

## **-Mathematics-**

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

### Initial Understanding

Relate pictorial representations using base ten blocks to whole numbers and vice versa.

### Developing an Interpretation

Solve problems involving 1 and 10 more or less

Use place value concepts to interpret the meaning of numbers

Identify alternative forms of expressing whole numbers using regrouping

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

Identify alternative forms of expressing whole numbers using expanded notation

### Making Connections

Round whole numbers in a context

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

### Developing an Interpretation

Order whole numbers

Describe the magnitude of whole numbers

Identify, label or shade fractional parts of regions or sets

- **Develop estimation strategies**

### Developing an Interpretation

Estimate a reasonable answer to a problem

Identify the best expression to find an estimate

Estimate lengths and areas (standard)

Estimate lengths and areas (metric)

### Making Connections

Determine a reasonable estimate.

### Critical Stance

Describe and defend strategy used to make an estimate

Use estimation to make and defend a decision

- **Develop strategies, to add, subtract, multiply, and divide numbers**

### Initial Understanding

Add and subtract facts to 18

Add and subtract 1 and 2 digit numbers without regrouping

Multiply and divide by 2, 5, and 10

### Developing an Interpretation

Identify or write the appropriate operation or number sentence to solve story problems

Write story problems from add/subtract number sentences

Solve simple story problems involving addition and subtraction

Relate multiplication and division facts to rectangular arrays and pictures

Solve problems involving elementary notions of probability

### Making Connections

Add 1 and 2 digit numbers with regrouping

Solve extended numerical problems

Solve simple story problems involving addition and subtraction with extraneous information

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

### Developing an Interpretation

Identify or state rules for given patterns

Identify objects that are the same or different by one attribute

Sort objects into two groups by a common attribute

### Making Connections

Extend or complete patterns involving whole numbers and attributes

### Critical Stance

State the rule for the pattern

- **Use data to analyze or create simple table's charts or graphs**

### Initial Understanding

- Identify correct information from graphs, tables, and charts
- Create bar graphs and pictographs from data in tables and charts

### Making Connections

Solve extended statistical problems

- **Use money, tell time, measure length**

### Initial Understanding

- Tell time to the nearest hour, half hour, and quarter hour using analog and digital clocks
- Measure or draw lengths to the nearest inch
- Measure or draw lengths to the nearest centimeter

### Developing an Interpretation

Identify an appropriate metric measure for a given situation

### Making Connections

- Solve problems involving time, elapsed time, and calendars
- Identify an appropriate customary measure for a given situation

- **Develop spatial relationships and Geometry**

### Initial Understanding

Identify geometric shapes and figures including the number of angles and sides of polygons

### Developing an Interpretation

Draw geometric shapes and figures

### 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 and prove.