

**CHEMICALS, THE ENVIRONMENT, AND YOU – EXPLORATIONS IN SCIENCE AND HUMAN HEALTH**

**Hawaii Content and Performance Standards: Science – Grades 6 – 8**

**Grade 6**

Lesson	Benchmark	Descriptor
2, 4	SC.6.1.1	Formulate a testable hypothesis that can be answered through a controlled experiment.
2, 3, 4, 6	SC.6.1.2	Use appropriate tools, equipment, and techniques safely to collect, display, and analyze data.
1, 4, 5	SC.6.2.1	Explain how technology has an impact on society and science.
5	SC.6.2.2	Explain how the needs of society have influenced the development and use of technologies.
1	SC.6.6.7	Describe the organization of the periodic table.

**Grade 7**

2, 4	SC.7.1.1	Design and safely conduct a scientific investigation to answer a question or test a hypothesis.
2, 3, 4	SC.7.1.2	Explain the importance of replicable trials.
2, 3, 4, 6	SC.7.1.3	Explain the need to revise conclusions and explanations based on new scientific evidence.
1, 4, 5	SC.7.2.1	Explain the use of reliable print and electronic sources to provide scientific information and evidence.
1, 2, 5	SC.7.3.3	Explain how biotic and abiotic factors affect the carrying capacity and sustainability of an ecosystem.
2	SC.7.4.3	Describe the levels of organization in organisms.

**Grade 8**

2, 3, 4, 5	SC.8.1.1	Determine the link(s) between evidence and the conclusion(s) of an investigation.
2, 4, 5	SC.8.1.2	Communicate the significant components of the experimental design and results of a scientific investigation.
1, 2, 3, 5, 6	SC.8.2.1	Describe significant relationships among society, science, and technology and how one impacts the other.
1, 2, 3, 4, 5	SC.8.5.1	Describe how changes in the physical environment affect the survival of organisms.

**Hawaii Content and Performance Standards: Mathematics – Grades 6 – 8**

**Grade 6**

Lesson	Benchmark	Descriptor
2, 4	MA.6.1.1	Compare and order fractions, decimals, and percents.
2, 4	MA.6.2.2	Use the operation properties to simplify computations with fractions, decimals, and percents.
2, 3, 4	MA.6.9.1	Represent visual and numerical patterns with tables and graphs and generalize the "rule" using words and symbols.

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2, 3, 4	MA.6.11.1	Analyze how data collection methods and sample size can affect the results of data sets.
2, 3, 4	MA.6.13.1	Make inferences about a population based on the interpretation of a sample data set.
<b>Grade 7</b>		
2, 4	MA.7.1.1	Solve problems using fractions, decimals, and percents.
2, 4	MA.7.2.1	Describe situations involving arithmetic operations with integers.
4	MA.7.2.2	Apply the order of operations when calculating with rational number, excluding exponents.
2, 4	MA.7.3.1	Add, subtract, multiply, and divide integers.
2, 3, 4	MA.7.11.1	Design a study, collect data, and select the appropriate representation (line graph, bar graph, circle graph, histogram, stem and leaf plot, box and whisker plot) to display the data.
3, 4, 6	MA.7.13.1	Formulate new questions that arise from previous conclusions or conjectures and plan a new study to answer them.
<b>Grade 8</b>		
2, 4	MA.8.1.3	Use ratios and proportions to represent the relationship between two quantities.
2, 4	MA.8.2.1	Apply the order of operations when calculating with rational numbers.
3, 4	MA.8.10.1	Translate among tables, graphs (including graphing technology when available), and equations involving linear relationships.
2, 3, 4	MA.8.11.1	Design a study that compares two samples, collect data, and select the appropriate representation (e.g., double bar graph, back-to-back stem and leaf plot, parallel box and whisker plots, scatter plot) to compare the sets of data.
3, 4	MA.8.11.2	Judge the validity of data based on the data collection method.
<b>Hawaii Content and Performance Standards: Language Arts – Grades 6 – 8</b>		
<b>Grade 6</b>		
<b>Lesson</b>	<b>Benchmark</b>	<b>Descriptor</b>
All lessons	LA.6.1.1	Use grade-appropriate vocabulary, including content area vocabulary, learned through reading and word study, including structural analysis of word parts.
1, 2, 4, 5, 6	LA.6.2.3	Draw and support conclusions about information or ideas in a text.
All lessons	LA.6.2.4	Identify evidence used to support an argument.
1, 2, 4, 5, 6	LA.6.4.1	Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as: <ul style="list-style-type: none"> <li>• narratives that establish a point of view and experiment with a range of devices (i.e., dialogue, suspense, flashback)</li> <li>• poems that experiment with poetic devices (figurative language, graphic elements) to convey a theme or impression</li> <li>• reports with a narrowed focus that allows for thorough treatment</li> <li>• business letters</li> <li>• responses to literature</li> <li>• functional pieces that complete a task or fulfill a civic responsibility</li> </ul>

