Content Summary
Grade 8 Reading Comprehension

Students in grade 8 read a variety of fiction, non-fiction (e.g., general science and social science, biography, narrative, journalism, history), and poetry. They are expected not only to understand the literal meaning of grade-appropriate text, but also to interpret meaning through complex processes of analysis, inference, and generalization. To read grade-appropriate text with comprehension, students in grade 8 must demonstrate the processes of:

Factual Understanding

- Understand stated information
- Determine the meaning of new words from their context

Inference and Interpretation

- Draw conclusions, make inferences, and deduce meaning
- Infer traits, feelings, and motives of characters
- Interpret information in new contexts
- Interpret non-literal language

Analysis and Generalization

- Determine the main idea of a text
- Identify the author's views or purpose
- Analyze the style or structure of a text

At this level, the content and process dimensions of reading comprehension emphasize in equal proportions critical thinking through factual understanding, inference and interpretation, and analysis and generalization of grade-appropriate text.

Performance Level Descriptors
Grade 8 Reading Comprehension

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in reading for that grade.

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.

Content Summary
Grade 8 Mathematics

Students in grade 8 must understand mathematical concepts and estimation strategies, solve multi-step problems, and interpret detailed graphical displays of data. They are expected to demonstrate reasoning in numerical, algebraic, and geometric representations, as well as word problems and graphical displays. The content and process dimensions of mathematics knowledge in grade 4 include:

Number Properties and Operations

- Represent, classify, and describe numbers and their properties
- Demonstrate ways of performing operations
- Write numbers in standard and exponential form
- Use standard rounding, order of magnitude, and number sense to estimate

Algebra

- Use and interpret operational and relational symbols
- Solve equations and inequalities
- Use algebraic expressions to model and explore numerical patterns

Geometry

- Identify, classify, and compare geometric figures
- Describe geometric properties, patterns, and relationships
- Apply the concepts of perimeter, area, and volume

Measurement

- Measure length/distance, time, temperature, weight, mass, and volume
- Estimate measurements with appropriate precision
- Identify and use appropriate units of measurement

Probability

- Apply probability concepts and counting rules
- Understand and apply measures of central tendency and variability

Problem Solving

- Solve single- and multiple-step math problems
- Identify extraneous or insufficient information in problems
- Determine a method for solving a problem

Data Interpretation

- Read scales of bar, circle, and line graphs; locate and interpret amounts in tables
- Determine ranks, sums, or differences and find ratios from data displays
- Determine rates, identify trends, understand functional relationships, and generalize from data displayed in graphs and tables

Performance Level Descriptors
Grade 8 Mathematics

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in mathematics for that grade.

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.

Content Summary
Grade 8 Science

Students in grade 8 must understand scientific concepts in Earth and space science, life science, and physical science. They must also demonstrate grade-appropriate understanding of the process of scientific inquiry and be able to analyze and interpret the results of experiments. The content and process dimensions of scientific knowledge at this grade level include:

Earth and Space Science

- Earth's composition and structure
- Changes in and around Earth
- The universe

Life Science

- Structures of living things
- Life cycles
- Environmental interactions and adaptations

Physical Science

- Mechanics, forces, and motion
- Energy
- Properties and changes of matter

Scientific Inquiry

- Processes and skills
- Analysis and Interpretation

Performance Level Descriptors
Grade 8 Science

The performance level descriptors on the Achievement Levels Report for The Iowa Tests are provided to Iowa schools to describe the level of performance of groups and monitor progress in the distribution of performance over time. For each achievement level— High, Intermediate, and Low —descriptors on the report identify what the typical student in each level is able to do. Students in a particular level satisfy the standards described for performance in lower levels. Students at the High and Intermediate Performance Levels meet the standard for proficiency in science for that grade.

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.