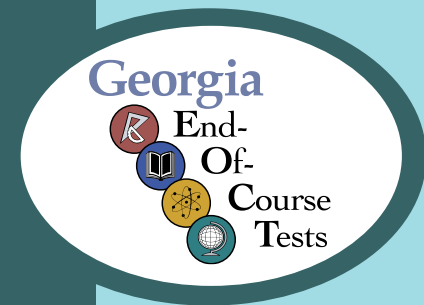




Appendix A: Georgia EOCT Performance Level Descriptions



Georgia Department of Education
Dr. John D. Barge, State School Superintendent
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Appendix A: Georgia EOCT Performance Level Descriptions

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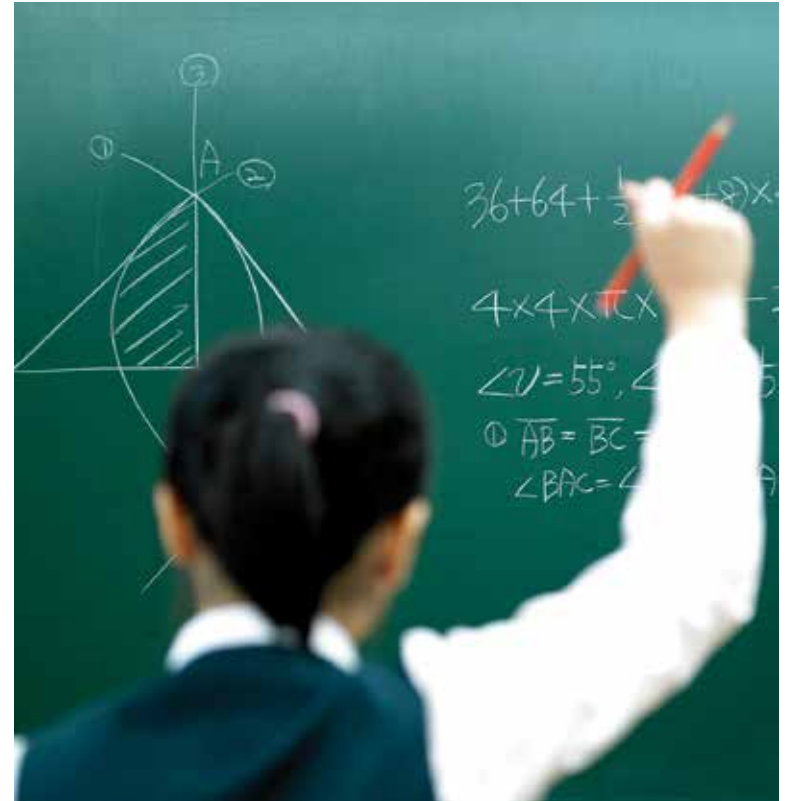
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General Information on the Performance Level Descriptions

There are three Performance Levels for each of the ten Georgia EOCT courses:

- Does Not Meet Standard
- Meets Standard
- Exceeds Standard

These Performance Levels include the following descriptions achieved by the student.



American Literature and Composition

Does Not Meet – Scale Score 200-399

Students who do not meet the standard demonstrate a limited understanding of explicit aspects of various grade-appropriate American literary and informational texts. Students may struggle to understand the implied aspects of texts and have a limited ability to use textual evidence as a basis for interpretation. Students performing at this level struggle to identify and evaluate structural elements and literary devices. Students have a limited ability to interpret the messages, rhetoric, and credibility of speakers, mass media, and persuasive texts. Students also display a limited knowledge of strategies used to enhance understanding across subject areas, including domain-specific and contextual vocabulary. Students who do not meet the standard show a minimal knowledge of grade-level research techniques, a limited understanding of the writing process, and a limited understanding of the usage and mechanics of Standard American English.

Students at this level are able to do the following:

Reading (Literary and Informational)

- Demonstrate limited comprehension of American literary and informational texts that represent an incomplete range of literary periods and difficulty.
- Show a minimal understanding of the structural elements of various genres of American literature, including fiction, nonfiction, poetry, and drama.
- Show limited ability in analyzing the literary elements of various written works, with no clear understanding of the more subtle aspects such as irony, character development, symbolism, figurative language, connotative meaning, and tone.
- Comprehend and summarize the central ideas, viewpoints, and themes in a written work, but with major misconceptions or inability to make clear connections to the text.
- Demonstrate limited ability to support analysis of explicit and implicit ideas in a text, using weak or minimal evidence from the text.
- Compare and contrast themes and topics across genres and texts, often revealing major gaps in logic when using specific evidence from a text to support positions and make logical connections.
- Demonstrate a limited ability to evaluate the author's use of stylistic devices and rhetoric, with minimal understanding of how they contribute to the theme or underlying meaning or how they reveal the author's point of view.
- Display limited knowledge of important works of American literature, and limited ability to analyze foundational U.S. documents of historical and literary significance.

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- Determine the meaning of easy words and phrases as they are used in a text, including figurative language and words with various meanings.
- Demonstrate limited understanding of how word choice affects meaning and tone, and demonstrate limited ability to analyze the cumulative impact of specific word choices on meaning and tone.
- Show limited skill in determining the meaning of unfamiliar words using knowledge of context and structure, suffixes, as well as other resources such as dictionaries, thesauri, and other reference materials.

Speaking and Listening

- Read and view texts in a variety of media and formats that represent a limited range of difficulty, including, but not limited to, the following: speeches, editorials, book reviews, television and radio transcripts, magazines, newspapers, Web pages, charts, graphs, illustrations, and technical documents.
- Show limited ability to integrate multiple sources of information presented in a variety of media and formats (e.g., verbal/oral, visual, or quantitative) and to evaluate the credibility and accuracy of sources.
- Show limited or incomplete comprehension of a speaker's or writer's point of view, reasoning, and use of rhetoric and evidence, with an inability to show how these rhetorical devices develop the speaker's point of view or ideas.
- Demonstrate limited understanding of the effective presentation of knowledge and ideas.
- Demonstrate limited ability to acquire and use academic and domain-specific words and phrases to read, write, speak, and listen at the college- and career-readiness level.

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Writing

- Show an inadequate ability to identify a variety of writing purposes, use appropriate language, and develop argumentative and explanatory texts.
- Demonstrate minimal skill in the writing process, including prewriting, drafting, revising, editing, and proofreading.
- Exhibit limited knowledge in writing multi-paragraph compositions with clear, controlling claims, relevant evidence, quotations, examples to support the ideas presented in the text, proper sentence structure, appropriate transitions, and effective conclusions.
- Display a minimal knowledge of the elements of written communication, including purpose, speaker, audience, style, and tone.
- Show some ability to adapt style, language, and vocabulary to be appropriate for a specific task or audience, but with frequent errors in judgment.
- Show limited knowledge of grade-level research techniques.
- Demonstrate an incomplete understanding of the appropriate conventions used for integrating information into a text to maintain the flow of ideas and avoid plagiarism.
- Show an incomplete understanding of the standard style and formatting conventions used for citations.

Language

- Demonstrate minimal skill in the usage and mechanics of Standard American English, with inconsistent use of correct verb forms, incomplete understanding of subject-verb and pronoun-antecedent agreements, and inconsistent use of correct capitalization and punctuation (including hyphenation). Seldom can handle more complex conventions such as using complete sentence construction with correctly placed clauses and phrases, and resolving issues of word choice and contested usage via references.

American Literature and Composition

Meets – Scale Score 400-449

Students who meet the standard demonstrate a competent understanding of explicit and implied aspects of various grade-appropriate American literary and informational texts, using some textual evidence as a basis for interpretation. Students performing at this level are generally able to identify and evaluate structural elements and literary devices. Students display a general ability to interpret the messages, rhetoric, and credibility of speakers, mass media, and persuasive texts. Students also display a general knowledge of strategies used to enhance understanding across subject areas, including domain-specific and contextual vocabulary. Students who meet the standard show an adequate knowledge of grade-level research techniques, a general understanding of the writing process, and an adequate understanding of the usage and mechanics of Standard American English.

Students at this level are able to do the following:

Reading (Literary and Informational)

- Demonstrate adequate comprehension of American literary and informational texts that represent a moderate range of literary periods and difficulty.
- Show adequate understanding of the structural elements of various genres of American literature, including fiction, nonfiction, poetry, and drama.
- Show adequate ability to analyze the literary elements of various written works, including the more subtle aspects such as irony, character development, symbolism, figurative language, connotative meaning, and tone.
- Comprehend and summarize the central ideas, viewpoints, and themes in a written work, but with difficulty distinguishing between the finer details of the text and how ideas develop and interact.
- Demonstrate adequate ability to support analysis of explicit and implicit ideas in a text, using sufficient evidence from the text.
- Compare and contrast themes and topics across genres and texts, with some minor gaps in logic when using specific evidence from a text to support positions and make logical connections.
- Demonstrate adequate ability to evaluate the author's use of stylistic devices and rhetoric, with some analysis of how they contribute to the theme or underlying meaning and how they reveal the author's point of view.
- Display an adequate understanding of important works of American literature, and analyze foundational U.S. documents of historical and literary significance.

