APPENDIX A

GRADE-SPECIFIC ALDS

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

General: Grades 3 through 8

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text implies and states explicitly; cites **limited** textual support for conclusions; **incompletely** summarizes key details and ideas; provides a **partial** analysis of a character, an event, or an idea in grade-appropriate texts	Demonstrates **sufficient** understanding of what a text implies and states explicitly; cites **solid** textual support for conclusions; **appropriately** summarizes key details and ideas; provides a **mostly complete** analysis of a character, an event, or an idea in grade-appropriate texts	Demonstrates **comprehensive** understanding of what a text implies and states explicitly; cites **in-depth** textual support for conclusions; **skillfully** summarizes key details and ideas; provides a **sophisticated** analysis of a character, an event, or an idea in grade-appropriate texts
	Demonstrates **partial** understanding of words and phrases used in a text; provides **limited** understanding of how structural elements, point of view, or purpose affects the content and style in text(s)	Demonstrates **general** understanding of words and phrases used in a text; provides **general understanding** of how structural elements, point of view, or purpose affects the content and style in text(s)	Demonstrates **in-depth** understanding of words and phrases used in a text; provides **sophisticated** understanding of how structural elements, point of view, or purpose affects the content and style in text(s)
	Makes **basic** comparisons between texts; shows **partial** understanding of content in diverse media; **partially** evaluates and analyzes claims and evidence in text(s)	Makes **appropriate** comparisons between texts; shows **solid** understanding of content in diverse media; **appropriately** evaluates and analyzes claims and evidence in text(s)	Makes **insightful** comparisons between texts; shows **sophisticated** understanding of content in diverse media; **insightfully** evaluates and analyzes claims and evidence in text(s)

Writing	Produces **basic** writing with **limited** selection and explanation of evidence and details related to grade-appropriate texts, topics, or subject areas Produces writing with **little** development of a central idea or sequenced events, **limited** organization, and **basic** expression of ideas Exhibits **partial** awareness of task, purpose, and audience	Produces **solid** writing with **appropriate** selection and explanation of evidence and details related to grade-appropriate texts, topics, or subject areas Produces writing with **appropriate** development of a central idea or sequenced events, **moderate** organization, and **adequate** expression of ideas Exhibits **sufficient** awareness of task, purpose, and audience	Produces **clear** writing with **skillful** selection and explanation of evidence and details related to grade-appropriate texts, topics, or subject areas Produces writing with **full** development of a central idea or sequenced events, **effective** organization, and **clear** expression of ideas Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of general academic and domain-specific words and phrases in grade-appropriate texts Demonstrates **limited** understanding of unfamiliar words in text and shows **partial** understanding of word parts and word relationships in word meanings Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **solid** reading vocabulary of general academic and domain-specific words and phrases in grade-appropriate texts Demonstrates **solid** understanding of unfamiliar words in text and shows **sufficient** understanding of word parts and word relationships in word meanings Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **comprehensive** reading vocabulary of general academic and domain-specific words and phrases in grade-appropriate texts Demonstrates **comprehensive** understanding of unfamiliar words in text and shows **full** understanding of word parts and word relationships in word meanings Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

Grade 3

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text states explicitly; cites **limited** textual support; demonstrates **incomplete** understanding of key details and how they support the main idea; provides a **partial** description of a character, an event, or an idea in grade 3 texts Demonstrates **partial** understanding of words and phrases (e.g., figurative language); demonstrates a **limited** understanding of structural elements and different points of view Makes **basic** comparisons between texts; shows **partial** understanding of information presented in illustrations; **partially** compares and contrasts important points in text(s)	Demonstrates **sufficient** understanding of what a text states explicitly; cites **solid** textual support; demonstrates **appropriate** understanding of key details and how they support the main idea; provides a **mostly complete** description of a character, an event, or an idea in grade 3 texts Demonstrates **general** understanding of words and phrases (e.g., figurative language); demonstrates a **general** understanding of structural elements and different points of view Makes **appropriate** comparisons between texts; shows **solid** understanding of information presented in illustrations; **appropriately** compares and contrasts important points in text(s)	Demonstrates **comprehensive** understanding of what a text states explicitly; cites **in-depth** textual support; demonstrates **in-depth** understanding of key details and how they support the main idea; provides a **comprehensive** description of a character, an event, or an idea in grade 3 texts Demonstrates **in-depth** understanding of words and phrases (e.g., figurative language); demonstrates a **clear** understanding of structural elements and different points of view Makes **effective** comparisons between texts; shows **clear** understanding of information presented in illustrations; **effectively** compares and contrasts important points in text(s)

Writing	Produces **basic** writing with **limited** selection and explanation of facts and details related to grade 3 texts, topics, or subject areas	Produces **solid** writing with **appropriate** selection and explanation of facts and details related to grade 3 texts, topics, or subject areas	Produces **clear** writing with **effective** selection and explanation of facts and details related to grade 3 texts, topics, or subject areas
	Produces writing with **little** development of a central idea or sequenced events, **limited** organization, and **basic** expression of ideas	Produces writing with **appropriate** development of a central idea or sequenced events, **moderate** organization, and **adequate** expression of ideas	Produces writing with **full** development of a central idea or sequenced events, **effective** organization, and **clear** expression of ideas
	Exhibits **partial** awareness of task, purpose, and audience	Exhibits **sufficient** awareness of task, purpose, and audience	Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of grade 3 academic and domain-specific words and phrases	Demonstrates **solid** reading vocabulary of grade 3 academic and domain-specific words and phrases	Demonstrates **comprehensive** reading vocabulary of grade 3 academic and domain-specific words and phrases
	Demonstrates **limited** understanding of unfamiliar words in text; shows **partial** understanding of word parts and word relationships in word meanings	Demonstrates **solid** understanding of unfamiliar words in text; shows **sufficient** understanding of word parts and word relationships in word meanings	Demonstrates **comprehensive** understanding of unfamiliar words in text; shows **full** understanding of word parts and word relationships in word meanings
	Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

