

Appendix 6

5TH GRADE STANDARDS COVERED IN *METROPOLIS*

SUBJECT AREAS

Metropolis was designed as a standards-based, interdisciplinary unit of study for grades 3-6 (though it could be adapted for any grade level).

Standards in all states and at all grade levels are generally organized to cover the same subject areas and domains. *Metropolis* covers standards in the following subject areas and domains:

Language Arts:

Vocabulary, Reading Comprehension, Writing, Language Conventions (grammar), and Speaking and Listening

Mathematics:

Measurement and Geometry

Visual and Performing Arts:

Artistic Perception; Connections, Relationships and Applications

Social Studies:

Social Science Foundational Skills (maps skills, geographical features, etc. . . .)

Health Education:

Personal and Community Health

On the following pages is an example of how *Metropolis* has been used to meet California's fifth grade standards in language arts, mathematics, visual and performing arts, social studies, and health education. You can easily look up specific standards for your grade level and state on the Internet.

CALIFORNIA 5TH GRADE CONTENT STANDARDS COVERED IN *METROPOLIS***ENGLISH LANGUAGE ARTS****I. READING****1.0 Word Analysis, Fluency, and Systematic Vocabulary Development**

Students use their knowledge of word origins and word relationships, as well as historical and literary context clues, to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words.

Word Recognition

1.1 Read aloud narrative and expository text fluently and accurately and with appropriate pacing, intonation, and expression.

Vocabulary and Concept Development

1.2 Use word origins to determine the meaning of unknown words.

1.3 Understand and explain frequently used synonyms, antonyms, and homographs.

1.4 Know abstract, derived roots and affixes from Greek and Latin and use this knowledge to analyze the meaning of complex words (e.g., *controversial*).

1.5 Understand and explain the figurative and metaphorical use of words in context.

2.0 Reading Comprehension (Focus on Informational Materials)

Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. The selections in *Recommended Literature, Kindergarten Through Grade Twelve* illustrate the quality and complexity of the materials to be read by students. In addition, by grade eight, students read one million words annually on their own, including a good representation of grade-level-appropriate narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information). In grade five, students make progress toward this goal.

Structural Features of Informational Materials

2.1 Understand how text features (e.g., format, graphics, sequence, diagrams, charts, and maps) make information accessible and usable.

2.3 Discern main ideas and concepts presented in texts, identifying and assessing evidence that supports those ideas.

II. WRITING**1.0 Writing Strategies**

Students write clear, coherent, and focused essays. The writing exhibits the students' awareness of the audience and purpose. Essays contain formal introductions, supporting evidence, and conclusions. Students progress through the stages of the writing process as needed.

Organization and Focus

1.2 Create multiple-paragraph expository compositions:

a. Establish a topic, important ideas, or events in sequence or chronological order.

- b. Provide details and transitional expressions that link one paragraph to another in a clear line of thought.
- c. Offer a concluding paragraph that summarizes important ideas and details.

Research and Technology

1.5 Use a thesaurus to identify alternative word choices and meanings.

Evaluation and Revision

1.6 Edit and revise manuscripts to improve the meaning and focus of writing by adding, deleting, consolidating, clarifying, and rearranging words and sentences.

2.0 Writing Applications (Genres and Their Characteristics)

Students write narrative, expository, persuasive, and descriptive texts of at least 500 to 700 words in each genre. Student writing demonstrates a command of standard American English and the research, organizational, and drafting strategies outlined in Writing Standard 1.0. Using the writing strategies of grade five outlined in Writing Standard 1.0, students:

2.3 Write research reports about important ideas, issues, or events by using the following guidelines: a. Frame questions that direct the investigation. b. Establish a controlling idea or topic. c. Develop the topic with simple facts, details, examples, and explanations.

2.4 Write persuasive letters or compositions: a. State a clear position in support of a proposal. b. Support a position with relevant evidence. c. Follow a simple organizational pattern. d. Address reader concerns.

1.0 Written and Oral English Language Conventions

Students write and speak with a command of standard English conventions appropriate to this grade level.

Sentence Structure

1.1 Identify and correctly use prepositional phrases, appositives, and independent and dependent clauses; use transitions and conjunctions to connect ideas.

Grammar

1.2 Identify and correctly use verbs that are often misused (e.g., *lie/lay, sit/set, rise/raise*), modifiers, and pronouns.

Punctuation

1.3 Use a colon to separate hours and minutes and to introduce a list; use quotation marks around the exact words of a speaker and titles of poems, songs, short stories, etc.

Capitalization

1.4 Use correct capitalization.

Spelling

1.5 Spell roots, suffixes, prefixes, contractions, and syllable constructions correctly.

III. LISTENING AND SPEAKING

1.0 Listening and Speaking Strategies

Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication.