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- Determine the meaning of moderately difficult words and phrases as they are used in a text, including figurative language and words with various meanings.
- Demonstrate an adequate understanding of how word choice affects meaning and tone, and demonstrate adequate ability to analyze the cumulative impact of specific word choices on meaning and tone.
- Show adequate skill in determining the meaning of unfamiliar words using knowledge of context and structure, as well as resources such as dictionaries, thesauri, and other reference materials.

Speaking and Listening

- Read and view texts in a variety of media and formats that represent a moderate range of difficulty, including, but not limited to, the following: speeches, editorials, book reviews, television and radio transcripts, magazines, newspapers, Web pages, charts, graphs, illustrations, and technical documents.
- Integrate multiple sources of information presented in a variety of media and formats (e.g., verbal/oral, visual, or quantitative), but with some limitations in evaluating the credibility and accuracy of each source.
- Show adequate comprehension of a speaker's or writer's point of view, reasoning, and use of evidence and rhetoric, but with trouble making connections between the speaker's ideas, word choice, emphasis, and tone and with trouble showing how these rhetorical devices support the speaker's point of view.
- Demonstrate an adequate understanding of the effective presentation of knowledge and ideas.
- Demonstrate adequate ability to acquire and use academic and domain-specific words and phrases to read, write, speak, and listen at the college- and career-readiness level.

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Writing

- Show adequate ability to identify a variety of writing purposes, use appropriate language, and develop argumentative and explanatory texts.
- Demonstrate an adequate skill in the writing process, including prewriting, drafting, revising, editing, and proofreading.
- Exhibit adequate knowledge in writing multi-paragraph compositions with controlling claims, relevant evidence, quotations, examples to support the ideas presented in the text, proper sentence structure, appropriate transitions, and effective conclusions.
- Display a functional understanding of the elements of written communication, including purpose, speaker, audience, style, and tone.
- Adapt style, language, and vocabulary to be appropriate for a specific task or audience, with some errors in judgment.
- Show adequate knowledge of grade-level research techniques.
- Demonstrate an adequate understanding of the appropriate conventions used for integrating information into a text to maintain the flow of ideas and avoid plagiarism.
- Show a general understanding of the standard style and formatting conventions used for citations, but with limited knowledge of specific rules of convention.

Language

- Demonstrate adequate skill in the usage and mechanics of Standard American English, including, but not limited to, correct verb forms; subject-verb and pronoun-antecedent agreements; and correct capitalization and punctuation (including hyphenation); but revealing difficulty with more complex conventions such as using complete sentence construction with correctly placed clauses and phrases, and resolving issues of word choice and contested usage via references.

American Literature and Composition

Exceeds – Scale Score 450-600

Students who exceed the standard demonstrate a comprehensive understanding of explicit and implied aspects of various grade-appropriate American literary and informational texts, using thorough textual evidence as a basis for interpretation. Students performing at this level are consistently able to identify and evaluate structural elements and literary devices. Students display a strong ability to interpret the messages, rhetoric, and credibility of speakers, mass media, and persuasive texts. Students also display an advanced knowledge of strategies used to enhance understanding across subject areas, including domain-specific and contextual vocabulary. Students who exceed the standard show an in-depth knowledge of grade-level research techniques, an advanced knowledge of the writing process, and a full command of the usage and mechanics of Standard American English.

Students at this level are able to do the following:

Reading (Literary and Informational)

- Demonstrate thorough comprehension of American literary and informational texts that represent a wide range of literary periods and difficulty.
- Show a comprehensive understanding of the structural elements of various genres of American literature, including fiction, nonfiction, poetry, and drama.
- Show a strong ability to analyze the literary elements of various written works, including the more subtle aspects such as irony, character development, symbolism, figurative language, connotative meaning, and tone.
- Comprehend and summarize the central ideas, viewpoints, and themes in a written work, analyzing how the themes interact in a text.
- Demonstrate a strong ability to support analysis of explicit and implicit ideas in a text, using strong and thorough evidence from the text.
- Compare and contrast themes and topics across genres and texts, using specific evidence from a text to support positions and make logical connections.
- Demonstrate a comprehensive ability to evaluate the author's use of stylistic devices and rhetoric, analyzing how they contribute to the theme or underlying meaning and how they reveal the author's point of view.
- Display advanced knowledge of important works of American literature, and thoroughly analyze foundational U.S. documents of historical and literary significance.
- Determine the meaning of difficult words and phrases as they are used in a text, including figurative language and words with various meanings.

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- Demonstrate a comprehensive understanding of how word choice affects meaning and tone, and demonstrate strong ability to analyze the cumulative impact of specific word choices on meaning and tone.
- Show advanced skill in determining the meaning of unfamiliar words using knowledge of context and structure, as well as resources such as dictionaries, thesauri, and other reference materials.

Speaking and Listening

- Read and view texts in a variety of media and formats that represent a comprehensive range of difficulty, including, but not limited to, the following: speeches, editorials, book reviews, television and radio transcripts, magazines, newspapers, Web pages, charts, graphs, illustrations, and technical documents.
- Integrate multiple sources of information presented in a variety of media and formats (e.g., verbal/oral, visual, or quantitative), and evaluate the credibility and accuracy of each source.
- Comprehend and evaluate a speaker's or writer's point of view, reasoning, and use of evidence and rhetoric, showing the connections among the speaker's ideas, word choice, emphasis, and tone.
- Demonstrate a comprehensive understanding of the effective presentation of knowledge and ideas.
- Demonstrate a strong ability to acquire and use academic and domain-specific words and phrases to read, write, speak, and listen at the college- and career-readiness level.

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Writing

- Show a strong ability to identify a variety of writing purposes, use appropriate language, and develop argumentative and explanatory texts.
- Demonstrate advanced skill in the writing process, including prewriting, drafting, revising, editing, and proofreading.
- Exhibit an advanced knowledge in writing multi-paragraph compositions with clear, controlling claims, relevant evidence, quotations, examples to support the ideas presented in the text, proper sentence structure, appropriate transitions, and effective conclusions.
- Display a complete understanding of the elements of written communication, including purpose, speaker, audience, style, and tone.
- Adapt style, language, and vocabulary to be appropriate for a specific task or audience.
- Show in-depth knowledge of grade-level research techniques.
- Demonstrate a strong understanding of the appropriate conventions used for integrating information into a text to maintain the flow of ideas and avoid plagiarism.
- Show a thorough understanding of the standard style and formatting conventions used for citations.

Language

- Demonstrate a full command of the usage and mechanics of Standard American English, including, but not limited to, correct verb forms; subject-verb and pronoun-antecedent agreements; complete sentence construction with correctly placed clauses and phrases; resolution of word choice and contested usage via references; correct capitalization; and punctuation (including hyphenation).

Ninth Grade Literature and Composition

Does Not Meet – Scale Score 200-399

Students who do not meet the standard demonstrate a limited understanding of explicit aspects of various grade-appropriate literary and informational texts. Students may struggle to understand the implied aspects of texts and have a limited ability to use textual evidence as a basis for interpretation. Students performing at this level struggle to identify and evaluate structural elements and literary devices. Students have a limited ability to interpret the messages, rhetoric, and credibility of speakers, mass media, and persuasive texts. Students also display a limited knowledge of strategies used to enhance understanding across subject areas, including domain-specific and contextual vocabulary. Students who do not meet the standard show a minimal knowledge of grade-level research techniques, a limited understanding of the writing process, and a limited understanding of the usage and mechanics of Standard American English.

Students at this level are able to do the following:

Reading (Literary and Informational)

- Demonstrate limited comprehension of literary and informational texts that represent an incomplete range of literary periods and difficulty.
- Show a minimal understanding of the structural elements of various genres of literature, including fiction, nonfiction, poetry, and drama.

- Show limited ability to analyze the literary elements of various written works, struggling significantly with the more subtle elements such as mood, symbolism, style, figurative language, connotative meaning, and tone.
- May comprehend and summarize the central ideas, viewpoints, and themes in a written work, but with major misconceptions and limited ability to understand how themes and ideas are developed over the course of a text.
- Demonstrate limited ability to support analysis of explicit and implicit ideas in a text, using weak or minimal evidence from the text.
- Struggle considerably to compare and contrast themes and topics across genres and texts, often revealing major gaps in logic when using specific evidence from a text to support positions and make logical connections.
- Demonstrate limited ability to analyze points of view and cultural experiences reflected in works of literature outside the U.S.
- Demonstrate limited ability to analyze how an author draws on and transforms source material in a specific work.
- Determine the meaning of easy words and phrases as they are used in a text, including figurative language and words with various meanings.
- Demonstrate a limited understanding of how word choice affects meaning and tone, and demonstrate limited ability to analyze the cumulative impact of specific word choices on meaning and tone.

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- Show limited skill in determining the meaning of unfamiliar words using context; knowledge of Greek and Latin prefixes, suffixes, and roots; and resources such as dictionaries, thesauri, and other reference materials.