Grade 4

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text implies and states explicitly; cites **limited** textual support; **incompletely summarizes** key details and main ideas; provides a **partial** description of a character, an event, or an idea in grade 4 texts Demonstrates **partial** understanding of words and phrases (e.g., figurative language); provides a **limited** understanding of structural elements and different points of view Makes **basic** comparisons between texts; shows **partial** understanding of information presented in media; **partially** explains important points and themes in text(s)	Demonstrates **sufficient** understanding of what a text implies and states explicitly; cites **solid** textual support; **appropriately** summarizes key details and main ideas; provides a **mostly complete** description of a character, an event, or an idea in grade 4 texts Demonstrates **general** understanding of words and phrases (e.g., figurative language); provides a **general** understanding of structural elements and different points of view Makes **appropriate** comparisons between texts; shows **solid** understanding of information present in media; **appropriately** explains important points and themes in text(s)	Demonstrates **comprehensive** understanding of what a text implies and states explicitly; cites **in-depth** textual support; **skillfully** summarizes key details and main ideas; provides a **comprehensive** description of a character, an event, or an idea in grade 4 texts Demonstrates **in-depth** understanding of words and phrases (e.g., figurative language); provides a **clear** understanding of structural elements and different points of view Makes **effective** comparisons between texts; shows **clear** understanding of information present in media; **effectively** explains important points and themes in text(s)

Writing	Produces **basic** writing with **limited** selection and explanation of facts and details related to grade 4 texts, topics, or subject areas Produces writing with **little** development of a central idea or sequenced events, **limited** organization, and **basic** expression of ideas Exhibits **partial** awareness of task, purpose, and audience	Produces **solid** writing with **appropriate** selection and explanation of facts and details related to grade 4 texts, topics, or subject areas Produces writing with **appropriate** development of a central idea or sequenced events, **moderate** organization, and **adequate** expression of ideas Exhibits **sufficient** awareness of task, purpose, and audience	Produces **clear** writing with **effective** selection and explanation of facts and details related to grade 4 texts, topics, or subject areas Produces writing with **full** development of a central idea or sequenced events, **effective** organization, and **clear** expression of ideas Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of grade 4 academic and domain-specific words and phrases Demonstrates **limited** understanding of unfamiliar words in text; shows **partial** understanding of word parts, word relationships, and nuances in word meanings Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **solid** reading vocabulary of grade 4 academic and domain-specific words and phrases Demonstrates **solid** understanding of unfamiliar words in text; shows **sufficient** understanding of word parts, word relationships, and nuances in word meanings Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **comprehensive** reading vocabulary of grade 4 academic and domain-specific words and phrases Demonstrates **comprehensive** understanding of unfamiliar words in text; shows **full** understanding of word parts, word relationships, and nuances in word meanings Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

Grade 5

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level.

Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text implies and states explicitly; provides **limited** textual support through the use of quotations or paraphrasing; **incompletely** summarizes key details and main ideas; provides a **partial** analysis of a character, an event, or an idea in grade 5 texts Demonstrates **partial** understanding of words and phrases (e.g., figurative language); provides a **limited** explanation of how structural elements or points of view influence text(s) Makes **basic** comparisons between texts; shows **partial** understanding of information present in multiple sources or media; **partially** analyzes important points and themes in text(s)	Demonstrates **sufficient** understanding of what a text implies and states explicitly; provides **solid** textual support through the use of quotations or paraphrasing; **appropriately** summarizes key details and main ideas; provides a **mostly complete** analysis of a character, an event, or an idea in grade 5 texts Demonstrates **general** understanding of words and phrases (e.g., figurative language); provides a **general** explanation of how structural elements or points of view influence text(s) Makes **appropriate** comparisons between texts; shows **solid** understanding of information present in multiple sources or media; **appropriately** analyzes important points and themes in text(s)	Demonstrates **comprehensive** understanding of what a text implies and states explicitly; provides **in-depth** textual support through the use of quotations or paraphrasing; **skillfully** summarizes key details and main ideas; provides a **comprehensive** analysis of a character, an event, or an idea in grade 5 texts Demonstrates **in-depth** understanding of words and phrases (e.g., figurative language); provides a **clear** explanation of how structural elements or points of view influence text(s) Makes **effective** comparisons between texts; shows **clear** understanding of information present in multiple sources or media; **effectively** analyzes important points and themes in text(s)

Writing	Produces **basic** writing with **limited** selection and explanation of facts and details related to grade 5 texts, topics, or subject areas Produces writing with **little** development of a central idea or sequenced events, **limited** organization, and **basic** expression of ideas Exhibits **partial** awareness of task, purpose, and audience	Produces **solid** writing with **appropriate** selection and explanation of facts and details related to grade 5 texts, topics, or subject areas Produces writing with **appropriate** development of a central idea or sequenced events, **moderate** organization, and **adequate** expression of ideas Exhibits **sufficient** awareness of task, purpose, and audience	Produces **clear** writing with **effective** selection and explanation of facts and details related to grade 5 texts, topics, or subject areas Produces writing with **full** development of a central idea or sequenced events, **effective** organization, and **clear** expression of ideas Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of grade 5 academic and domain-specific words and phrases Demonstrates **limited** understanding of unfamiliar words in text; shows **partial** understanding of word parts, word relationships, and nuances in word meanings Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **solid** reading vocabulary of grade 5 academic and domain-specific words and phrases Demonstrates **solid** understanding of unfamiliar words in text; shows **sufficient** understanding of word parts, word relationships, and nuances in word meanings Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **comprehensive** reading vocabulary of grade 5 academic and domain-specific words and phrases Demonstrates **comprehensive** understanding of unfamiliar words in text; shows **full** understanding of word parts, word relationships, and nuances in word meanings Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

