coherence and depth in mathematical practices and application to real world issues and challenges.

Enduring Understandings
Understanding numerical expressions builds the relationship between numbers.
Extending an understanding of Base 10 notation is the basis for our number system.
Measurement describes the attributes of objects and events.
Representing and interpreting data helps us analyze information and develop critical thinking skills.
Describing and analyzing objects develop a foundation for understanding our physical environment.

Key Resources
Pearson Envision

Board Approval Date
January 10, 2013

Course Details

Unit: Operations and Algebraic Thinking
Duration: 12 Week(s)

Unit Overview
The student will understand and apply addition and subtraction strategies and recognize how they relate to one another.

Enduring Understandings
• Two numbers can be added in any order.
• Addition and subtraction are related/inverse operations.
• Various strategies can be used to quickly add numbers.
• Strategies can be used to decompose complex problems to make them easier (counting on, make a ten, near ten, double, doubles +1)
• The equal sign is used to represent quantities that have the same value.
• Word problems have basic problem solving structures: adding to, taking from, putting together, taking apart and comparing.
• Numbers can be grouped in different ways to solve word problems with three addends.

Essential Questions
• Why are the properties important in solving problems?
• What is the relationship of addition to subtraction?
• Why is it important to add and subtract quickly?
• Why is it important to know multiple strategies in solving addition and subtraction problems?
• What is the purpose of the equal sign?
• How can the structure of a word problem or equation help us to solve it?

Topic: Properties of Addition and Subtraction
Duration: Ongoing

Description
Students will apply strategies to add and subtract.

Learning Targets
1st Grade Mathematics
Mathematics CC

The student will apply properties of operations as strategies to add and subtract for sums to 20.

- If 8+3=11 is known, then 3+8=11 is also known (Commutative Property of Addition)
- To add 2+6+4, the second two numbers can be added to make a ten, so 2+6+4=2+10=12 (Associative Property of Addition)

The student will understand subtraction as an unknown-addend problem for sums to 20.

- Subtract 10-8 by finding the number that makes 10 when added to 8.

**Topic:** Fluent Computation to Add and Subtract  
**Duration:** Ongoing

**Description**
Students will use strategies to develop fluency in solving addition and subtraction problems.

**Learning Targets**
- The student will demonstrate fluency for addition and subtraction within 10.
  - Fluency needs accuracy (correct answers), efficiency (within 4-5 seconds), and flexibility (using strategies such as making 5 or 10).
- The student will determine the unknown whole number in addition or subtraction equations relating to three whole numbers.
  - Determine the unknown number that makes the equation true in each of the equations 8+?=11, 5=?-3

**Topic:** Represent and Solve Problems  
**Duration:** Ongoing

**Description**
Students use addition and subtraction to solve word problems.

**Learning Targets**
- The student will use addition and subtraction within 20 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns as the change or difference.
  - Using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- The student will solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.
  - Using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**Unit:** Number and Operations in Base Ten  
**Duration:** 9 Week(s)

**Unit Overview**
The student will understand numbers, ways of representing numbers, relationships among numbers and the Base Ten number system.

**Enduring Understandings**
- A unit of 10 is made of 10 ones.
- Two-digit numbers are composed of units of tens and some ones.
- Numbers can be represented in different ways to demonstrate tens and ones in a two digit number.
- The decade numbers are built on groups of ten. The oral names are similar, but not the same as the number of tens counted.
- The meaning of the comparison symbols (<, >, =)

- Numbers are used to show how many objects are in a group.
- There is an order for saying and writing numbers.
- Numbers can be represented in different ways to demonstrate tens and ones in a two digit number.
- Two digit numbers are composed of units of tens and some ones.

- Identification of 10 more/10 less is the same as adding or subtracting ten.
- Addition can be used to solve subtraction.
- Decomposing numbers so that the numbers can be recombined for a 10 or group of ten, and some more.

**Essential Questions**
- What is significant about the teen numbers?
- How can the numbers to 100 be compared and ordered?

- Why are numbers important?
- What number patterns are there when counting to 120?
- How can the numbers 10 and higher be shown, counted, read, and written?

- What are ways to add with tens and ones?
- What are ways to subtract two-digit numbers?
- How does using objects and drawings help me represent problems in multiple ways?

**Topic:** Place Value  
**Duration:** 0 Day(s)
1st Grade Mathematics
Mathematics CC

Description
Students will understand place value using tens and ones.

Learning Targets
The student will understand that the two digits of a 2-digit number represent amounts of tens and ones.
The student will demonstrate the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Topic: Extend the Counting Sequence
Duration: 0 Day(s)

Description
Students will read and write whole numbers to 120.

Learning Targets
The student will read and write whole numbers up to 120 in numerical form.
The student will represent a number of objects up to 120 with a written numeral.

Topic: Place Value Strategies to Add and Subtract
Duration: 0 Day(s)

Description
Students will add and subtract two-digit numbers.

Learning Targets
The student will add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
The student will mentally find 10 more or 10 less when given a two-digit number, without having to count and explain the reasoning used.

Unit: Geometry
Duration: 4 Week(s)

Unit Overview
The student will understand characteristics and properties of two- and three- dimensional shapes and demonstrate the ability to represent halves, fourths and quarters.

Enduring Understandings
• Shapes are all around our world and can be put together or taken apart to form other shapes.
• Objects can be sorted, described or built based on certain attributes.
• A region can be divided into equal-sized parts in different ways.
• Decomposing into more equal shares creates smaller shares.

Essential Questions
How can we tell one shape from another?
What two-dimensional and three dimensional shapes can we find around us?
How can I break a shape into smaller parts or use smaller shapes to make a new shape?
What does it mean to have part of a whole?

• How can fractions be used to name a part of a whole object?

Topic: Compose Shapes
Duration: 0 Day(s)

Description
Students will compose two-dimensional and three-dimensional shapes from composite shapes.

Learning Targets
The student will compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
# Fractions of Shapes

**Description**
Students will model and label the fractions 1/2 and 1/4.

**Learning Targets**
The student will partition circles and rectangles into two and four equal shares. Describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of.

## Measurement and Data

**Unit Overview**
The student will understand objects have measurable attributes and that appropriate techniques, and tools, are used to determine measurement. Students will understand how to collect, organize, display and analyze data to answer a question.

**Enduring Understandings**
- Time is measured in hours and minutes and can be shown on different kinds of clocks.
- The hour hand tells the hour, and the minute hand tells the number of minutes after the hour.

**Essential Questions**
- How is time measured?
- How can clocks and schedules be read and used?

### Time

**Description**
Students will tell time to the hour and half hour.

**Learning Targets**
The student will tell and write time in hours and half-hours using analog and digital clocks.

The student will draw the hands on an analog clock to show given times to the half-hour.

### Money

**Description**
Students will identify and give the value of coins.

**Learning Targets**
The student will state the value of each of the coins (penny, nickel, dime and quarter).

### Linear Measurement

**Description**
Students will determine length using nonstandard units of measurement.

**Learning Targets**
The student will express the length of an object as a whole number of length units; by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.

### Represent and Interpret Data

**Description**
The student will represent and interpret data.

**Learning Targets**
The student will represent and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.