Speaking and Listening

- Read and view texts in a variety of media and formats that represent a limited range of difficulty, including, but not limited to, the following: speeches, editorials, book reviews, television and radio transcripts, magazines, newspapers, Web pages, charts, graphs, illustrations, and technical documents.
- Show limited ability to integrate multiple sources of information presented in a variety of media and formats (e.g., verbal/oral, visual, or quantitative) and to evaluate the credibility and accuracy of sources.
- Display a limited or incorrect understanding of a speaker's or writer's point of view, purpose, or position.
- Demonstrate limited ability to evaluate the use of reasoning and rhetoric to develop an argument, with difficulty identifying faulty reasoning or distorted evidence.
- Demonstrate limited or incorrect understanding of the effective presentation of knowledge and ideas.
- Recognize the representation of a subject or important scene in two different artistic mediums, with limited comprehension of how they compare.
- Demonstrate limited ability to acquire and use academic and domain-specific words and phrases to read, write, speak, and listen at the college- and career-readiness level.

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Writing

- Show an inadequate ability in identifying a variety of writing purposes, developing argumentative and explanatory modes of writing, and using appropriate language and domain-specific vocabulary.
- Demonstrate minimal skill in the writing process, including prewriting, drafting, revising, editing, and proofreading.
- Display limited knowledge of the style, methods, and characteristics of argumentative and explanatory writing.
- Display a limited competency in writing well-developed paragraphs with clear, controlling claims, relevant evidence, quotations, and examples to support the ideas presented in the text, and display a limited understanding of proper sentence structure, appropriate transitions, and effective conclusions.
- Show a difficulty in establishing and maintaining a formal style and an objective tone, and show a difficulty attending to the norms and conventions of a particular discipline.
- Show limited knowledge of grade-level research techniques.
- Demonstrate an incomplete understanding of the appropriate conventions used for integrating information into the text to maintain the flow of ideas and avoid plagiarism.
- Show an incomplete understanding of the standard style and formatting conventions used for citations, with limited knowledge of specific rules of convention.

Language

- Demonstrate minimal skill in the usage and mechanics of Standard American English, including correct verb forms, clauses, phrases, punctuation, capitalization, possessives, plural forms, word choice, spelling, and parallel structure.

Ninth Grade Literature and Composition

Meets – Scale Score 400-449

Students who meet the standard demonstrate a competent understanding of explicit and implied aspects of various grade-appropriate literary and informational texts, using some textual evidence as a basis for interpretation. Students performing at this level are generally able to identify and evaluate structural elements and literary devices. Students demonstrate a general ability to interpret the messages, rhetoric, and credibility of speakers, mass media, and persuasive texts. Students also display a general knowledge of strategies used to enhance understanding across subject areas, including domain-specific and contextual vocabulary. Students who meet the standard show an adequate knowledge of grade-level research techniques, a general understanding of the writing process, and an adequate understanding of the usage and mechanics of Standard American English.

Students at this level are able to do the following:

Reading (Literary and Informational)

- Demonstrate adequate comprehension of literary and informational texts that represent a moderate range of literary periods and difficulty.
- Show adequate understanding of the structural elements of various genres of literature, including fiction, nonfiction, poetry, and drama.
- Show adequate ability to analyze the literary elements of various written works, including the more subtle elements such as mood, symbolism, style, figurative language, connotative meaning, and tone.
- Comprehend and summarize the central ideas, viewpoints, and themes in a written work, but may have difficulty in distinguishing between the finer details of the text and analyzing how they are developed over the course of a text.
- Demonstrate adequate ability to support analysis of explicit and implicit ideas in a text, using sufficient evidence from the text.
- Compare and contrast themes and topics across genres and texts, with some minor gaps in logic when using specific evidence from a text to support positions and make logical connections.
- Demonstrate adequate ability to analyze points of view and cultural experiences reflected in works of literature outside the U.S.
- Demonstrate adequate ability to analyze how an author draws on and transforms source material in a specific work.
- Determine the meaning of moderately difficult words and phrases as they are used in a text, including figurative language and words with various meanings.

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- Demonstrate an adequate understanding of how word choice affects meaning and tone, and demonstrate adequate ability to analyze the cumulative impact of specific word choices on meaning and tone.
- Show adequate skill in determining the meaning of unfamiliar words using context; knowledge of Greek and Latin prefixes, suffixes, and roots; and resources such as dictionaries, thesauri, and other reference materials.

Speaking and Listening

- Read and view texts in a variety of media and formats that represent a moderate range of difficulty, including, but not limited to, the following: speeches, editorials, book reviews, television and radio transcripts, magazines, newspapers, Web pages, charts, graphs, illustrations, and technical documents.
- Integrate multiple sources of information presented in a variety of media and formats (e.g., verbal/oral, visual, or quantitative), but with some limitations in evaluating the credibility and accuracy of each source.
- Display an adequate understanding of a speaker's or writer's point of view, purpose, or position, but may not be able to distinguish the more subtle aspects of the rhetoric.
- Demonstrate adequate ability to identify rhetorical techniques, fallacious reasoning, and distorted or exaggerated evidence in persuasive texts and mass media.
- Show an adequate understanding of the effective presentation of knowledge and ideas.
- Compare the representation of a subject or important scene in two different artistic mediums with some analysis, but with limited evaluation of the authors' choices of what to include and what to leave out.
- Demonstrate adequate ability to acquire and use academic and domain-specific words and phrases to read, write, speak, and listen at the college- and career-readiness level.

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Writing

- Show adequate ability in identifying a variety of writing purposes by developing argumentative and explanatory modes of writing and using appropriate language and domain-specific vocabulary.
- Demonstrate adequate skill in the writing process, including prewriting, drafting, revising, editing, and proofreading.
- Display adequate knowledge of the style, methods, and characteristics of argumentative and explanatory writing.
- Display adequate skill in writing well-developed paragraphs with clear, controlling claims, relevant evidence, quotations, and examples to support ideas presented in the text, using proper sentence structure, appropriate transitions, and effective conclusions.
- Show adequate skill in establishing and maintaining a formal style and an objective tone while attending to the norms and conventions of a particular discipline.
- Show adequate knowledge of grade-level research techniques.
- Demonstrate an adequate understanding of the appropriate conventions used for integrating information into the text to maintain the flow of ideas and avoid plagiarism.
- Show a general understanding of the standard style and formatting conventions used for citations, but with limited knowledge of specific rules of convention.

Language

- Demonstrate adequate skill in the usage and mechanics of Standard American English, including correct verb forms, clauses, phrases, punctuation, capitalization, possessives, plural forms, word choice, spelling, and parallel structure.

Ninth Grade Literature and Composition

Exceeds – Scale Score 450-600

Students who exceed the standard demonstrate a comprehensive understanding of explicit and implied aspects of various grade-appropriate literary and informational texts, using thorough textual evidence as a basis for interpretation. Students performing at this level are consistently able to identify and evaluate structural elements and literary devices. Students display a strong ability to interpret the messages, rhetoric, and credibility of speakers, mass media, and persuasive texts. Students also display an advanced knowledge of strategies used to enhance understanding across subject areas, including domain-specific and contextual vocabulary. Students who exceed the standard show an in-depth knowledge of grade-level research techniques, an advanced knowledge of the writing process, and a full command of the usage and mechanics of Standard American English.

Students at this level are able to do the following:

Reading (Literary and Informational)

- Demonstrate thorough comprehension of literary and informational texts that represent a wide range of literary periods and difficulty.
- Show a comprehensive understanding of the structural elements of various genres of literature, including fiction, nonfiction, poetry, and drama.
- Show a strong ability to analyze the literary elements of various written works, including the more subtle elements such as mood, symbolism, style, figurative language, connotative meaning, and tone.
- Comprehend and summarize the central ideas, viewpoints, and themes in a written work, analyzing how they are developed over the course of a text.
- Demonstrate a strong ability to support analysis of explicit and implicit ideas in a text, using strong and thorough evidence from the text.
- Compare and contrast themes and topics across genres and texts, using specific evidence from a text to support positions and make logical connections.
- Demonstrate a strong ability to analyze points of view and cultural experiences reflected in works of literature outside the U.S.
- Demonstrate a strong ability to analyze how an author draws on and transforms source material in a specific work.
- Determine the meaning of difficult words and phrases as they are used in a text, including figurative language and words with various meanings.
- Demonstrate a comprehensive understanding of how word choice affects meaning and tone, and demonstrate strong ability to analyze the cumulative impact of specific word choices on meaning and tone.

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- Show advanced skill in determining the meaning of unfamiliar words using context; knowledge of Greek and Latin prefixes, suffixes, and roots; and resources such as dictionaries, thesauri, and other reference materials.