Grade 6

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **partially** support conclusions; **incompletely** summarizes text; provides a **partial** analysis of a character, an event, or an idea in grade 6 texts	Demonstrates **sufficient** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **generally** support conclusions; **appropriately** summarizes text; provides a **mostly complete** analysis of a character, an event, or an idea in grade 6 texts	Demonstrates **comprehensive** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **insightfully** support conclusions; **skillfully** summarizes text; provides a **sophisticated** analysis of a character, an event, or an idea in grade 6 texts
	Demonstrates **partial** understanding of meanings (e.g., figurative, connotative, technical) and effects (e.g., on mood) of words and phrases; demonstrates **limited** understanding of how structural elements and point of view contribute to the development of ideas	Demonstrates **general** understanding of meanings (e.g., figurative, connotative, technical) and effects (e.g., on mood) of words and phrases; demonstrates **general** understanding of how structural elements and point of view contribute to the development of ideas	Demonstrates **in-depth** understanding of meanings (e.g., figurative, connotative, technical) and effects (e.g., on mood) of words and phrases; demonstrates **sophisticated** understanding of how structural elements and point of view contribute to the development of ideas
	Makes **basic** comparisons between texts; **partially** integrates information in different media or formats; **partially** analyzes important claims, arguments, or themes in text(s)	Makes **appropriate** comparisons between texts; **solidly** integrates information in different media or formats; **appropriately** analyzes important claims, arguments, or themes in text(s)	Makes **insightful** comparisons between texts; **skillfully** integrates information in different media or formats; **insightfully** analyzes important claims, arguments, or themes in text(s)

Writing	Produces **basic** writing with **limited** selection and explanation of evidence and details related to grade 6 texts, topics, or subject areas Produces writing with **little** development of a central idea, a claim, or sequenced events; **limited** organization; and **basic** expression of ideas Exhibits **partial** awareness of task, purpose, and audience	Produces **solid** writing with **appropriate** selection and explanation of evidence and details related to grade 6 texts, topics, or subject areas Produces writing with **appropriate** development of a central idea, a claim, or sequenced events; **moderate** organization; and **adequate** expression of ideas Exhibits **sufficient** awareness of task, purpose, and audience	Produces **sophisticated** writing with **skillful** selection and explanation of evidence and details related to grade 6 texts, topics, or subject areas Produces writing with **full** development of a central idea, a claim, or sequenced events; **skillful** organization; and **rich** expression of ideas Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of grade 6 academic and domain-specific words and phrases Demonstrates **limited** understanding of unfamiliar words in text and shows **partial** understanding of word parts, figurative language, word relationships, and nuances in word meanings Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **solid** reading vocabulary of grade 6 academic and domain-specific words and phrases Demonstrates **solid** understanding of unfamiliar words in text and shows **sufficient** understanding of word parts, figurative language, word relationships, and nuances in word meanings Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **comprehensive** reading vocabulary of grade 6 academic and domain-specific words and phrases Demonstrates **comprehensive** understanding of unfamiliar words in text and shows **full** understanding of word parts, figurative language, word relationships, and nuances in word meanings Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

Grade 7

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **partially** support conclusions; incompletely summarizes text; provides a **partial** analysis of the interactions of characters, events, or ideas in grade 7 texts Demonstrates **partial** understanding of meanings (e.g., figurative, connotative, technical) and effects (e.g., on mood) of words and phrases; demonstrates **limited** understanding of how structural elements and point of view contribute to the development of ideas Makes **basic** comparisons between texts; **partially** integrates information in different media or formats; **partially** analyzes important claims, arguments, or themes in text(s)	Demonstrates **sufficient** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **generally** support conclusions; **appropriately** summarizes text; provides a **mostly complete** analysis of the interactions of characters, events, or ideas in grade 7 texts Demonstrates **general** understanding of **meanings** (e.g., figurative, connotative, technical) and effects (e.g., on mood) of words and phrases; demonstrates **general** understanding of how structural elements and point of view contribute to the development of ideas Makes **appropriate** comparisons between texts; **solidly** integrates information in different media or formats; **appropriately** analyzes important claims, arguments, or themes in text(s)	Demonstrates **comprehensive** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **insightfully** support conclusions; **skillfully** summarizes text; provides a **sophisticated** analysis of the interactions of characters, events, or ideas in grade 7 texts Demonstrates **in-depth** understanding of **meanings** (e.g., figurative, connotative, technical) and effects (e.g., on mood) of words and phrases; demonstrates **sophisticated** understanding of how structural elements and point of view contribute to the development of ideas Makes **insightful** comparisons between texts; **skillfully** integrates information in different media or formats; **insightfully** analyzes important claims, arguments, or themes in text(s)

Writing	Produces **basic** writing with **limited** selection and explanation of evidence and details related to grade 7 texts, topics, or subject areas	Produces **solid** writing with **appropriate** selection and explanation of evidence and details related to grade 7 texts, topics, or subject areas	Produces **sophisticated** writing with **skillful** selection and explanation of evidence and details related to grade 7 texts, topics, or subject areas
	Produces writing with **little** development of a central idea, a claim, or sequenced events; **limited** organization; and **basic** expression of ideas	Produces writing with **appropriate** development of a central idea, a claim, or sequenced events; **moderate** organization; and **adequate** expression of ideas	Produces writing with **full** development of a central idea, a claim, or sequenced events; **skillful** organization; and **rich** expression of ideas
	Exhibits **partial** awareness of task, purpose, and audience	Exhibits **sufficient** awareness of task, purpose, and audience	Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of grade 7 academic and domain-specific words and phrases	Demonstrates **solid** reading vocabulary of grade 7 academic and domain-specific words and phrases	Demonstrates **comprehensive** reading vocabulary of grade 7 academic and domain-specific words and phrases
	Demonstrates **limited** understanding of unfamiliar words in text and shows **partial** understanding of word parts, figurative language, word relationships, and nuances in word meanings	Demonstrates **solid** understanding of unfamiliar words in text and shows **sufficient** understanding of word parts, figurative language, word relationships, and nuances in word meanings	Demonstrates **comprehensive** understanding of unfamiliar words in text and shows **full** understanding of word parts, figurative language, word relationships, and nuances in word meanings
	Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

