

-Mathematics-

- **Use numbers and objects to count, measure, compare, and order**

Initial Understandings

- Recognize numerals 0 - 10; match to set
- Order sets of objects 1 - 5 from least to greatest and greatest to least
- Count objects to 10
- Rote count to 31
- Manipulate a computer mouse to select and order items on the screen.
- Identify numerals on the calculator keys and screen. Use the clear key, iterator key (=), and counting on key (+)

Developing an Interpretation

- Visually compare and estimate two sets of counters in similar arrangements which set is more/less for numbers < 10
- Student will group sets of objects < 10 into equal groupings and verbalize the number of groups
- Identify ordinal position: 1st through 5th

Making Connections

- Model and discuss parts of a whole, parts of a set and its relationship to $1/2$

- **Discover, analyze, and create patterns**

Initial Understandings

- Recognize and create simple AB patterns

Developing and Interpretation

- Construct graphs using concrete objects
- Discuss relationships of data using vocabulary to interpret data: more/less, equal, most/least/fewest

- **Classify, order, and compare collections by attributes**

Initial Understandings

- Identify and explain similarities and differences by one attribute (size, color, and shape)

- **Recognize money, calendar, time, linear measurement, and geometric shapes**

Initial Understanding

- Using a monthly calendar, identify a numeral that follows a given numeral
- Identify coins: penny and nickel
- Estimate length using nonstandard units
- Identify simple polygons: square, circle, triangle, and rectangle

- **Demonstrate conservation of sets, numbers, and volume**

Developing an Interpretation

- Recognize that a number remains the same quantity regardless of its arrangement

Making Connections

- Investigate conservation of volume (i.e. which container holds more water, rice, beans, etc.)

- **Develop mathematics vocabulary to compare, interpret, and sequence**

Developing an Interpretation

- Explore, discuss, and model both physical and pictorial applications of terms of comparison such as more/less, longer/shorter, taller/shorter, heavier/lighter, hotter/colder, and before/after.

Making Connections

- Discuss if an event is likely or unlikely to occur.

Taking a 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 one another's ideas and to explain and support their own ideas in the face of others' challenges. Each objective in mathematics can be framed to have students defend, support, explain, or prove their answer. Educational research offers compelling evidence that students 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," "prove."