Speaking and Listening

- Read and view texts in a variety of media and formats that represent a comprehensive range of difficulty, including, but not limited to, the following: speeches, editorials, book reviews, television and radio transcripts, magazines, newspapers, Web pages, charts, graphs, illustrations, and technical documents.
- Integrate multiple sources of information presented in a variety of media and formats (e.g., verbal/oral, visual, or quantitative), and evaluate the credibility and accuracy of each source.
- Evaluate a speaker's or writer's point of view, purpose, or position using strong and thorough textual evidence in the evaluation.
- Demonstrate a strong ability to identify rhetorical techniques, fallacious reasoning, and distorted or exaggerated evidence in persuasive texts and mass media.
- Show a comprehensive understanding of the effective presentation of knowledge and ideas.
- Analyze and compare the representation of a subject or important scene in two different artistic mediums, and evaluate the authors' choices of what is included and what is left out.
- Demonstrate a strong ability to acquire and use academic and domain-specific words and phrases to read, write, speak, and listen at the college- and career-readiness level.

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Writing

- Show a strong ability to identify a variety of writing purposes by developing argumentative and explanatory modes of writing and using appropriate language and domain-specific vocabulary.
- Demonstrate advanced skill in the writing process, including prewriting, drafting, revising, editing, and proofreading.
- Display an advanced knowledge of the style, methods, and characteristics of argumentative and explanatory writing.
- Exhibit an advanced knowledge in writing well-developed paragraphs with clear, controlling claims, relevant evidence, quotations, and examples to support ideas presented in the text, using proper sentence structure, appropriate transitions, and effective conclusions.
- Show a high-level skill in establishing and maintaining a formal style and an objective tone while attending to the norms and conventions of a particular discipline.
- Show in-depth knowledge of grade-level research techniques.
- Demonstrate a strong understanding of the appropriate conventions used for integrating information into the text to maintain the flow of ideas and avoid plagiarism.
- Show a thorough understanding of the standard style and formatting conventions used for citations.

Language

- Demonstrate a full command of the usage and mechanics of Standard American English, including correct verb forms, clauses, phrases, punctuation, capitalization, possessives, plural forms, word choice, spelling, and parallel structure.

Analytic Geometry

Does Not Meet – Scale Score 200-399

Students performing at this level demonstrate minimal understanding of and limited skill with the procedures and concepts in the content domains of Geometry; Expressions, Equations and Functions; Number and Quantity; and Statistics and Probability. They are occasionally able to make connections, reason, communicate, use representations, and solve problems. Problem solving is based on their ability to memorize some key concepts and perform routine procedures. Performance at this level is indicated by the ineffective use of strategies to analyze and solve mathematical and real-world problems with limited or inconsistent use of higher-level cognitive skills.

Students at this level are able to do the following:

Geometry

- Recognize congruent figures.
- Understand and recognize basic proofs of some geometric theorems.
- Recognize basic geometric constructions of some figures.
- Recognize similar figures created by transformations.
- Understand and recognize proofs about similar and congruent triangles.
- Recognize trigonometric ratios and solve basic problems involving right triangles.
- Recognize and identify theorems about circles.

- Recognize and identify formulas about arc lengths and areas of sectors of circles.
- Identify basic equations of circles and parabolas.
- Recognize that geometric theorems can be proved by coordinate proofs.
- Use volume formulas to solve problems.

Expressions, Equations, and Functions

- Recognize the structure of expressions and rewrite simple expressions in various ways.
- Write simple expressions in equivalent forms to solve problems.
- Perform basic arithmetic operations on polynomials.
- Recognize equations and inequalities that can be used to solve problems.
- Solve basic equations and inequalities in one variable.
- Identify the points where the graphs of a linear and a quadratic equation intersect each other, without recognizing them as solutions of the system of equations.
- Recognize key features of functions in contexts.
- Recognize relationships between two quantities.
- Recognize and identify basic transformations of graphs of functions.
- Compare basic quadratic and exponential models to solve problems.

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Number and Quantity

- Recognize properties of rational exponents.
- Recognize properties of rational and irrational numbers.
- Perform basic arithmetic operations with complex numbers.
- Solve basic quadratic equations with complex solutions.

Statistics and Probability

- Recognize and identify functions that fit trends of data.
- Recognize independent events and conditional probability.
- Find probability of simple compound events.

Analytic Geometry

Meets – Scale Score 400-449

Students performing at this level demonstrate basic understanding of and proficiency with the procedures and concepts in the content domains of Geometry; Expressions, Equations and Functions; Number and Quantity; and Statistics and Probability. They generally apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the students' use of effective strategies to analyze and solve mathematical and real-world problems. Students demonstrate adequate analytical skills when encountering proofs and unique problems.

Students at this level are able to do the following:

Geometry

- Describe and explain congruence in terms of rigid motions.
- Understand and complete proofs of geometric theorems, including theorems about lines and angles, triangles, and parallelograms.
- Make basic geometric constructions using a variety of methods.
- Verify similarity of figures using similarity transformations.
- Construct and complete basic proofs about triangles using similarity and congruence criteria.
- Use trigonometric ratios to solve problems involving right triangles.

- Apply theorems about circles, including constructions with circles.
- Apply formulas for arc lengths and areas of sectors of circles.
- Create equations of circles and parabolas.
- Describe and explain geometric theorems algebraically.
- Describe, explain, and apply volume formulas.

Expressions, Equations, and Functions

- Describe the structure of expressions and rewrite them in various ways.
- Write expressions in equivalent forms to solve problems, including factoring and completing the square.
- Perform arithmetic operations on polynomials.
- Create and rearrange basic equations and inequalities and use them to solve problems.
- Solve equations and inequalities in one variable using factoring and the quadratic formula.
- Solve systems of equations consisting of a linear equation and a quadratic equation.
- Describe and explain key features of functions in context using different representations.
- Describe and explain relationships between two quantities and build functions to model those relationships.

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- Describe and explain the effects of constants on transformations of graphs of functions.
- Compare quadratic and exponential models to solve problems.

Number and Quantity

- Apply the properties of rational exponents.
- Apply the properties of rational and irrational numbers.
- Perform arithmetic operations with complex numbers.
- Solve quadratic equations that have complex solutions.

Statistics and Probability

- Describe and interpret data in two variables, including fitting a function to data.
- Understand independent events and find conditional probabilities.
- Solve problems about probability of compound events, including the addition rule.

Analytic Geometry

Exceeds – Scale Score 450-600

Students performing at this level demonstrate comprehensive understanding and mastery of the procedures and concepts in the content domains of Geometry; Expressions, Equations and Functions; Number and Quantity; and Statistics and Probability. They routinely apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the students' use of a wide variety of complex strategies to analyze and solve mathematical and real-world problems, including those where essential information is not explicitly given and must be determined as part of a proof or solution process. Students will exhibit higher-level cognitive skills in their solutions of unique problems.

Students at this level are able to do the following:

Geometry

- Analyze, describe, and explain congruence in terms of rigid motions.
- Construct proofs of geometric theorems, including theorems about lines and angles, triangles, and parallelograms.
- Make geometric constructions using a variety of methods.
- Analyze figures to verify similarity in terms of similarity transformations.
- Construct proofs about triangles using similarity and congruence criteria.

- Understand and explain trigonometric ratios, and use them to solve problems involving right triangles.
- Understand, prove, and apply theorems about circles, including constructions with circles.
- Derive formulas about arc lengths and areas of sectors of circles.
- Derive equations of circles and parabolas from given information.
- Construct coordinate proofs to prove simple geometric theorems algebraically.
- Construct and analyze informal proofs of volume formulas.

Expressions, Equations, and Functions

- Interpret the structure of expressions and rewrite expressions in various ways, including factoring.
- Write complicated expressions in equivalent forms to solve problems, including factoring and completing the square.
- Perform arithmetic operations on polynomials, with an understanding of closure of the operations.
- Analyze problems and create equations and inequalities to find the solution, including graphing on coordinate axes.

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- Analyze and solve equations and inequalities in one variable using various methods, including completing the square, the quadratic formula, and factoring.
- Solve systems of equations consisting of a linear equation and a quadratic equation, both algebraically and graphically.
- Interpret functions that arise in applications in terms of the context, and analyze functions using different representations.
- Analyze relationships between two quantities and build functions to model those relationships.
- Analyze and identify the effects of constants on transformations of graphs of functions, including recognizing even and odd functions.
- Analyze, construct, and compare quadratic and exponential models to solve problems.

Number and Quantity

- Analyze, explain, and extend the properties of exponents to rational exponents.
- Understand, explain, and apply properties of rational and irrational numbers.
- Represent, rewrite, and perform arithmetic operations with complex numbers, including using properties.
- Analyze and solve quadratic equations with complex solutions.

Statistics and Probability

- Summarize, represent, and interpret data on two categorical and quantitative variables, including fitting a function to data.
- Understand independence and conditional probability, and use them to interpret data.
- Analyze and solve problems about probability of compound events, including the addition rule.

Coordinate Algebra

Does Not Meet – Scale Score 200-399

Students performing at this level demonstrate minimal understanding of and limited skill with the procedures and concepts in the content domains of Algebra and Functions (includes Number and Quantity), Algebra Connections to Geometry, and Algebra Connections to Statistics and Probability. They are occasionally able to make connections, reason, communicate, use representations, and solve problems. Problem solving is based on their ability to memorize some key concepts and perform routine procedures. Performance at this level is indicated by the ineffective use of strategies to analyze and solve mathematical and real-world problems with limited or inconsistent use of higher-level cognitive skills.