MCAS Next-Generation Achievement Level Descriptors
English Language Arts

Grade 8

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Reading	Demonstrates **partial** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **partially** support conclusions; **incompletely** summarizes text; provides a **partial** analysis of connections among characters, events, or ideas in grade 8 texts Demonstrates **partial** understanding of meanings (e.g., figurative, ironic, allusive) and effects (e.g., on mood) of words and phrases; demonstrates **limited** understanding of how structural elements and point of view contribute to the development of ideas Provides a **basic** analysis between texts; **partially** integrates information from different media or formats; **partially** analyzes important claims, arguments, or themes in multiple texts	Demonstrates **sufficient** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **generally** support conclusions; **appropriately** summarizes text; provides a **mostly complete** analysis of connections among characters, events, or ideas in grade 8 texts Demonstrates **general** understanding of meanings (e.g., figurative, ironic, allusive) and effects (e.g., on mood) of words and phrases; demonstrates **general** understanding of how structural elements and point of view contribute to the development of ideas Provides an **appropriate** analysis between texts; **solidly** integrates information from different media or formats; **appropriately** analyzes important claims, arguments, or themes in multiple texts	Demonstrates **comprehensive** understanding of what a text implies and states explicitly; uses quotations and paraphrases to **insightfully** support conclusions; **skillfully** summarizes text; provides a **sophisticated** analysis of connections among characters, events, or ideas in grade 8 texts Demonstrates **in-depth** understanding of meanings (e.g., figurative, ironic, allusive) and effects (e.g., on mood) of words and phrases; demonstrates **sophisticated** understanding of how structural elements and point of view contribute to the development of ideas Provides an **insightful** analysis between texts; skillfully integrates information from different media or formats; **insightfully** analyzes important claims, arguments, or themes in multiple texts

Writing	Produces **basic** writing with **limited** selection and explanation of evidence and details related to grade 8 texts, topics, or subject areas Produces writing with **little** development of a central idea, a claim, or sequenced events; **limited** organization; and **basic** expression of ideas Exhibits **partial** awareness of task, purpose, and audience	Produces **solid** writing with **appropriate** selection and explanation of evidence and details related to grade 8 texts, topics, or subject areas Produces writing with **appropriate** development of a central idea, a claim, or sequenced events; **moderate** organization; and **adequate** expression of ideas Exhibits **sufficient** awareness of task, purpose, and audience	Produces **sophisticated** writing with **skillful** selection and explanation of evidence and details related to grade 8 texts, topics, or subject areas Produces writing with **full** development of a central idea, a claim, or sequenced events; **skillful** organization; and **rich** expression of ideas Exhibits **full** awareness of task, purpose, and audience
Language	Demonstrates **limited** reading vocabulary of grade 8 academic and domain-specific words and phrases Demonstrates **limited** understanding of unfamiliar words in text and shows **partial** understanding of word parts, figurative language, word relationships, and nuances in word meanings Demonstrates **little** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **solid** reading vocabulary of grade 8 academic and domain-specific words and phrases Demonstrates **solid** understanding of unfamiliar words in text and shows **sufficient** understanding of word parts, figurative language, word relationships, and nuances in word meanings Demonstrates **mostly consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics	Demonstrates **comprehensive** reading vocabulary of grade 8 academic and domain-specific words and phrases Demonstrates **comprehensive** understanding of unfamiliar words in text and shows **full** understanding of word parts, figurative language, word relationships, and nuances in word meanings Demonstrates **consistent** control of the standard English conventions of sentence structure, grammar, usage, and mechanics

Mathematics

Exceeding Expectations

A student who performed at this level exceeded grade-level expectations by demonstrating mastery of the subject matter.

Meeting Expectations

A student who performed at this level met grade-level expectations and is academically on-track to succeed in the current grade in this subject.

Partially Meeting Expectations

A student who performed at this level partially met grade-level expectations in this subject. The school, in consultation with the student's parent/guardian, should consider whether the student needs additional academic assistance to succeed in this subject.

Not Meeting Expectations

A student who performed at this level did not meet grade-level expectations in this subject. The school, in consultation with the student's parent/guardian, should determine the coordinated academic assistance and/or additional instruction the student needs to succeed in this subject.

MCAS Achievement Level Descriptors
Mathematics

General: Grades 3 through 8

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not   Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level.   No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially   Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Conceptual Understanding and Procedural Knowledge	• Demonstrates partial understanding of the grade appropriate numeration system • Performs some calculations and estimations • Identifies examples of basic math facts or mathematical concepts • Mostly reads and sometimes constructs graphs, tables and charts	• Applies understanding of the base-ten system and fractions to interpret numbers and solve problems • Performs most calculations and estimations • Describes mathematical concepts and generates examples and counterexamples of concepts • Represents data and mathematical relationships using equations, verbal descriptions, tables, and graphs	• Performs complex calculations and estimations • Selects the best representations for a given set of data • Explains relationships between models such as equations, verbal descriptions, tables, and graphs • Applies math facts and connects mathematical concepts from various areas of mathematics, and uses the concepts to develop generalizations • Recognizes and makes use of structure, discerning patterns by seeing complicated things as single objects
Problem Solving	• Applies learned procedures to solve routine problems • Uses concrete objects or pictures to help conceptualize and solve problems.	• Applies learned procedures and mathematical concepts to solve a variety of problems, including multi-step problems • Solves problems using multiple methods Demonstrates the relationships between operations used to solve problems and the context of the problems	• Generates strategies and procedures to solve non- routine problems • Solves problems using multiple methods, evaluating reasonableness of intermediate steps leading to the standard algorithms • Draws connections between strategies • Analyzes givens, constraints, and relationships in problems, using multiple methods and appropriate tools

Mathematical Reasoning	• Applies some reasoning methods to solve routine problems	• Uses a variety of reasoning methods to solve routine and non-routine problems • Uses symbols to solve routine mathematical problems	• Reasons abstractly and quantitatively, using multiple reasoning methods to solve complex problems and provides justification for the reasoning • Decontextualizes situations and represents them symbolically
Mathematical Communication	• Identifies and uses basic terms	• Uses logical forms of representation (e.g., text, graphs, symbols) to illustrate steps to a solution	• Uses logical forms of representation (e.g., text, graphs, symbols) to justify solutions and solution strategies • Constructs viable arguments and critiques the reasoning of others, attending to precision

