Grade 8 State Standards

Mathematics Standards

Content Standard 1: Students can understand and apply a variety of math concepts.

Benchmark A: Students can understand and apply number properties and operations.
- **Grade Level Indicator:** Represent, compare, and order numbers
- **Grade Level Indicator:** Describe and apply properties of numbers
- **Grade Level Indicator:** Classify numbers by divisibility
- **Grade Level Indicator:** Demonstrate ways of performing operations
- **Grade Level Indicator:** Use place value; write numbers in standard, expanded, and exponential form
- **Grade Level Indicator:** Use and interpret operational and relational symbols

Benchmark B: Students can understand and apply concepts and procedures of algebra.
- **Grade Level Indicator:** Solve equations and inequalities
- **Grade Level Indicator:** Use variable expressions to model situations
- **Grade Level Indicator:** Explore numerical patterns

Benchmark C: Students can understand and apply concepts of geometry.
- **Grade Level Indicator:** Identify, classify, and compare geometric figures
- **Grade Level Indicator:** Describe geometric properties, patterns, and relationships
- **Grade Level Indicator:** Apply the concepts of perimeter, area, and volume

Benchmark D: Students can understand and apply concepts of measurement.
- **Grade Level Indicator:** Measure length/distance, time, temperature, weight, mass, and volume
- **Grade Level Indicator:** Estimate measurements with appropriate precision
- **Grade Level Indicator**: Identify and use appropriate units of measurement

Benchmark E: Students can understand and apply concepts in probability and statistics.
- **Grade Level Indicator:** Apply probability concepts and counting rules
- **Grade Level Indicator**: Understand and apply measures of central tendency and variability

Content Standard 2: Students can understand and apply methods of estimation.

Benchmark A: Students can understand and apply concepts and procedures of standard rounding, order of magnitude, and number sense.
- **Grade Level Indicator:** Use standard rounding to estimate
- **Grade Level Indicator:** Use order of magnitude to estimate
- **Grade Level Indicator:** Use number sense to estimate

Content Standard 3: Students can solve a variety of math problems.

Benchmark A: Students can solve math problems
    Grade Level Indicator: Solve single-step and multiple-step math problems
    Grade Level Indicator: Identify extraneous or insufficient information in problems
Benchmark B: Students can understand and apply problem-solving approaches and procedures.
    Grade Level Indicator: Choose a method for solving a problem

Content Standard 4: Students can interpret data presented in a variety of ways.

Benchmark A: Students can use tables and graphs to locate and read information.
    Grade Level Indicator: Locate amounts in specific cells of a table
Benchmark B: Students can interpret data from a variety of sources.
    Grade Level Indicator: Read amounts on scales of bar and line graphs
    Grade Level Indicator: Compare quantities to determine ranks, sums, or differences and to find ratios
    Grade Level Indicator: Use tables and graphs to determine rates or identify trends, understand underlying or functional relationships, and generalize or draw conclusions

Performance Standards for Mathematics

High Performance Level
A student who performs at this level understands math concepts and is able to solve word problems. The student usually can use estimation methods. The student is able to interpret data from graphs and tables.
    Distinguished: Understands math concepts and is able to solve word problems. Usually can use estimation methods. Is able to interpret data from graphs and tables.
    Accomplished: Understands math concepts and is able to solve word problems. Usually can use estimation methods. Is able to interpret data from graphs and tables.
Intermediate Performance Level
A student who performs at this level usually can understand math concepts and sometimes is able to solve word problems. The student sometimes is able to use estimation methods and usually is able to interpret data from graphs and tables.
    Skilled: Understands math concepts and usually is able to solve word problems. Often can use estimation methods and interpret data from graphs and tables.
    Moderate: Usually can understand math concepts and sometimes is able to solve word problems. Sometimes can use estimation methods and interpret data from graphs and tables.
Low Performance Level
A student who performs at this level seldom can understand math concepts or solve word problems. The student rarely can use estimation methods or interpret data from graphs or tables.

Marginal: Sometimes can understand math concepts but seldom is able to solve word problems. Sometimes can use estimation methods and interpret data from graphs and tables.

Weak: Seldom can understand math concepts or solve word problems. Rarely can use estimation methods or interpret data from graphs and tables.

Science Standards

Content Standard 1: Students can understand and apply skills used in scientific inquiry.

Benchmark A: Students can understand and apply the processes and skills of scientific inquiry.

> **Grade Level Indicator:** Understand and apply the processes and skills of investigation

Benchmark B: Students can analyze and interpret scientific information.

> **Grade Level Indicator:** Analyze and interpret information from scientific studies

Content Standard 2: Students can understand concepts and relationships in life science.

Benchmark A: Students can understand structures of living things.

> **Grade Level Indicator:** Understand the structures of living things

Benchmark B: Students can describe and understand life cycles.

> **Grade Level Indicator**: Describe and understand life cycles

Benchmark C: Students can understand environmental interaction and adaptation.

> **Grade Level Indicator:** Identify and explain the roles of environmental interactions and adaptations

Content Standard 3: Students can understand concepts and relationships in Earth/space sciences.

Benchmark A: Students can understand ideas about Earth's composition and structure.

> **Grade Level Indicator:** Describe and understand Earth's composition and structure

Benchmark B: Students can understand changes in and around Earth.

> **Grade Level Indicator:** Identify and explain changes in and around Earth

Benchmark C: Students can understand concepts relating to the universe.