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		<ul style="list-style-type: none"> <li>pieces to reflect on learning and to solve problems</li> </ul>
1, 2, 4, 5, 6	LA.6.4.2	<p>Form and use the following grammatical constructions correctly when editing writing:</p> <ul style="list-style-type: none"> <li>consistent verb tense across paragraphs</li> <li>comparative and superlative forms of adjectives</li> <li>coordinating and subordinating conjunctions</li> <li>prepositional phrases</li> <li>compound sentence joined by semicolon rather than conjunction and comma</li> <li>subject-verb agreement with intervening phrase</li> </ul>
1, 2, 4, 5, 6	LA.6.4.4	Use a variety of strategies and resources to spell grade-appropriate words.
All lessons	LA.6.5.1	Select appropriate details, examples, reasons, and/or facts to support an insight, message, or thesis.
1, 2, 4, 5, 6	LA.6.5.4	Vary sentence structure and grammatical forms (e.g., forms of adjectives, prepositional phrases, compound sentences) to improve clarity.
1, 2, 4, 5, 6	LA.6.5.5	Adjust voice to suit the audience and situation (e.g., informal note to a peer, business letter to organization, research report).
2, 4, 6	LA.6.6.1	Explain how appropriate participation affects the productivity of group activities.
All lessons	LA.6.6.2	Use language that facilitates open communication (e.g., phrasing comments in a positive way, using descriptive language to communicate a point).
4, 6	LA.6.6.3	Give short prepared oral presentations to inform and persuade.
All lessons	LA.6.6.4	Use appropriate listening strategies (e.g., listening attentively, taking notes, asking questions) to learn from an oral presentation.
All lessons	LA.6.6.5	Find out needed information by asking thoughtful questions.
All lessons	LA.6.6.8	Adjust dialect (e.g., standard English, Hawaiian Creole, colloquialisms) to grade-appropriate audience, purpose, and situation.
1, 4, 5	LA.6.6.9	Describe a variety of messages conveyed by visual media.
All lessons	LA.6.7.1	Use relevant evidence and examples to support content.
All lessons	LA.6.7.2	Use appropriate verbal and nonverbal language for various purposes and audiences.
<b>Grade 7</b>		
<b>Lesson</b>	<b>Benchmark</b>	<b>Descriptor</b>
All lessons	LA.7.1.1	Use new grade-appropriate vocabulary, including content area vocabulary, learned through word study and reading.
1, 2, 4, 6	LA.7.1.2	Use a variety of grade-appropriate print and online sources to research an inquiry question.
1, 2, 4, 5, 6	LA.7.2.4	Use paraphrasing and summarizing to explain a text.
1, 2, 4, 5, 6	LA.7.4.1	<p>Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as:</p> <ul style="list-style-type: none"> <li>narratives with clear conflict and satisfying resolution</li> <li>poems that experiment with poetic forms (i.e., limerick, ballad, free verse)</li> <li>reports that incorporate research in the form of quotations, paraphrases, and summaries</li> </ul>

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		<ul style="list-style-type: none"> <li>• persuasive letters or statements</li> <li>• responses to literature</li> <li>• functional pieces that complete a task or fulfill a civic responsibility</li> <li>• pieces to reflect on learning and to solve problems</li> </ul>
1, 2, 4, 5, 6	LA.7.4.2	<p>Form and use the following grammatical constructions correctly when editing writing:</p> <ul style="list-style-type: none"> <li>• numbers represented using numerals or words, whichever is appropriate</li> <li>• comparative and superlative forms of adverbs</li> <li>• compound-complex sentences</li> </ul>
1, 2, 4, 5, 6	LA.7.4.4	Use a variety of strategies and resources to spell grade-appropriate words.
All lessons	LA.7.5.1	Connect selected details, examples, reasons, and/or facts to the insight, message, or thesis in a meaningful way.
1, 2, 4, 5, 6	LA.7.5.3	Select words and phrases to establish consistency in word usage (e.g., formal, colloquial, technical) throughout the piece of writing.
1, 2, 4, 5, 6	LA.7.5.4	Vary sentence structures and grammatical forms (e.g., forms of adverbs, prepositional phrases, compound, and compound-complex sentences) to improve clarity.
1, 2, 4, 5, 6	LA.7.5.5	Use words, phrases, and sentence construction to begin to establish an individual rather than a generic voice.
2, 4, 6	LA.7.6.1	Adjust one's role in a small group, as necessary, in order to carry out an assignment or to complete a project.
4, 6	LA.7.6.2	Give short prepared oral presentations incorporating information from research to inform and persuade.
All lessons	LA.7.6.3	Check comprehension before responding to a message by using various listening strategies (e.g., noting nonverbal cues, clarifying message by summarizing aloud).
All lessons	LA.7.6.5	Adjust volume, pacing, pitch, tone, and voice to the audience and situation.
All lessons	LA.7.6.6	Adjust dialect (e.g., standard English, Hawaiian Creole, colloquialisms) to grade-appropriate audience, purpose, and situation.
All lessons	LA.7.7.1	Integrate facts, information, and ideas from research with own experience to support main ideas when speaking.
1, 4, 5, 6	LA.7.7.2	Organize information to create a succinct message.
All lessons	LA.7.7.3	Use precise vocabulary suited to topic and audience.
<b>Grade 8</b>		
<b>Lesson</b>	<b>Benchmark</b>	<b>Descriptor</b>
All lessons	LA.8.1.1	Use new grade-appropriate vocabulary, including content area vocabulary, learned through reading and word study.
1, 2, 4, 5, 6	LA.8.1.2	Select appropriate information after evaluating the usefulness of print and online resources to investigate a theme, answer a question, or test a hypothesis.
1, 2, 4, 5, 6	LA.8.2.4	Make inferences based on explicit and implied information.
1, 2, 4, 5, 6	LA.8.4.1	<p>Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as:</p> <ul style="list-style-type: none"> <li>• narratives that reveal the significance of the subject or situation</li> <li>• poems that use a range of poetic devices and forms</li> <li>• reports that incorporate research and distinguish the relative value of research sources</li> </ul>

