

HSGQE Proficiency Descriptors of the Minimum Competencies in Essential Skills

MATHEMATICS

Problem Solving, Communication, Reasoning, and Connections

A student proficient in the minimum competencies in essential skills

- uses appropriate symbols to justify solutions to mathematics problems.
- uses a variety of problem-solving strategies (guess-and-check, working backwards, diagrams, patterns, etc.).
- solves multi-step problems in real-world context.

Numeration

A student proficient in the minimum competencies in essential skills

- reads, writes, models, and orders positive and negative numbers including fractions, decimals, percents, square roots, and numbers with simple exponents.
- converts between fractions, decimals, and percents.
- compares, orders, and uses data containing mixed units of measurement (hours and minutes, feet and inches, metric units).
- expresses numbers in scientific notation.
- applies basic order of operations and rules of divisibility.

Measurement

A student proficient in the minimum competencies in essential skills

- accurately measures and draws distances and angles using a ruler or protractor.
- estimates and converts measurements of length and weight within the same system or between systems (standard and metric).
- identifies the appropriate tool and/or unit of measure with which to measure objects.
- solves problems involving rate, distance, time, scale, and money.
- reads, writes, and uses money notation, determining possible combinations of coins and bills to equal given amounts; counts back change for any given situation.

Estimation and Computation

A student proficient in the minimum competencies in essential skills

- adds, subtracts, multiplies, and divides numbers in various forms: positive and negative numbers, fractions, decimals, and percents.
- solves multi-step problems using ratios and proportions.
- rounds numbers appropriately to solve problems.
- simplifies expressions involving simple exponents.

Functions and Relationships

A student proficient in the minimum competencies in essential skills

- analyzes, extends, and applies visual, numeric, and geometric patterns.
- evaluates and simplifies algebraic expressions and equations.
- converts representation of data between graphs, tables, and linear equations.
- solves linear equations, simple inequalities, and systems of linear equations.

Geometry

A student proficient in the minimum competencies in essential skills

- identifies and applies properties of angles, polygons, and lines (including parallel, perpendicular, and intersecting lines).
- uses formulas to calculate perimeters, circumferences, and areas.
- applies the properties of equality and proportionality to solve problems involving congruent or similar shapes.

Probability and Statistics

A student proficient in the minimum competencies in essential skills

- selects and uses appropriate scales of graphs.
- reads data and predicts trends from tables, graphs, and charts.
- analyzes, interprets, and appropriately labels bar graphs, line graphs, and circle graphs to display data.
- determines the probability of an event.
- selects an appropriate sampling group.