Comprehension

1.1 Ask questions that seek information not already discussed.

1.2 Interpret a speaker's verbal and nonverbal messages, purposes, and perspectives.

1.3 Make inferences or draw conclusions based on an oral report.

Organization and Delivery of Oral Communication

1.4 Select a focus, organizational structure, and point of view for an oral presentation.

1.5 Clarify and support spoken ideas with evidence and examples.

1.6 Engage the audience with appropriate verbal cues, facial expressions, and gestures.

2.0 Speaking Applications (Genres and Their Characteristics)

Students deliver well-organized formal presentations employing traditional rhetorical strategies (e.g., narration, exposition, persuasion, and description). Student speaking demonstrates a command of standard American English and the organizational and delivery strategies outlined in Listening and Speaking Standard 1.0.

Using the speaking strategies of grade five outlined in Listening and Speaking Standard 1.0, students:

2.2 Deliver informative presentations about an important idea, issue, or event, and:

a. Frame questions to direct the investigation.

b. Establish a controlling idea or topic.

c. Develop the topic with simple facts, details, examples, and explanations.

CALIFORNIA 5TH GRADE CONTENT STANDARDS COVERED IN *METROPOLIS***MATHEMATICS****MEASUREMENT AND GEOMETRY****1.0 Students understand and compute the volumes and areas of simple objects:**

1.1 Derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangles make a parallelogram with twice the area; a parallelogram is compared with a rectangle of the same area by cutting and pasting a right triangle on the parallelogram).

1.2 Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.

1.3 Understand the concept of volume and use the appropriate units in common measuring systems (i.e., cubic centimeter [cm^3], cubic meter [m^3], cubic inch [in^3], and cubic yard [yd^3]) to compute the volume of rectangular solids.

1.4 Differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (i.e., find the perimeter, area, volume).

2.0 Students identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures:

2.1 Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software).

2.2 Know that the sum of the angles of any triangle is 180° and the sum of the angles of any quadrilateral is 360° , and use this information to solve problems.

2.3 Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.

CALIFORNIA 5TH GRADE CONTENT STANDARDS COVERED IN *METROPOLIS***VISUAL AND PERFORMING ARTS****1.0 ARTISTIC PERCEPTION**

Processing, Analyzing, and Responding to Sensory Information through the Language and Skills Unique to the Visual Arts

Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations.

Develop Perceptual Skills and Visual Arts Vocabulary:

1.1 Identify and describe the principles of design in visual compositions, emphasizing unity and harmony.

Communication and Expression through Original Works of Art:

2.7 Communicate values, opinions, or personal insights through an original work of art.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connecting and applying what is learned in the visual arts to other art forms and subject areas and to careers.

Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to the visual arts.

Connections and Applications

5.1 Use linear perspective to depict geometric objects in space.

Visual Literacy

5.2 Identify and design icons, logos, and other graphic devices as symbols for ideas and information.

Careers and Career-Related Skills

5.3 Research and report on what various types of artists (e.g., architects, designers, graphic artists, and animators) produce and how their works play a role in our everyday environment.

CALIFORNIA 5TH GRADE CONTENT STANDARDS COVERED IN *METROPOLIS***SOCIAL STUDIES****HISTORICAL AND SOCIAL SCIENCES ANALYSIS SKILLS (GRADES K–5)**

The intellectual skills noted below are to be learned through, and applied to, the content standards for kindergarten through grade five. They are to be assessed *only in conjunction with* the content standards in kindergarten through grade five.

In addition to the standards for kindergarten through grade five, students demonstrate the following intellectual, reasoning, reflection, and research skills:

Chronological and Spatial Thinking

3. Students explain how the present is connected to the past, identifying both similarities and differences between the two, and how some things change over time and some things stay the same.
4. Students use map and globe skills to determine the absolute locations of places and interpret information available through a map or globe's legend, scale, and symbolic representations.
5. Students judge the significance of the relative location of a place (e.g., proximity to a harbor, on trade routes) and analyze how relative advantages or disadvantages can change over time.

CALIFORNIA 5TH GRADE CONTENT STANDARDS COVERED IN *METROPOLIS*

HEALTH EDUCATION

NUTRITION AND PHYSICAL ACTIVITY

- 1.9. N Explain how good health is influenced by healthy eating and being physically active.
- 1.10. N Describe how physical activity, rest, and sleep are related.
- 1.11. N Identify physical, academic, mental, and social benefits of regular physical activity.

Standard 8: Health Promotion

- 8.1. N Encourage and promote healthy eating and increased physical activity opportunities at school and in the community.

PERSONAL AND COMMUNITY HEALTH

Standard 1: Essential Concepts

- 1.3. P Describe how environmental conditions affect personal health.
- 1.6. P Explain that all individuals have a responsibility to protect and preserve the environment.

Standard 2: Analyzing Influences

- 2.1. P Identify internal and external influences that affect personal health practices.

Standard 5: Decision Making

- 5.1. P Use a decision-making process to determine personal choices that promote personal, environmental, and community health.

Standard 6: Goal Setting

- 6.1. P Monitor progress toward a goal to help protect the environment.

Standard 8: Health Promotion

- 8.1. P Encourage others to minimize pollution in the environment.