Students at this level are able to do the following:

Algebra and Functions (includes Number and Quantity)

- Solve simple problems involving units.
- Recognize properties of the structure of simple expressions.
- Recognize that some relationships can be modeled by equations and inequalities.
- Solve basic linear equations, but often encounter difficulties solving problems with exponents and inequalities.
- Solve simple systems of equations graphically.

- Recognize function notation in functions and sequences.
- Recognize different representations of functions.
- Model simple relationships with functions.
- Recognize situations that can be modeled by linear and exponential functions.

Algebra Connections to Geometry

- Recognize transformations of figures in the plane, but have limited ability to describe how they were created.
- Recognize algebraic properties in proofs of simple geometric theorems.
- Solve simple problems involving parallel and perpendicular lines.
- Solve simple problems involving distance.

Algebra Connections to Statistics and Probability

- Describe basic properties of single-variable data.
- Describe basic properties of two-variable data.
- Recognize linear models, but have limited ability to make connections to correlation and causation.

Coordinate Algebra

Meets – Scale Score 400-449

Students performing at this level demonstrate basic understanding of and proficiency with the procedures and concepts in the content domains of Algebra and Functions (includes Number and Quantity), Algebra Connections to Geometry, and Algebra Connections to Statistics and Probability. They generally apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the students' use of effective strategies to analyze and solve mathematical and real-world problems, but students demonstrate adequate analytical skills when encountering unique problems.

Students at this level are able to do the following:

Algebra and Functions (includes Number and Quantity)

- Describe and explain how to use units to solve problems.
- Describe and explain the structure of expressions.
- Use equations and inequalities to describe numbers or relationships, including representing constraints and rearranging formulas to highlight quantities.

- Solve linear and exponential equations, but solving problems with inequalities in one variable may provide more of a challenge.
- Solve systems of equations.
- Use function notation, including sequences as functions.
- Describe and explain the use of functions in different representations and applications.
- Build functions to model relationships and build new functions from existing functions.
- Use linear and exponential models to solve problems.

Algebra Connections to Geometry

- Describe and explain transformations of figures in the plane, including the properties of images of figures.
- Create algebraic proofs of simple geometric theorems.
- Solve problems involving the slope criteria for parallel and perpendicular lines.
- Solve problems involving distances, partitions of line segments, and perimeter and area of figures.

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Algebra Connections to Statistics and Probability

- Describe and interpret data on a single measurement variable, including shapes of data distributions.
- Describe and interpret data for two categorical and quantitative variables, and fit a function to match the trend of data.
- Solve problems about linear models, correlation, and causation.

Coordinate Algebra

Exceeds – Scale Score 450-600

Students performing at this level demonstrate comprehensive understanding and mastery of the procedures and concepts in the content domains of Algebra and Functions (includes Number and Quantity), Algebra Connections to Geometry, and Algebra Connections to Statistics and Probability. They routinely apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the students' use of a wide variety of complex strategies to analyze and solve mathematical and real-world problems, including those where essential information is not explicitly given and must be determined as part of the solution process. Students will exhibit higher-level cognitive skills in their solutions of unique problems.

Students at this level are able to do the following:

Algebra and Functions (includes Number and Quantity)

- Reason quantitatively and use units to model and solve problems.
- Analyze and interpret the structure and meaning of parts of expressions.
- Create equations and inequalities to describe numbers or relationships, including representing constraints and rearranging formulas to highlight quantities.

- Solve linear and exponential equations and inequalities in one variable, and explain the process used to solve them.
- Solve systems of equations and explain various methods of finding the solutions.
- Understand and use function notation, including sequences as functions.
- Analyze and interpret functions in different representations and applications.
- Build functions to model relationships and build new functions from existing functions.
- Construct and compare linear and exponential models and use them to solve problems.

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Algebra Connections to Geometry

- Construct, explain, and describe transformations of figures in the plane, including the properties of images of figures.
- Create algebraic proofs of simple geometric theorems.
- Analyze and strategize how to use the slope criteria for parallel and perpendicular lines to solve geometric problems, where students need to reason what additional information is needed to solve the problem.
- Analyze and strategize how to solve problems involving distance, including partitioning line segments and finding the perimeter and area of figures, where students need to reason what additional information is needed to solve the problem.

Algebra Connections to Statistics and Probability

- Analyze, represent, and interpret data on a single measurement variable, including shapes of data distributions.
- Analyze, represent, and interpret data for two categorical and quantitative variables, including fitting a function to match the trend of data.
- Analyze, interpret, and solve problems involving linear models, including correlation coefficients and causation.

GPS Geometry

Does Not Meet – Scale Score 200-399

Students performing at this level demonstrate a minimal understanding of and limited skill with the procedures and concepts in the content domains of geometry, data analysis, and algebra. They are occasionally able to make connections, reason, communicate, use representations, and solve problems. Problem solving is based on their ability to memorize some key concepts and perform routine procedures.

Students at this level are able to do the following:

Algebra

- Identify some of the characteristics of exponential functions as well as the inverses of some basic functions.
- Recognize and extend some geometric sequences.

Geometry

- Solve for unknowns by identifying some characteristics of simple geometric figures in a coordinate plane.
- Recognize appropriate conclusions in some simple situations.
- Recognize and identify some properties of and relationships among special quadrilaterals in simple situations.
- Recognize and use some triangle theorems and postulates in simple situations.
- Identify and use some right triangle trigonometry relationships.
- Recognize and identify some properties of and relationships among circles and lines.
- Compute volume and surface areas of spheres in routine contexts.

Data Analysis and Probability

- Compute population means and standard deviations in routine contexts.
- Recognize that sample data and population data are different.

GPS Geometry

Meets – Scale Score 400-449

Students performing at this level demonstrate an understanding of and proficiency with the procedures and concepts in the content domains of geometry, data analysis, and algebra. They generally apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the use of effective strategies and some higher-level cognitive skills to analyze and solve mathematical and real-world problems.

Students at this level are able to do the following:

Algebra

- Describe and explain the characteristics of exponential functions as well as inverses of linear, quadratic, and power functions.
- Solve simple exponential equations and inequalities.
- Describe and explain the characteristics of exponential functions with simple context.
- Recognize and represent geometric sequences as functions with domains that are whole numbers.

Geometry

- Create proofs and solve for unknowns by describing and explaining the characteristics of simple geometric figures in a coordinate plane.
- Use logical reasoning to draw appropriate conclusions.
- Describe and use the properties of and relationships among special quadrilaterals.
- Explain and use triangle theorems and postulates.
- Describe and apply right triangle relationships, including trigonometric relationships in routine situations.
- Describe and apply the properties of and relationships among circles and associated lines, segments, and angles.
- Solve problems involving measures related to spheres.

Data Analysis and Probability

- Calculate population means and standard deviations and use them to compare data sets.
- Recognize the distinction between sample data and population data.

GPS Geometry

Exceeds – Scale Score 450-600

Students performing at this level demonstrate a comprehensive understanding and mastery of the procedures and concepts in the content domains of geometry, data analysis, and algebra. They routinely apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the use of complex strategies and higher-level cognitive skills to analyze and solve mathematical and real-world problems.

Students at this level are able to do the following:

Algebra

- Analyze and evaluate the characteristics of exponential functions as well as inverses of linear, quadratic, and power functions.
- Analyze and solve exponential equations and inequalities using a variety of techniques.
- Interpret and apply the characteristics of exponential functions with regard to a given context.
- Analyze and evaluate geometric sequences as functions.

Geometry

- Create proofs and solve for unknowns by analyzing and evaluating the characteristics of complex geometric figures in a coordinate plane.
- Evaluate logical arguments and draw appropriate conclusions in complex situations.
- Analyze and apply the properties of and relationships among special quadrilaterals.
- Understand and apply triangle theorems and postulates in complex situations.
- Understand and apply right triangle relationships, including trigonometric relationships in complex situations.
- Analyze and apply the properties of and relationships among circles and associated lines, segments, and angles.
- Analyze and solve complex problems involving measures related to spheres.

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Data Analysis and Probability

- Analyze and evaluate sample data, making inferences about population means and standard deviations and using these inferences to compare data sets.
- Understand and apply the distinctions between sample data and population data.

Mathematics II: Geometry/Algebra II/Statistics

Does Not Meet – Scale Score 200-399

Students performing at this level demonstrate minimal understanding of and limited skill with the procedures and concepts in the content domains of algebra, geometry, and data analysis. They are occasionally able to make connections, reason, communicate, use representations, and solve problems. Problem solving is based on their ability to memorize some key concepts and perform routine procedures.

Students at this level are able to do the following:

Algebra (includes Number and Operations)

- Recognize and identify some functions and their transformations, as well as identify their characteristics.
- Identify some of the characteristics of some functions and their inverses.
- Recognize constant and variable rates of change in some functions.
- Recognize and extend some geometric and arithmetic sequences.
- Simplify and perform basic operations with algebraic and numeric expressions.
- Recognize solutions to linear and some quadratic equations.