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		<ul style="list-style-type: none"> <li>• persuasive statements that anticipate and address reader's questions</li> <li>• responses to literature</li> <li>• functional pieces that complete a task or fulfill a civic responsibility</li> <li>• pieces to reflect on learning and to solve problems</li> </ul>
1, 2, 4, 5, 6	LA.8.4.2	Form and use the following grammatical constructions correctly when editing writing: <ul style="list-style-type: none"> <li>• present perfect, past perfect, and future perfect tenses</li> <li>• subject-verb agreement with compound subjects</li> </ul>
1, 2, 4, 5, 6	LA.8.4.4	Use a variety of strategies and resources to spell grade-appropriate words.
1, 2, 4, 5, 6	LA.8.5.1	Use relevant ideas and details in writing to show insight into people, events, new knowledge, and personal background.
1, 2, 4, 5, 6	LA.8.5.4	Vary sentence types (e.g., simple, compound, compound-complex) and word order within a sentence to improve clarity.
1, 2, 4, 5, 6	LA.8.5.5	Use words, phrases, and sentence construction to create a consistent voice throughout a piece of writing.
2, 4, 6	LA.8.6.1	Monitor the roles in a small group and adjust communication as needed to make the group effort more productive.
4, 6	LA.8.6.2	Give oral presentations to inform, persuade, and/or entertain.
All lessons	LA.8.6.4	Use appropriate attentive, responsive, and reflective listening behaviors according to situation.
4, 6	LA.8.6.5	Use nonverbal language to engage an audience (e.g., moving focus of eye contact, extending a hand) and emphasize content (e.g., using hand to focus attention on particular object, nodding in response to show of hands).
4, 6	LA.8.6.6	Vary volume, pacing, pitch, and tone to create a distinct voice, to engage audience, and to relate the speaker's feelings.
All lessons	LA.8.6.7	Adjust dialect (e.g., standard English, Hawaiian Creole, colloquialisms) to grade-appropriate audience, purpose, and situation.
All lessons	LA.8.7.1	Select most appropriate information from research, own experience, and knowledge of audience to support ideas when speaking.
All lessons	LA.8.7.3	Use words that convey a viewpoint and fit audience and purpose.

**Hawaii Content and Performance Standards: Health – Grades 6 – 8**

Lesson	Benchmark	Descriptor
4, 5, 6	HE.6-8.1.4	Describe types and degrees of risk encountered in daily living and formulate strategies to avoid or reduce threatening situations.
4, 6	HE.6-8.1.8	Describe the body system functions, how they interact with each other, and how they are impacted by health behaviors.
4, 5, 6	HE.6-8.1.9	Identify choices individuals can make to promote or harm their health.
4	HE.6-8.1.10	Identify proper health care and describe how it can prevent premature death and disability.

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<b>4, 6</b>	<b>HE.6-8.2.1</b>	Identify when it is necessary to access health services for self and others.
<b>2, 4, 5</b>	<b>HE.6-8.2.2</b>	Use appropriate sources to access valid health information, products, and services.
<b>4, 6</b>	<b>HE.6-8.3.2</b>	Explain the importance of assuming responsibility for personal health behaviors.
<b>All lessons</b>	<b>HE.6-8.4.1</b>	Explain the influence of internal and external factors on health outcomes.
<b>All lessons</b>	<b>HE.6-8.5.1</b>	Use effective verbal and non-verbal communication skills.
<b>1, 4, 5, 6</b>	<b>HE.6-8.5.2</b>	Use effective behaviors that communicate care, consideration, and respect of self and others.
<b>4, 6</b>	<b>HE.6-8.6.1</b>	Describe decision-making processes related to health-related decisions.
<b>4, 6</b>	<b>HE.6-8.6.2</b>	Assess health-related decisions for consequences that affect oneself and others.
<b>4, 6</b>	<b>HE.6-8.7.1</b>	Use effective strategies to influence and support others in making healthful choices.
<b>4, 5, 6</b>	<b>HE.6-8.7.2</b>	Use appropriate methods to communicate accurate health information and ideas.
<b>4, 5</b>	<b>HE.6-8.7.3</b>	Describe how barriers can affect the communication of information, ideas, feelings, and opinions.