MCAS Achievement Level Descriptors
Mathematics

Grade 3

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Operations and Algebraic Thinking	• Determines products and quotients of whole numbers • Solves one-step word problems by multiplying and dividing within 100 with limited accuracy • Determines the unknown whole number in a multiplication or division equation • Recognizes simple arithmetic patterns	• Interprets products and quotients of whole numbers • Uses equal groups and arrays to accurately solve word problems involving multiplication and division within 100 • Solves two-step word problems with unknowns in equations involving all four operations • Applies the properties of multiplication • Recognizes products of two single-digit numbers • Consistently uses estimation strategies to assess the reasonableness of answers • Recognizes arithmetic patterns	• Uses area models to solve word problems involving multiplication and division within 100 • Creates and solves equations with unknown factors to solve word problems • Recognizes products of two single-digit numbers and the related division facts • Explains arithmetic patterns using the properties of operations
Number and Operations in Base Ten	• Uses place value to round two-digit numbers to the nearest 10 • Solves problems by adding and subtracting within 1000 using various strategies with limited accuracy	• Uses place value to round three digit numbers to the nearest 10 • Fluently adds and subtracts within 1000 using various strategies • Solves problems involving multiplication of a one-digit whole number by multiples of 10 in the range 10-90	• Uses place value to round three digit numbers to the nearest 100 • Recognizes the relationship between addition and subtraction • Uses algorithms to add and subtract within 1000 and multiply one-digit whole numbers by multiples of 10 in the range 10-90, and explain why they work

Number and Operations – Fractions	• Visually identifies fractional parts of a whole • Recognizes equivalent fractions • Compares two fractions with like numerators or like denominators	• Identifies fractional parts of a whole • Identifies and represents fractions on number lines or other visual fraction models that are already created • Generates equivalent fractions • Represents whole numbers as fractions • Compares fractions with like numerators or denominators by reasoning about their size using visual fraction models that are already created, and symbols <, > and =	• Explains fraction equivalence • Recognizes and explains fractional equivalence of whole numbers • Creates visual fraction models to justify the size comparison made about two fractions that refer to the same whole.
Measurement and Data	• Tells, writes and measures time to the nearest minute • Identifies appropriate tools and units of measurement to solve problems • Uses scaled picture graphs and bar graphs to solve problems • Uses line plots to solve problems • Finds area by using non-standard units • Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side length	• Solves word problems involving addition and subtraction of time intervals in minutes • Selects and uses appropriate tools and units of measure to solve problems • Draws simple scaled picture graphs and bar graphs and uses them to solve one-step problems • Generates measurement data using rulers marked with halves and fourths of an inch • Creates line plots with whole numbers, halves and fourths to record and show data to solve problems • Finds area by using standard units • Relates multiplication and addition to area • Determines area by decomposing shapes into non-overlapping rectangles and adding the areas of the non- overlapping parts • Solves mathematical problems involving perimeters of polygons, including finding an unknown side length and identifies rectangles with the same perimeter and different area	• Uses estimation to solve word problems involving measurement • Draws scaled picture graphs and scaled bar graphs and uses them to solve two-step problems • Interprets scaled picture and bar graphs, and line plots • Differentiates perimeter from area • Solves mathematical and real-world problems involving perimeters of polygons, including finding an unknown side length and is able to reproduce rectangles with the same perimeter and different area
Geometry	• Identifies two-dimensional shapes based on their sides and angles • Partitions shapes into parts	• Describes two-dimensional shapes based their sides and angles • Partitions shapes into parts with equal areas and expresses the area as a unit fraction of the whole	• Compares and classifies two-dimensional shapes based on their sides and angles

MCAS Achievement Level Descriptors
Mathematics

Grade 4

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not   Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level.   No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially   Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Operations and Algebraic Thinking	• Interprets a multiplication equation as a comparison • Solves multiplication and division word problems • Solves two-step word problems using the four operations with whole numbers, including problems where remainders must be interpreted • Identifies multiplication facts through 12 x 12 • Identifies factor pairs in the 1-100 range • Identifies a pattern that follows a rule	• Recognizes verbal statements of multiplicative comparisons as multiplication equations. • Represents multiplication and division word problems using drawings and equations • Uses the four operations to solve multi-step word problems and represents the problems by equations • Indentifies related multiplication and division facts through 12 x 12 • Finds factor pairs in the 1-100 range and recognizes that a whole number is a multiple of each of its factors • Distinguishes between prime and composite numbers in the range 1-100 • Identifies a pattern that follows a rule and, generates a pattern, given a rule	• Explains the difference between multiplicative and additive comparison • Uses equations to represent problems, and justifies solutions with estimation • Identifies multiples and their corresponding factors, and distinguishes between prime and composite numbers. • Generates patterns not explicit to the rule
Number and Operations in Base Ten	• Reads and writes whole numbers using base-ten number names and expanded form • Uses place value understanding to round whole numbers to the thousands place • Solves problems involving multiplication of four-digit numbers by one-digit numbers	• Uses place value to recognize that in a multi-digit number, a digit in any place represents 10 times as much as it represents in the place to its right • Compares two multi-digit numbers based on place value position using <, > and = • Uses place value understanding to round whole numbers to the ten thousands place • Adds and subtracts whole numbers using the standard algorithm	• Uses place value understanding to round whole numbers up to one million • Uses understanding of structure to explain the standard algorithm for addition and subtraction. • Solves problems involving multiplication of four-digit numbers by one-digit

	• Solves problems involving quotients and remainders with up to three-digit dividends and one-digit divisors based on place value and properties of operations	• Solves problems involving multiplication of two-digit numbers by two-digit numbers • Solves problems involving quotients and remainders with up to four-digit dividends and one-digit divisors, using the relationship between multiplication and division	numbers, and justifies solutions by using equations, rectangular arrays or area models.
Number and Operations – Fractions	• Recognizes equivalency in fractions • Compares fractions with different numerators and different denominators by using common denominators or common numerators • Decomposes fractions into a sum of fractions and uses visual fraction models to solve problems • Multiplies a fraction by a whole number	• Explains why fractions are equivalent using visual fraction models • Consistently compares two fractions when the two fractions refer to the same whole • Compares fractions with different numerators and different denominators by comparing to a benchmark fraction • Adds and subtracts fractions with like denominators • Decomposes fractions into a sum of fractions and uses equations to solve problems • Adds and subtracts mixed numbers with like denominators by replacing with equivalent fraction and by using properties of operations or the relationship of addition and subtraction • Uses visual fraction models and equations to solve word problems involving multiplication of a fraction by a whole number • Uses decimal notation to represent fractions with denominators of 10 or 100 • Consistently compares two decimals to hundredths when the two decimals refer to the same whole using <, > and =	• Generates equivalent fractions including fractions greater than 1 • Decomposes fractions into a sum of fractions and justifies solutions to problems with visual fraction models and equations • Justifies the conversion of a fraction with denominator of 10 to an equivalent fraction with a denominator of 100 and expresses it as a decimal • Justifies the comparisons of two decimals to hundredths by using a visual model