> **Grade Level Indicator:** Understand concepts and relationships of the universe

Content Standard 4: Students can understand concepts and relationships in physical science.

Benchmark A: Students can understand and apply concepts related to mechanics, forces, and motion.

> **Grade Level Indicator:** Describe and explain concepts related to mechanics, forces, and motion

Benchmark B: Students can understand and apply the concept of energy.
    Grade Level Indicator: Understand the concept of energy and its various forms
Benchmark C: Students can understand and identify properties and changes of matter.
    Grade Level Indicator: Identify and explain the properties and changes of matter

Performance Standards for Science

High Performance Level: Understands ideas related to Earth, the universe, and the life sciences. Understands ideas related to the physical sciences and often can demonstrate the skills of scientific inquiry.
    Distinguished: Understands ideas related to Earth, the universe, and the life sciences. Understands ideas related to the physical sciences and can demonstrate the skills of scientific inquiry.
    Accomplished: Understands ideas related to Earth, the universe, and the life sciences. Understands ideas related to the physical sciences and often can demonstrate the skills of scientific inquiry.
Intermediate Performance Level: Sometimes understands ideas related to Earth, the universe, and the life sciences. Usually understands ideas related to the physical sciences and often can demonstrate the skills of scientific inquiry.
    Skilled: Usually understands ideas related to Earth, the universe, and the life sciences. Usually understands ideas related to the physical sciences and often can demonstrate the skills of scientific inquiry.
    Moderate: Sometimes understands ideas related to Earth, the universe, and the life sciences. Usually understands ideas related to the physical sciences and often can demonstrate the skills of scientific inquiry.
Low Performance Level: Seldom understands ideas related to Earth, the universe, and the life sciences. Rarely understands ideas related to the physical sciences and can rarely demonstrate the skills of scientific inquiry.
    Marginal: Seldom understands ideas related to Earth, the universe, and the life sciences. Seldom understands ideas related to the physical sciences and can rarely demonstrate the skills of scientific inquiry.
    Weak: Seldom understands ideas related to Earth, the universe, and the life sciences. Rarely understands ideas related to the physical sciences and can rarely demonstrate the skills of scientific inquiry.

Literacy Standards

Content Standard 1: Students can comprehend what they read in a variety of literary and informational texts.
    Benchmark A: Students can understand stated information they have read.
        Grade Level Indicator: Understand stated information

Benchmark B: Students can determine the meaning of new words from their context.
> **Grade Level Indicator:** Determine the meaning of new words from their context

Benchmark C: Students can draw conclusions, make inferences, and deduce meaning.
> **Grade Level Indicator:** Draw conclusions, make inferences, and deduce meaning

Benchmark D: Students can infer traits, feelings, and motives of characters.
> **Grade Level Indicator**: Infer traits, feelings, and motives of characters

Benchmark E: Students can interpret information in new contexts.
> **Grade Level Indicator**: Interpret information in new contexts

Benchmark F: Students can interpret nonliteral language used in a text.
> **Grade Level Indicator:** Interpret nonliteral language

Benchmark G: Students can determine the main idea of a text.
> **Grade Level Indicator:** Determine the main idea of a text

Benchmark H: Students can identify the writer's views or purpose.
> **Grade Level Indicator:** Identify the author's views or purpose

Benchmark I: Students can analyze style or structure.
> **Grade Level Indicator**: Analyze the style or structure of a text

Performance Standards for Literacy

High Performance Level: When using **grade-appropriate texts**, a student who performs at this level understands factual information and new words in context, is able to make inferences, and can interpret information in new contexts. The student also can determine a selection's main ideas, identify its author's purpose or viewpoint, and analyze its style and structure.

> **Distinguished:** Understands factual information and new words in context, and can make inferences and interpret information in new contexts. Is able to determine a selection's main ideas and analyze its style and structure. Can identify author purpose or viewpoint.

> **Accomplished:** Usually understands factual information and new words in context, can make inferences and interpret information in new contexts, and is able to determine a selection's main ideas and analyze its style and structure. Can identify author purpose or viewpoint.

Intermediate Performance Level: When using **grade-appropriate texts**, a student who performs at this level usually understands factual information and new words in context. Often is able to make inferences and interpret information in new contexts. The student can sometimes determine a selection's main ideas, identify its author's purpose or viewpoint, and analyze its style and structure.

> **Skilled:** Usually understands factual information and new words in context. Can make inferences and interpret information in new contexts. Usually can determine a selection's main ideas and analyze its style and structure. Usually is able to identify author purpose or viewpoint.

> **Moderate:** Usually understands factual information and new words in context. Often is able to make inferences and interpret information in new contexts. Sometimes can

determine a selection's main ideas and analyze its style and structure. Sometimes can identify author purpose or viewpoint.

Low Performance Level: When using **grade-appropriate texts**, a student who performs at this level seldom understands factual information or new words in context. The student rarely is able to make inferences or interpret information in new contexts. The student can seldom determine a selection's main ideas, identify its author's purpose or viewpoint, or analyze its style and structure.

Marginal: Seldom understands factual information or new words in context. Sometimes is able to make inferences and interpret information in new contexts. Sometimes can determine a selection's main ideas and analyze its style and structure. Sometimes is able to identify author purpose or viewpoint.

Weak: Seldom understands factual information or new words in context. Rarely is able to make inferences and interpret information in new contexts. Seldom can determine a selection's main ideas or analyze its style and structure. Rarely can identify author purpose or viewpoint.