-Mathematics-

- **Use place value to represent alternative forms of expressing whole number less than one hundred.**

Initial Understanding

Identify numbers (<100) from pictures of bean sticks or base ten materials and vice versa

Developing an Interpretation

Use place value concepts to interpret the meaning of numbers.

Making Connections

Identify alternative forms of expressing whole numbers (< 100) using expanded notation

Identify alternative forms of expressing whole numbers (<100) by regrouping using pictures of bean sticks or base ten materials

- **Use whole numbers and unit fractions to compare, order, and round.**

Initial Understanding

Identify points representing whole numbers on a number line and vice versa

Match unit fractions with pictorial representations of unit fractions (1/2, 1/3,1/4, 1/6)

Developing an Interpretation

Identify a number larger or smaller than a given set of numbers less than 100

Order whole numbers less than 100

Making Connections

Solve problems involving 1 or 2 more/ less than a given number.

- **Develop strategies to add and subtract one and two digit numbers.**

Initial Understanding

Use objects to find addition facts to 18

Use objects to find subtraction facts to 18

Developing an Interpretation

Use bean sticks or other base ten materials to add 1 and 2 digit numbers with and without regrouping

Identify or write the appropriate operation or number sentence to solve a story problem

Write a story problem that matches a given addition or subtraction number sentence

Making Connections

Match addition or subtraction number facts sentences with pictures

Solve simple story problems involving addition and subtraction facts using counters or other objects

Solve extended numerical problems

- **Extend patterns and identify or state the rule for a given pattern.**

Developing an Interpretation

Extend or complete patterns involving whole numbers and attributes and identify or state rules for given patterns

Making Connections

Identify objects that are the same or different by one attribute

Sort objects into two groups by a common attribute

Critical Stance

Identify or state rules for given patterns

- **Use data to analyze or create simple tables, charts or graphs**

Developing an Interpretation

Identify correct information from tables, graphs, and charts

Create simple bar graphs and pictographs from data in tables and charts

Making Connections

Solve extended statistical problems

- **Use money, tell time, measure length, and draw geometric shapes**.

Initial Understanding

Tell time to the nearest hour and half hour analog and digital clocks

Determine the value of a set of coins less than $1.00 (pennies, nickels, and dimes)

Measure lengths using nonstandard units

Identify and draw simple geometric figures (circle, square, triangle, and rectangle)

Developing an Interpretation

Estimate a reasonable answer to a problem

Estimate lengths using nonstandard units

Making Connections

Identify an appropriate customary or metric unit (inch, ft., m, cm.) for a given situation

Critical Stance

In Mathematics justifying, proving, or explaining a conjecture or answer is connected to the learning environment. Students are encouraged and expected to question each others' ideas, and to explain and support their own ideas against challenges. Each objective in mathematics can be framed to have students defend support, explain, or prove their answer. Educational research offers compelling evidence that student learn mathematics well only when they construct their own mathematical understandings. To understand what they learn, students must enact for themselves verbs that permeate the mathematics curriculum: "examine," "represent," "transform," "solve," "apply," and "prove."