Measurement and Data	• Solves measurement problems involving whole numbers using all four operations • Solves measurement problems involving perimeter and area • Interprets data presented in line plots (dot plots) and uses addition and subtraction of fractions to solve problems involving line plots • Identifies concepts of angles and angle measurement	• Solves problems involving converting measurements from larger units to smaller units • Justifies solutions to perimeter and area problems • Creates line plots (dot plots) in fractions of a unit (½, ¼, [ ), to display given data, and uses addition and subtraction of fractions to solve problems involving line plots • Uses a protractor to measure , sketch or interpret an angle • Finds unknown angles in diagrams	• Reasons about relative sizes of measurement units within one system of units • Sketches an angles of specified measures, without a protractor
Geometry	• Identifies right triangles, points, lines, line segments, rays, angles, perpendicular and parallel lines, and lines of symmetry	• Identifies right triangles, draws points, lines, line segments, rays, angles, and perpendicular and parallel lines, and identifies these in two dimensional shapes • Classifies two-dimensional shapes based on their attributes, including the presence and absence of parallel or perpendicular lines or angles of a specified size. • Recognizes lines of symmetry in two-dimensional figures and identifies line-symmetric figures	• Draws two-dimensional shapes based on attributes.

MCAS Achievement Level Descriptors
Mathematics

Grade 5

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
Operations and Algebraic Thinking	• Recognizes when parentheses, brackets, or braces are appropriately used in numerical expressions • Given two rules, generates numerical patterns	• Uses parentheses, brackets, or braces to write, interpret and evaluate numerical expressions • Interprets numerical expressions without evaluating • Given two rules, identifies the relationship between corresponding terms	• Given two rules, forms and graphs ordered pairs and interprets the relationship between corresponding terms
Number and Operations in Base Ten	• Recognizes that in a multi-digit number, including a decimal, a digit in any place represents 10 times as much as it represents in the pace to its right or 1/10 of what it represents in the place to its left • Reads decimals to thousandths using base-ten numerals, number names, and expanded form • Compares decimals using base ten numerals, number names and comparison symbols <, > and =	• Uses whole number exponents to denote powers of 10 • Writes decimals to thousandths using base ten numerals, number names, expanded form and comparison symbols • Uses place value to round decimals to any place • Fluently multiplies multi-digit whole numbers • Solves mathematical and real-world problems involving multiplication of whole numbers and decimals to hundredths using the standard algorithm.	• Uses place value understanding of multi-digit numbers including decimals to explain patterns in the number of zeros and the placement of the decimal point, when multiplying a number by powers of 10. • Compares decimals using expanded form • Makes reasonable estimates of decimal results • Explains understandings of models for decimals, decimal notation, and properties of operations to add, subtract, multiply and divide decimals to hundredths

	• Uses various strategies to solve problems involving all operations with whole numbers including division limited to four-digit dividends and two- digit divisors • Identifies the quotient of whole numbers • Solves problems involving addition and subtraction with decimals to tenths	• Uses models to find the quotients of whole numbers. • Explains calculations or solutions of problems using rectangular arrays and/or area models • Solves problems involving all operations on decimals to hundredths.	• Uses the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers to understand and explain why the procedures for multiplying and dividing finite decimals make sense.
Number and Operations – Fractions	• Adds and subtracts fractions with like denominators (including mixed numbers) • Uses visual fraction models to multiply fractions or whole numbers by fractions • Finds areas of rectangles with fractional side lengths by tiling with unit squares • Recognizes multiplication as scaling by comparing the size of a product to the size of one factor on the basis of the size of the other factor with computation	• Adds and subtracts fractions with unlike denominators (including mixed numbers) • Uses visual fraction models to solve real- world problems by multiplying fractions or whole numbers by fractions, and fractions by mixed numbers • Shows that the area of rectangles with fractional side lengths, found by tiling with unit squares, is the same as the product of the side lengths • Recognizes multiplication as scaling by comparing the size of a product to the size of one factor on the basis of the size of the other factor without computation • Interprets division of a unit fraction by a non- zero whole number and division of a whole number • Solves real-world and mathematical problems involving division of a unit fraction by a non- zero whole number and a whole number by a unit fraction	• Applies understanding of fractions and fraction models to represent the addition and subtraction of fractions when solving word problems. • Uses understanding of fraction equivalence to make sense of sums and differences of fractions, and makes reasonable estimates of them. • Uses the relationship between multiplication and division of fractions to solve and explain mathematical and real-world problems including finding the area of rectangles with fractional side lengths, and finding quotients of division of non-zero whole numbers by unit fractions

Measurement and Data	• Converts among different-sized measurement units within a given measurement system • Interprets and represents data in line plots (dot plots) to solve problems • Recognizes volume as an attribute of solid figures and calculates volume of right rectangular prisms by packing the prisms with unit cubes, and counting the unit cubes, using standard and non- standard units	• Converts among different-sized measurement units within a given measurement system to solve multi-step real-world problems • Uses a line plot (dot plot) to represent data and uses operations on fractions to solve problems involving the line plots • Recognizes volume as additive and calculates volume by finding the total number of same- size units of volume required to fill a space without gaps or overlaps. • Decomposes three-dimensional shapes and finds volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes	• Uses appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume with application of the volume formula • Solves real-world application problems requiring the application of V=lwh and V=Bh • Decomposes three-dimensional shapes and finds volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes and relates to the volume formula
Geometry	• Represents mathematical and real-world problems by locating points in the first quadrant • Identifies two-dimensional figures based on properties	• Represents mathematical and real-world problems by locating and graphing in the first quadrant • Classifies two-dimensional figures in a hierarchy based on properties	• Solves mathematical and real-world problems by graphing in the first quadrant and interpreting the coordinate values of points based on the context of the situation • Applies knowledge of number and length to the order and distance relationships of a coordinate plane