Geometry

- Identify and use some right triangle trigonometry relationships.
- Recognize and identify some properties of and relationships among circles and lines.
- Compute volume and surface areas of spheres in routine contexts.

Data Analysis and Probability

- Compute population means and standard deviations in routine contexts.
- Recognize that sample data and population data are different.
- Recognize and identify quantitative relationships between two variables that are modeled by linear and nonlinear functions.
- Recognize some issues that arise when using data to explore the relationship between two variables.

Mathematics II: Geometry/Algebra II/Statistics

Meets – Scale Score 400-449

Students performing at this level demonstrate understanding of and proficiency with the procedures and concepts in the content domains of algebra, geometry, and data analysis. They generally apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the use of effective strategies to analyze and solve mathematical and real-world problems using some higher-level cognitive skills.

Students at this level are able to do the following:

Algebra (includes Number and Operations)

- Describe and graph basic functions and their transformations, as well as identify their characteristics.
- Describe and explain the characteristics of functions with simple context.
- Describe and explain rates of change, both constant and variable, within families of functions.
- Recognize and represent geometric and arithmetic sequences as functions with domains that are whole numbers.
- Evaluate, simplify, factor, and operate with expressions or equations, recognizing appropriate equivalent forms.
- Solve quadratic equations expressed in any form.
- Perform basic arithmetic operations with complex numbers.

Geometry

- Describe and apply right triangle relationships, including trigonometric relationships in routine situations.
- Describe and apply the properties of and relationships among circles and associated lines, segments, and angles.
- Solve problems involving measures related to spheres.

Data Analysis and Probability

- Calculate population means and standard deviations and use them to compare data sets.
- Recognize the distinction between sample data and population data.
- Use algebraic models to model the association between two quantitative variables.
- Recognize some of the issues that arise when using data to explore the relationship between two variables.

Mathematics II: Geometry/Algebra II/Statistics

Exceeds – Scale Score 450-600

Students performing at this level demonstrate comprehensive understanding and mastery of the procedures and concepts in the content domains of algebra, geometry, and data analysis. They routinely apply their understanding by making connections, reasoning, communicating, using representations, and solving problems. Performance at this level is indicated by the use of complex strategies to analyze and solve mathematical and real-world problems using higher-level cognitive skills.

Students at this level are able to do the following:

Algebra (includes Number and Operations)

- Analyze and evaluate the characteristics of step, piecewise, exponential, and quadratic functions, as well as inverses of functions.
- Interpret and apply the characteristics of functions with regard to a given context.
- Analyze and evaluate rates of change, both constant and variable, within the basic function families.
- Analyze and evaluate geometric and arithmetic sequences as functions.
- Analyze and solve quadratic equations using a variety of techniques.
- Represent, simplify, and operate with complex numbers.

Geometry

- Understand and apply right triangle relationships, including trigonometric relationships in complex situations.
- Analyze and apply the properties of and relationships among circles and associated lines, segments, and angles.
- Analyze and solve complex problems involving measures related to spheres.

Data Analysis and Probability

- Analyze and evaluate sample data, making inferences about population means and standard deviations and using these inferences to compare data sets.
- Understand and apply the distinctions between sample data and population data.
- Understand and apply algebraic models to quantify the association between two quantitative variables.
- Understand and describe in-depth issues that arise when using data to explore the relationship between two variables.

Biology

Does Not Meet – Scale Score 200-399

Students performing at this level will possess a minimal or basic understanding of basic scientific concepts and science content. They will be able to apply their knowledge and skills learned from the characteristics of science to analyze and evaluate components of the biological world and implement advanced procedures to safely investigate these components. They should be able to identify components of the biological world around them and recognize basic procedures for safely investigating these components. Examples of these include the chemical, microscopic, and macroscopic components of life, and identification of biological processes and life forms that the students may encounter on an almost daily basis or in a scientific work setting. Other examples include identification of the various types of cellular structures and structures found within multicellular organisms. Students should know that life forms interact with their environment and depend on resources found in their environment for their survival.

Students at this level are able to do the following:

Cells

- Recognize eukaryotic and prokaryotic cells.
- Recall the function of an enzyme.
- Define homeostasis.

- Identify the four major macromolecules.

Organisms

- Identify types of matter and energy transfer.
- Understand the basis of classification.

Genetics

- Recognize a graphic representation of the DNA molecule.
- Identify DNA as the cellular component responsible for the genetic code.
- Recognize meiosis as a type of cell division.

Ecology

- Recognize the role of an organism within a food chain or food web.
- Identify current environmental issues.

Evolution

- Identify the adaptations of an organism that make it successful in its environment.
- Explain how adaptation is important to the survival of a species.

Biology

Meets – Scale Score 400-449

Students performing at this level will have a competent understanding of basic scientific concepts and science content. They will be able to apply their knowledge and skills learned from the characteristics of science to analyze and evaluate components of the biological world and implement advanced procedures to safely investigate these components. Examples of these include the chemical, microscopic, and macroscopic components of life, and identification and demonstration of biological processes and life forms that the students may encounter on an almost daily basis or in a scientific work setting. Other examples include identifying and distinguishing between the various types of cellular structures and structures found within and among the various types of multicellular organisms. Students should be able to demonstrate and understand the interactions of life forms with their environment.

Students at this level are able to do the following:

Cells

- Compare cell types and describe the function of individual cell organelles in cell functioning and reproduction.
- Describe homeostasis as involving the transport of materials in a cell and in an organism.
- Identify the function of an enzyme within an organism.

- Recognize the function of the four major macromolecules.

Organisms

- Identify how energy is obtained by an organism.
- Describe the conversion of energy within an organism.
- Recognize the increasing complexity of organisms, progressing from a cell to an organ to an organism.
- Use data to recognize evolutionary relationships between organisms.

Genetics

- Recognize the differences between DNA and RNA.
- Identify DNA as the basis of the genetic code.
- Describe the outcome of meiosis.
- Identify several probable causes of changes in the genetic code of an organism.
- Identify the probable outcomes of changing DNA sequences.
- Summarize the outcome of both sexual and asexual reproduction.
- Recognize the use of DNA technology in society.

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Ecology

- Identify relationships among components in an ecosystem.
- Compare the characteristics of major biomes.
- Identify factors affecting the major biomes.
- Analyze the transfer of energy and matter through an ecosystem.
- Relate adaptations to the survival of organisms.

Evolution

- Identify the characteristics that influence the “fitness” of a species within an environment.
- Identify examples of chemical resistance as they relate to evolution.
- Explain how mutation may produce adaptations that are the basis of natural selection.
- Describe the development of the theory of evolution.

Biology

Exceeds – Scale Score 450-650

Students performing at this level have a comprehensive understanding of basic scientific concepts and science content. They will be able to apply their knowledge and skills learned from the characteristics of science to analyze and evaluate components of the biological world and implement advanced procedures to safely investigate these components. Examples of these include the chemical, microscopic, and macroscopic components of life, and analysis and categorization of biological processes and life forms that the students may encounter on an almost daily basis or in a scientific work setting. Other examples include comparison of the various types of cellular structures and structures found within and among the various types of multicellular organisms. Students should be able to explain and make conclusions about the interactions of life forms with their environment and synthesize these conclusions into explanations of abstract observations. Students should also be able to make predictions that can be applied to the biological world around them.

Students at this level are able to do the following:

Cells

- Compare structure and function of cellular components.
- Thoroughly explain the role and mechanisms of homeostasis in maintaining life as they relate to cell structure.

- Summarize the role of enzymes within an organism.
- Describe the lock-and-key structure of enzymes and their substrates.
- Compare and contrast the function of the four macromolecules.

Organisms

- Differentiate between the various processes of matter and energy conversion within an organism such as photosynthesis, respiration and fermentation.
- Analyze the organizational hierarchy of cells, tissues, organs, organ systems, organisms, populations, and ecosystems.
- Analyze the evolutionary basis of the six kingdom system.

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Genetics

- Compare and contrast DNA and RNA.
- Describe the role and mechanisms of DNA in genetic inheritance.
- Explain the function of meiosis.
- Identify agents responsible for genetic alterations.
- Predict the effects of alterations to the genetic code.
- Compare and contrast the roles of sexual and asexual reproduction in genetic variability and population growth.
- Identify the uses and effects of DNA technology in society.

Ecology

- Explain the concept of an ecosystem in terms of its components and the flow of matter and energy through the system.
- Assess and analyze changes within an ecosystem, including the impact of man's activities, and possible solutions to ecological problems.
- Construct food chains and webs, based on the position of an organism within an ecosystem.
- Explain the adaptations of an organism that enable the organism to be successful within an ecosystem.
- Relate the stages of succession to changes in an ecosystem after a natural disaster.

Evolution

- Identify the effects of biodiversity, mutations and natural selection on the survival rates of species.
- Describe the use of scientific evidence, such as the fossil record, in explaining the evolution of organisms.
- Relate adaptation to natural selection.
- Describe the history of life forms in terms of biodiversity, ancestry, and the rates of evolution.

Physical Science

Does Not Meet – Scale Score 200-399

Students performing at this level will possess a minimal understanding of basic scientific concepts and science content. They will be able to apply their knowledge and skills learned from the characteristics of science to analyze and evaluate basic components of the physical world and implement routine procedures to safely investigate these components. Examples include the physical and chemical properties of matter, identification of basic molecular chemistry, and reaction types. Other examples include identification of the various types of forces, energy, and waves that the students may commonly encounter.

Students at this level are able to do the following:

Chemistry—Atomic and Nuclear Theory and the Periodic Table

- Identify three subatomic particles of an atom.
- Recall the definition of a covalent bond or ionic bond.
- Recognize the relationship between the atomic number and the number of protons of an element.
- Define radioactive decay.
- Define fusion.
- Recall one disadvantage of nuclear waste.

- Describe a metal, a nonmetal, and a metalloid (semi-metal) by identifying the physical properties of a substance.
- Recall the four phases of matter.
- Recognize that, within each phase of matter, the relative motion of particles in that phase varies.

Chemistry—Chemical Reactions and Properties of Matter

- Recognize the reactants and/or products of a chemical reaction.
- Recall the definition of density.
- Restate the Law of Conservation of Matter.
- Define solute, solvent or solution.
- Recall that heat affects the rate of solubility of a solute.
- Recall that pH is a measurement of the acidity or basicity of a substance.

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Physics—Energy, Force, and Motion

- Describe convection or conduction.
- Recognize that some objects can conduct heat more effectively than others.
- List at least two types of energy.
- Describe weight.
- Recognize Newton's three laws.
- Recognize several simple machines.

Physics—Waves, Electricity, and Magnetism

- Identify the wavelength and frequency of a wave in a diagram.
- Define reflection or refraction.
- Recall an example of static electricity.
- Describe electrical current.
- Define direct current.
- Recall that magnetism results in an electrical current.

Physical Science

Meets – Scale Score 400-449

Students performing at this level will possess a suitable understanding of basic scientific concepts and science content. They will be able to apply their knowledge and skills learned from the characteristics of science to analyze and evaluate components of the physical world and implement advanced procedures to safely investigate these components. Examples of these components include the physical and chemical properties of matter, identification and demonstration of molecular chemistry, and reaction types. Other examples include identifying and distinguishing between the various types of forces, energy, and waves that the students may commonly encounter. Students should also be able to demonstrate the interactions of some of these forces and waves.

Students at this level are able to do the following:

Chemistry—Atomic and Nuclear Theory and the Periodic Table

- Understand the relative size, location and charge of protons, neutrons and electrons in an atom.
- Use the periodic table to determine the number of protons, electrons and neutrons in an atom.
- Determine the chemical symbol, atomic number and/or atomic mass of an element given the name of that element.
- Define an isotope.
- Identify atoms, molecules and ions.
- Recognize the structural differences between positive and negative ions.
- Define the differences between covalent and ionic bonds.
- Identify the three main forms of radioactive decay (alpha, beta, gamma) and the common characteristics of each form.
- Differentiate between fission and fusion.
- Define half life as related to radioactive decay.
- Identify advantages and disadvantages of nuclear energy.
- Determine the number of outer shell (valence) electrons for the first 20 elements.
- Predict the most likely valence state (oxidation state) of an element (excluding the transition elements).

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- Identify an element as a metal, nonmetal or metalloid (semi-metal) by the location of that element in the periodic table of the elements.
- Predict the phase of an element based on the general location of that element in the periodic table of the elements.
- Recognize the characteristics (shape, volume and molecular motion) of matter as those characteristics relate to the phase (state) of matter.
- Recognize the general effect of temperature, pressure and volume changes on the behavior of gases.

Chemistry—Chemical Reactions and Properties of Matter

- Identify appropriate units for physical properties of substances (density, mass, volume).
- Calculate density, given mass and volume.
- Identify the appropriate chemical formula for a binary ionic compound, given the oxidative state of the individual ions of that compound.
- Given the formula of a binary ionic compound or a covalent compound, use the IUPAC nomenclature to identify that compound.
- Given the name of a compound, use IUPAC nomenclature to identify the appropriate chemical formula of a binary ionic or covalent compound.
- Demonstrate the Law of Conservation of Matter by comparing the mass of reactants to the mass of products of a reaction.
- Recognize balanced chemical equations.
- Classify chemical reactions as either synthesis, single replacement (displacement), double replacement (displacement) or decomposition.
- Differentiate between a solute and a solvent within a solution.
- Recognize that when placed in a solution, solutes will affect the conductivity of that solution.
- Define concentration in terms of solute per unit solvent, i.e. dilute, concentrated, saturated, unsaturated, supersaturated.

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- Recognize the factors that affect the solubility rate of a solute within a solution.
- Use a solubility curve to relate temperature and the solubility of a solute in a solution.
- Recognize the common properties of acids and bases (slippery, sour, etc.).
- Classify a common household substance as acidic, basic or neutral, given the common properties of that substance.

Physics— Energy, Force, and Motion

- Identify the types, sources and uses of energy (chemical, thermal, mechanical, thermonuclear, photoelectric and electromagnetic).
- Trace the transformation of energy within a given system.
- Relate molecular motion to the thermal energy changes in conduction, convection and radiation.
- Calculate the heat lost or gained by a system, given mass, specific heat capacity and temperature change.
- Using a phase diagram, explain the changes in matter within a system, as it relates to pressure and temperature.
- Calculate velocity of an object, given the displacement and time of measurement for that object.
- Calculate acceleration of an object, given the change in velocity and time for that object.
- Define inertia and recognize common examples of inertia.

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- Recognize the relationship between force, mass and acceleration, as described in Newton's second law.
- Calculate the force of an object, given the mass and the acceleration of that object.
- Recognize and determine the outcome of common examples of Newton's third law.
- Identify common forces, including friction.
- Relate falling objects to gravitational force.
- Contrast mass and weight.
- Calculate the work and mechanical advantage of a simple machine.

Physics—Waves, Electricity, and Magnetism

- Recognize that all waves transfer energy.
- Recognize the relationship between frequency and wavelength to the energy of an electromagnetic and a mechanical wave.
- Compare and contrast electromagnetic waves to mechanical waves.
- Define and recognize common examples of reflection, refraction, interference and diffraction.
- Relate the speed of sound to the characteristics of different media.
- Predict the Doppler effect of a moving sound source or a moving sound receiver.
- Given common examples of static electricity, explain the flow of electrons in terms of friction, induction and conduction.
- Define alternating and direct current in terms of the flow of electrons.
- Calculate voltage, given current and resistance.
- Distinguish series circuits from parallel circuits in terms of the flow of electrons.
- Describe how the flow of electrons creates a magnetic field that can be used to produce an electromagnet.
- Describe how an electromagnet can be used to produce a simple motor.
- Recognize examples of permanent magnets.

Physical Science

Exceeds – Scale Score 450-750

Students performing at this level possess a comprehensive understanding of basic scientific concepts and science content. They will be able to apply their knowledge and skills learned from the characteristics of science to analyze and evaluate components of the physical world and implement advanced procedures to safely investigate these components. Examples of these components include the physical and chemical properties of matter, analysis and categorization of molecular chemistry, and reaction types. Other examples include comparing of the various types of forces, energy, and waves that the students may commonly encounter and making predictions that can be applied to the world around them. Students should also be able to explain the interactions of forces and waves through abstract conceptualization.

Students at this level are able to do the following:

Chemistry—Atomic and Nuclear Theory and the Periodic Table

- Determine the number of neutrons in the isotopes of an element.
- Given the chemical symbol, the atomic number, or atomic mass of an element, determine additional characteristics of that same element.
- Classify the bonds found in compounds as being either ionic or covalent.
- Analyze the process of radioactive decay and calculate radioactive half-life.
- Analyze the advantages and disadvantages of nuclear energy.

- Predict the penetrating ability of each type (alpha, beta, gamma) of radiation.
- Relate basic atomic structure (the number and location of subatomic particles) to basic periodic trends, such as reactivity or oxidative state.
- Predict the probable location of an element within the periodic table of the elements when given the physical and/or chemical properties of that element.
- Predict the relative effects of changes in temperature, volume or pressure on the behavior of gases.

Chemistry—Chemical Reactions and Properties of Matter

- Solve quantitative problems involving mass, volume and density.
- Predict formulas for balanced chemical reactions, using IUPAC nomenclature.
- Compare and contrast solutes, solvents, and solutions.
- Predict the approximate rate of solution given the physical conditions of the solution.
- Use a solubility curve to make predictions about the amount of a solute within a solution.
- Compare and contrast the physical and chemical properties of acids and bases.