MCAS Achievement Level Descriptors
Mathematics

Grade 6

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
The Number System	• Interprets quotients of fractions to solve problems • Solves mathematical problems by using all operations on multi-digit decimals • Identifies greatest common factors or least common multiples • Uses positive and negative numbers to describe quantities having opposite directions or values • Interprets statements of order for rational numbers • Graphs ordered pairs in all four quadrants to solve problems	• Computes quotients of fractions to solve problems • Uses the standard algorithm to fluently divide multi-digit numbers, including decimals • Uses prime factorization to find the greatest common factors, or least common multiples to solve problems • Represents quantities in real-world context on a number line, explaining the meaning of zero • Interprets and writes statements of order for rational numbers • Finds the absolute value of a rational number by recognizing its distance from zero on the number line • Solves problems by graphing in all four quadrants and finds distances between points with the same first coordinate or same second coordinate	• Applies interpretation of quotients of fractions to solving word problems • Uses visual fraction models to solve word problems involving computing quotients of fractions • Applies number theory concepts to the solution of problems. • Solves problems involving order and absolute value of rational numbers

Ratios and Proportional Relationships	- Identifies part-to-part and part-to-whole relationships - Uses rate language in the context of a ratio relationship - Sometimes solves unit rate problems	- Solves problems requiring the conversion of part-to-part ratios to part-to-whole ratios - Consistently solves unit rate problems - Interprets and manipulates models with ratios such as tape diagrams, tables and double number lines to compare ratios - Uses rate reasoning to solve problems - Finds the percent of a quantity - Uses ratio reasoning to convert measurement units within measurement systems	- Explains when to use part-to-part ratios, and when to use part-to-whole ratios to solve problems - Creates models with ratios such as tape diagrams, tables and double number lines to compare ratios - Determines what percent of a quantity is a given amount - Uses ratio reasoning to convert measurement units between measurement systems - Relates mass of an object to its volume to solve problems
Expressions and Equations	- Evaluates given expressions and equations involving whole-number exponents to solve problems - Identifies parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient)	- Interprets, evaluates and writes expressions and equations involving whole-number exponents - Views one or more parts of an expression as a single entity - Generates and identifies equivalent expressions - Relates tables and graphs to equations - Writes and solves equations of the form $x + p = q$ and $px = q$ - Solves and graphs inequalities that represent a constraint or condition in a mathematical or real-world problem. - Analyzes the relationships between dependent and independent variables in real-world problems.	- Creates equations of the form $x + p = q$ and $px = q$ from a given situation - Writes and graphs inequalities that represent a constraint or condition in a mathematical or real-world problem - Uses equations to describe relationships between quantities

Geometry	- Solves mathematical problems involving areas of triangles, including right triangles and quadrilaterals - Solves mathematical problems involving volumes of right rectangular prisms with whole number edge lengths - Given coordinates of a polygon, draws the polygon on a coordinate plane - Represents three-dimensional figures using nets	- Solves real-world problems involving areas of triangles, including right triangles and quadrilaterals by decomposing shapes, rearranging or removing pieces, and relating shapes to rectangles - Finds volumes of right rectangular prisms with fractional edge lengths - Given coordinates of a polygon on a coordinate plane, finds lengths of the sides of the polygon - Uses nets of three-dimensional figures to find the surface area	- Reasons about geometric shapes and their measurements - Develops, and justifies formulas to solve mathematical and real-world problems that involve areas of triangles, including right triangles, and quadrilaterals - Applies the formula for volume of right rectangular prisms with fractional edge lengths - Applies knowledge of nets to solve mathematical and real-world problems involving surface area - Given coordinates of a polygon (without a coordinate plane), finds lengths of the sides of the polygon and applies these techniques to solve real- world problems
Statistics and Probability	- Recognizes a statistical question - Visually recognizes measures of center and variability - Interprets dot plots and histograms	- Solves problems involving finding the measures of center and variability - Constructs dot plots, histograms, box plots, and circle graphs given real-world situations	- Recognizes that a data distribution may not have a definite center, and that different ways to measure center can yield different values, and uses this understanding to interpret a situation - Describes and summarizes numerical data sets, identifying clusters, peaks, gaps, and symmetry in real-world problems

MCAS Achievement Level Descriptors
Mathematics:

Grade 7

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
The Number System	- Represents addition and **subtraction** on horizontal and vertical number lines - Operates with rational numbers with limited accuracy	- Adds, subtracts, multiplies, and divides integers and other rational numbers in mathematical and real-world problems - Recognizes situations in which opposite quantities combine to make zero - Recognizes the additive inverse - Converts a rational numbers to a decimal number	- Applies properties of operations as strategies to add and subtract rational numbers - Interprets quotient and remainder of rational numbers by describing real-world contexts
Ratios and Proportional Relationships	- Recognizes a proportional relationship - Uses ratios and proportionality to solve simple mathematical problems, including percent problems	- Represents a proportional relationship by equations - Interprets the meaning of any point on a graph of a proportional relationship - Sometimes uses ratios and proportionality to solve multi-step mathematical and real-world problems, including percent problems	Consistently uses ratios and proportionality to solve multi-step mathematical and real-world problems, including percent problems

Expressions and Equations	• Uses properties of operations to add and subtract linear expressions • Solves simple mathematical problems using numerical and algebraic expressions and equations • Identifies simple arithmetic and geometric sequences from tables, graphs, words, and expressions. • Extends patterns in simple arithmetic and geometric sequences from tables, graphs, words, and expressions.	• Uses properties of operations to expand linear expressions • Uses properties of operations to factor linear expressions • Given a real-world problem, rewrites expressions in different forms (whole numbers, fractions, decimals) to show understanding of the problem • Graphs the solutions of an inequality • Interprets the solution of an inequality in a real-world problem • Solves multi-step mathematical and real-world problems using numerical and algebraic expressions and equations • Create equations and inequalities to solve problems • Analyzes patterns for simple arithmetic and geometric sequences using tables, graphs, words and expressions	• Uses properties of operations to factor linear expressions and interprets the result in the context of a problem • Justifies solutions to multi-step problems • Analyzes patterns and determines expressions for simple arithmetic and geometric sequences using tables, graphs, words, and expressions
Geometry	• Draws triangles with given conditions • Applies formulas to find the circumference of circles • Applies formulas to find the area of two-dimensional figures, including circles • Recognizes attributes of angles (supplementary, complementary, vertical, adjacent)	• Solves mathematical problems involving scale drawings • Constructs triangles with given conditions and describes some of their attributes • Describes the shape of the two-dimensional face of the figure that results from slicing three-dimensional figures. • Solves problems involving the relationship between area and circumference of circles • Solves problems involving the surface area and volume of three-dimensional shapes • Solves multi-step problems using attributes of angles (supplementary, complementary, vertical, adjacent)	• Finds unknown supplementary, complementary, vertical, and adjacent angles by solving equations

Statistics and Probability	• Makes inferences about a population by examining a sample population • Visually compares two populations based on measures of center and variability • Differentiates between representative and non-representative samples • Identifies probability as a number between 0 and 1 • Finds probabilities of simple events	• Uses random sampling to draw inferences about a population • Recognizes the probabilities of 0 through 1 as likely, unlikely, or neither. • Develops probability models and uses them to find probabilities of events • Finds probabilities for compound events using organized lists, tables, and tree diagrams	• Computes the differences of the centers as a multiple of the measure of variability for two populations • Evaluates probability models • Designs and uses a simulation to generate frequencies for compound events

MCAS Achievement Level Descriptors
Mathematics

Grade 8

Student results on the MCAS tests are reported according to four achievement levels: *Exceeding Expectations, Meeting Expectations, Partially Meeting Expectations,* and *Not Meeting Expectations.* The descriptors below illustrate the knowledge and skills students demonstrate on MCAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

	Partially Meeting Expectations *On MCAS, a student at this level:*	**Meeting Expectations** *On MCAS, a student at this level:*	**Exceeding Expectations** *On MCAS, a student at this level:*
The Number System	• Distinguishes between rational and irrational numbers	• Recognizes that rational and irrational numbers have decimal expansions • Uses rational approximations of irrational numbers to compare the size of irrational numbers • Finds the approximate location of irrational numbers on the number line • Finds rational approximations of irrational numbers	• Estimates the values of expressions with irrational numbers • Converts a decimal expansion that repeats eventually to a rational number
Expressions and Equations	• Identifies the properties of integer exponents • Knows that • 2 is irrational • Uses and evaluates square roots of small squares • Graphs proportional relationships, and identifies the unit rate as the slope • Solves one-variable linear equations with one or many solutions • Recognizes that the point of intersection of two linear equations is the solution	• Applies the properties of integer exponents to generate equivalent expressions • Uses and evaluates cube roots of small cubes • Uses numbers in the form of a single digit times an integer power of 10 to estimate the magnitude and relationships of quantities • Performs operations with decimals and scientific notation • Uses scientific notation and chooses appropriate units of measurement for varying magnitudes • Uses linear equations and systems of linear equations to represent and solve problems. • Compares proportional relationships represented in different ways	• Uses numbers in the form of a single digit times an integer power of 10 to estimate the magnitude and interpret relationships of quantities in word problems • Use similar triangles to explain why the slope is the same between any two distinct points on a non-vertical line in the coordinate plane • Derives the equation $y=mx$ for a line through the origin and the equation $y=mx + b$ for a line intercepting the vertical axis at b • Uses linear equations and systems of linear equations to represent, analyze, and solve problems. • Estimates solutions to systems of two equations from a graph

		• Recognizes the difference between proportional and non-proportional in linear relationships • Solves one-variable linear equations with rational coefficients • Solves systems of two linear equations algebraically or graphically in real-world and mathematical problems	
Functions	• Identifies a relationship as a function • Interprets the equation of a linear function	• Compares the properties of functions represented in different ways • Writes a function to model a linear relationship • Determines the rate of change and initial value of a function from a description including reading these from a table or graph • Describes or sketches functional relationships represented graphically	• Identifies functions as linear and non-linear from graphs or equations • Interprets the rate of change of a function from a table, graph, equation or description
Geometry	• Identifies the properties of rotations, reflections, and translations • Translates and reflects two dimensional figures • Uses the relationship among the sides of a right triangle to solve problems • Uses the Pythagorean theorem to find the hypotenuse of a right triangle	• Describes the congruence relationship between two congruent figures • Describes the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates • Describes the similarity relationship between two similar figures • Rotates two-dimensional figures around the origin • Finds angle sum and exterior angle of triangles, angles created when parallel lines are cut by a transversal, and angle-angle criterion for similarity of triangles • Applies the Pythagorean theorem to find distances between points on the coordinate plane • Applies the Pythagorean theorem to determine the unknown side lengths in right triangles in mathematical and real-world problems	• Use informal arguments to establish facts about the angle sum and exterior angle of triangles, angles created when parallel lines are cut by a transversal, and angle-angle criterion for similarity of triangles • Justifies the Pythagorean theorem and its converse • Given the volume of a cone, finds unknown dimensions of the cone • Given the volume of a cylinder, finds unknown dimensions of the cylinder • Given the volume of a sphere, finds unknown dimensions of the sphere

		• Solves mathematical and real-world problems involving volume of cones, cylinders, and spheres	
Statistics and Probability	• Identifies and constructs a line of best fit • Describes the patterns associated with bivariate categorical data • Finds relative frequency in a two-way table	• Constructs and interprets scatter plots • Uses the equation of a linear model to solve problems • Constructs and interprets two-way tables	• Analyzes scatter plots • Interprets the slope and intercept of linear models • Analyzes relative frequencies in two-way tables