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Physics—Energy, Force, and Motion

- Analyze types of energy (mechanical, chemical, thermonuclear, photoelectric, and electromagnetic) in terms of their uses and environmental impacts.
- Analyze the transfer of heat energy through the processes of conduction, convection, and radiation.
- Recognize the role of conductors and insulators in the transfer of heat.
- Measure and analyze the effects of balanced and unbalanced forces on an object in motion.
- Solve application problems involving force, mass or acceleration of an object demonstrating an understanding of Newton's second law.
- Demonstrate an understanding of Newton's third law by solving application problems demonstrating balanced and unbalanced forces.
- Distinguish between simple and compound machines, and calculate mechanical advantage of simple machines.
- Calculate the benefits of using simple machines in performing work.

Physics—Waves, Electricity, and Magnetism

- Using the electromagnetic spectrum, determine the energy and frequency relationships of waves.
- Relate color to the wavelength and/or frequency of light.
- Discuss the wave-particle duality of light wave behavior.
- Analyze the current within series and parallel circuits.
- Investigate the relations between voltage, current, and resistance.

Economics/Business/Free Enterprise

Does Not Meet – Scale Score 200-399

A student performing at the Does Not Meet Standard Level in Economics recognizes economic terms, principles, and concepts. A student demonstrates a limited ability to interpret economic problems that are posed in scenario, graphic, or data chart form.

Students at this level are able to perform the following tasks:

Fundamental Economic Concepts

Recognize

- basic economic terms and concepts,
- different economic systems,
- examples of government involvement in a market economy, and
- examples of investment in human and capital resources

but demonstrate a limited ability to use this knowledge to interpret economic problems that are posed in scenario, graphic, or data chart form.

Microeconomic Concepts

Recognize

- circular flow diagrams;
- the concepts of supply, demand, and price;
- different types of U.S. business organizations; and
- characteristics of market structures

but demonstrate a limited ability to use this knowledge to interpret economic problems that are posed in scenario, graphic, and data chart form.

Macroeconomic Concepts

Recognize

- that statistical data are used to measure the U.S. economy;
- the structure and role of the Federal Reserve System, and
- fiscal and monetary policy

but demonstrate a limited ability to use this knowledge to interpret economic problems that are posed in scenario, graphic, and data chart form.

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International Economics

Recognize

- that comparative advantage is largely responsible for international trade,
- that data are collected to measure a nation's international trade, and
- that nations use different currencies

but demonstrate a limited ability to use this knowledge to interpret economic problems that are posed in scenario, graphic, and data chart form.

Personal Finance Economics

Recognize

- personal spending, saving, and investment choices,
- the types of financial institutions available to individuals,
- the nature of credit and its advantages and disadvantages,
- the concept of personal insurance for different purposes, and
- factors that affect the level of personal income earned in the workplace

but demonstrate a limited ability to use this knowledge to interpret economic problems that are posed in scenario, graphic, and data chart form.

Economics/Business/Free Enterprise

Meets – Scale Score 400-449

A student performing at the Meets Standard Level in Economics describes, explains, and uses economic terms, principles, and concepts. A student demonstrates the ability to interpret economic problems that are posed in scenario, graphic, or data chart form.

Students at this level are able to perform the following tasks:

Fundamental Economic Concepts

Describe and explain

- scarcity, opportunity costs, and production;
- marginal costs and benefits;
- different economic systems;
- government involvement in a market economy; and
- the difference between investment in human and capital resources

Microeconomic Concepts

Describe and explain

- the flow of goods, services, and money in an economy;
- the connections between and among supply, demand, prices, and profit with production and distribution;
- the effects of price and competition on economic behavior;
- different types of U.S. business organizations; and
- the characteristics of market structures

Macroeconomic Concepts

Describe and explain

- different types of statistical data that are used to measure the U.S. economy,
- the structure and role of the Federal Reserve System, and
- the role of monetary policy and fiscal policy as overall economic tools

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International Economics

Describe and explain

- factors that cause individuals, businesses, and nations to trade;
- the differences between absolute advantage and comparative advantage;
- the differences between balance of trade and balance of payment data;
- trading blocks and trade barriers;
- arguments for and against free trade; and
- exchange rates

Personal Finance Economics

Describe and explain

- how to make rational personal spending, saving, and investment choices;
- services offered by different financial institutions;
- different types of consumer credit and their advantages and disadvantages;
- the effects of changes in fiscal and monetary policy on personal spending and saving choices;
- different types of personal insurance that can be purchased; and
- factors that affect levels of personal income earned in the workplace

Economics/Business/Free Enterprise

Exceeds – Scale Score 450-650

A student performing at the Exceeds Standard Level in Economics interprets, analyzes, and applies fundamental economic terms, principles, and concepts. A student demonstrates the ability to analyze and interpret economic problems that are posed in scenario, graphic, or data chart form.

Students at this level are able to perform the following tasks:

Fundamental Economic Concepts

Analyze and evaluate relationships between and among

- scarcity, opportunity costs, and production;
- marginal costs and benefits;
- specialization and voluntary exchange;
- different economic systems;
- the causes and effects of government involvement in a market economy; and
- the effects of investment in human and capital resources

Microeconomic Concepts

Analyze and evaluate

- economic interaction and interdependence created by the flow of goods, services, and money;
- how supply, demand, prices and profit determine production and distribution;
- the effects of price and competition on economic behavior;
- the advantages and disadvantages of different types of U.S. business organizations; and
- the characteristics of market structures

Macroeconomic Concepts

Analyze and evaluate

- how and why different types of statistical data are collected and used to measure U.S. economic activity;
- the structure and role of the Federal Reserve System; and
- the use of monetary policy and fiscal policy as overall economic tools

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International Economics

Analyze and evaluate

- factors that cause individuals, businesses, and nations to trade;
- the effects of absolute advantage and comparative advantage on trade;
- the significance of balance of trade and balance of payment data;
- reasons for and the effects of trading blocks and trade barriers;
- arguments for and against free trade; and
- the significance of changes in exchange rates on trade

Personal Finance Economics

Analyze and evaluate

- the significance of rational decision making to personal spending, saving, and investment choices;
- the services offered by different types of financial institutions;
- the effects of changes in fiscal and monetary policy on personal spending and saving choices;
- different types of consumer credit and their advantages and disadvantages;
- different types of personal insurance and their advantages and disadvantages; and
- factors that affect levels of personal income earned in the workplace

U.S. History

Does Not Meet – Scale Score 200-399

A student performing at this level demonstrates a limited understanding of major events and themes in U.S. History, the ability to use map and globe skills to retrieve information but a limited ability to apply this information, and a limited ability to locate and apply information related to social studies topics.

Students at this level show a limited understanding of the significance of or the relationship between events and/or people, but are able to identify:

Colonization through the Constitution

- the European settlement of North America during the 17th century
- the ways that the economy and society of British North America developed
- the primary causes of the American Revolution
- the ideological, military, and diplomatic aspects of the American Revolution
- specific events and key ideas that brought about the adoption and implementation of the United States Constitution, including the importance of the two first presidencies

New Republic through Constitution

- the nature of territorial and population growth and the impact of this growth in the early decades of the new nation
- the process of economic growth, its regional and national impact in the first half of the 19th century, and evaluate the different responses to it, including reform movements and elements of Jacksonian democracy
- the relationship between growing north-south divisions and westward expansion
- the key events, issues, and individuals relating to the causes, course, and consequences of the Civil War
- the legal, political, economic and social consequences of Reconstruction

Industrialization, Reform, & Imperialism

- the growth of big business and technological innovations after Reconstruction
- important consequences of American industrial growth
- the major efforts to reform society and politics in the Progressive Era
- the significance of the U.S. role in world politics at the turn of the 20th century

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Establishment as a World Power

- the origins and impact of U.S. involvement in World War I
- key developments in the aftermath of World War I
- the causes and consequences of the Great Depression
- Franklin Roosevelt's New Deal as a response to the Depression and compare the ways governmental programs aided those in need
- the origins, major developments, and the domestic impact of World War II, especially the growth of the federal government
- the domestic and international impact of the Cold War on the United States

Modern Era

- economic growth and its impact on the United States, 1945-1970
- dimensions of the Civil Rights Movement, 1945-1970
- the impact of political developments between 1945 and 1970
- the impact of social change movements and organizations of the 1960s
- changes in national politics since 1968

U.S. History

Meets – Scale Score 400-449

A student performing at this level should be able to describe and explain major events and themes in U.S. History, demonstrate the ability to use map and globe skills to retrieve information, and demonstrate the ability to locate and apply information related to social studies topics.

Students at this level are able to describe and explain:

Colonization through the Constitution

- the European settlement of North America during the 17th century
- the ways that the economy and society of British North America developed
- the primary causes of the American Revolution
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U.S. History

Exceeds – Scale Score 450-650

A student performing at this level should be able to analyze and evaluate major events and themes in U.S. History, show a mastery of the ability to use map and globe skills to retrieve information, and synthesize information related to social studies topics to make generalizations, solve problems, and interpret new information.

Students at this level are able to analyze and evaluate:

Colonization through the Constitution

- the European settlement of North America during the 17th century
- the ways that the economy and society of British North America developed
- the primary causes of the American Revolution
- the ideological, military, and diplomatic aspects of the American Revolution
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