

ARIZONA ALIGNMENT FOR NIH SUPPLEMENT THE BRAIN: OUR SENSE OF SELF

| THE BRAIN: OUR SENSE OF SELF | | |
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| Arizona Science Academic Standards: Grades 6, 7, 8 | | |
| Lesson | Standard | Performance Objective |
| 2, 3, 4 | SC06-S1C1-01 | Differentiate among a question, hypothesis, and prediction. |
| 2, 3, 4 | SC06-S1C1-02 SC07-S1C1-01 SC08-S1C1-01 | Formulate questions based on observations that lead to the development of a hypothesis. |
| 2, 3, 4 | SC07-S1C1-02 SC08-S1C1-02 | Select appropriate resources for background information related to a question, for use in the design of a controlled investigation. (7) Use appropriate research information, not limited to a single source, to use in the development of a testable hypothesis. (8) |
| 3, 4 | SC07-S1C1-03 SC08-S1C1-03 | Explain the role of a hypothesis in a scientific inquiry. (7) Generate a hypothesis that can be tested. (8) |
| 3, 4 | SC06-S1C2-01 SC07-S1C2-01 SC08-S1C2-01 | Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry. |
| 4 | SC06-S1C2-02 SC07-S1C2-02 SC07-S1C2-02 | Design an investigation to test individual variables using scientific processes. (6 & 7) Design a controlled investigation to support or reject a hypothesis. (8) |
| 3, 4 | SC06-S1C2-03 SC07-S1C2-03 SC08-S1C2-03 | Conduct a controlled investigation using scientific processes. (6) Conduct a controlled investigation, utilizing multiple trials, to test a hypothesis using scientific processes. (7) Conduct a controlled investigation to support or reject a hypothesis. (8) |
| 4 | SC06-S1C2-04 SC07-S1C2-04 SC08-S1C2-04 | Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers). |
| 1, 2, 3, 4 | SC06-S1C2-05 SC07-S1C2-05 SC08-S1C2-05 | Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs. |
| 3, 4 | SC06-S1C3-01 SC07-S1C3-01 SC07-S1C3-01 | Analyze data obtained in a scientific investigation to identify trends. |
| 2, 3, 4 | SC06-S1C3-02 SC07-S1C3-02 SC08-S1C3-02 | Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events). |
| 2, 3 | SC06-S1C3-03 SC07-S1C3-03 | Evaluate the observations and data reported by others. (6) Analyze results of data collection in order to accept or reject the hypothesis. (7) |

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| 3, 4 | SC08-S1C3-03 | Interpret data that show a variety of possible relationships between two variables, including: positive relationship, negative relationship, or no relationship. |
| 4 | SC06-S1C3-04 | Interpret simple tables and graphs produced by others. |
| 3, 4 | SC07-S1C3-04 SC08-S1C3-05 | Determine the validity and reliability of results of an investigation. (7) Explain how evidence supports the validity and reliability of a conclusion. (8) |
| 4 | SC08-S1C3-04 | Formulate a future investigation based on the data collected. |
| 3, 4 | SC06-S1C3-05 | Analyze the results from previous and/or similar investigations to verify the results of the current investigation. |
| 2, 3, 4 | SC07-S1C3-05 | Formulate a conclusion based on results from investigations. |
| 3, 4 | SC07-S1C3-06 | Refine hypotheses based on results from investigations. |
| 4 | SC08-S1C3-06 | Identify the potential investigational error that may occur (e.g., flawed investigational design, inaccurate measurement, computational errors, unethical reporting). |
| 2, 3, 4 | SC06-S1C3-06 SC07-S1C3-07 SC08-S1C3-08 | Formulate new questions based on the results of a completed (6) or previous (7 & 8) investigation. |
| 2, 4 | SC06-S1C4-01 SC07-S1C4-01 SC08-S1C4-02 | Choose an appropriate graphic representation for collected data: line graph, double bar graph, stem and leaf plot, or histogram. |
| 3, 4 | SC06-S1C4-02 SC07-S1C4-02 | Display data collected from a controlled investigation. |
| 3, 4 | SC06-S1C4-03 SC07-S1C4-03 SC08-S1C4-01 | Communicate the results of an investigation (8) with appropriate use of qualitative and quantitative information. (6 & 7) |
| 2, 3, 4, 5 | SC08-S1C4-03 | Present analyses and conclusions in clear, concise formats. |
| 2, 3, 4 | SC06-S1C4-05 SC07-S1C4-05 SC08-S1C4-05 | Communicate the results and conclusion of the investigation. |
| 2, 4 | SC06-S2C1-03 SC07-S2C1-03 SC08-S2C1-03 | Analyze (6 & 7)/ Evaluate (8) the impact of a major scientific development occurring within the past decade. |
| 2 | SC06-S2C1-04 SC07-S2C1-04 | Describe the use of technology in science-related careers. |
| 2, 4, 5 | SC06-S2C2-01 SC07-S2C2-01 | Describe how science is an ongoing process that changes in response to new information and discoveries. |
| 2, 4, 5 | SC06-S2C2-02 SC07-S2C2-02 SC08-S2C2-02 | Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories. |

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| 2, 3, 4 | SC06-S2C2-03 SC07-S2C2-03 SC08-S2C2-01 | Apply the following scientific processes to other problem solving or decision making situations: observing, questioning, communicating, comparing, measuring, classifying, predicting, organizing data, inferring, generating hypotheses, and identifying variables. |
| 2, 4 | SC08-S2C2-04 | Explain why scientific claims may be questionable if based on very small samples of data, biased samples, or samples for which there was no control. |
| 5 | SC07-S3C1-01 SC08-S3C1-01 | Analyze environmental risks (e.g., pollution, destruction of habitat) caused by human interaction with biological or geological systems. (7) Analyze the risk factors associated with natural, human induced, and/or biological hazards, including: waste disposal of industrial chemicals. (8) |
| 2 | SC06-S3C2-04 | Describe a technological discovery that influences science. |
| 2 | SC07-S3C2-04 | Describe a scientific discovery that influences technology. |
| 3 | SC06-S4C1-05 | Explain the hierarchy of cells, tissues, organs, and systems. |
| 3 | SC06-S4C1-06 | Relate the following structures of living organisms to their functions: Animals - locomotion – muscles, skeleton. |
| 3 | SC06-S4C1-07 | Describe how the various systems of living organisms work together to perform a vital function: muscular and skeletal. |
| 3, 4 | SC08-S4C4-01 | Explain how an organism's behavior allows it to survive in an environment. |
| 4 | SC08-S4C4-02 | Describe how an organism can maintain a stable internal environment while living in a constantly changing external environment. |

Arizona Mathematics Academic Standards: Grades 6, 7, 8

| Lesson | Standard | Performance Objective |
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| 4 | M06-S1C2-01 M07-S1C2-03 M08-S1C2-01 | Select the grade-level appropriate operation to solve word problems. |
| 4 | M06-S1C2-02 M07-S1C2-04 M08-S1C2-02 | Solve word problems using grade-level appropriate operations and numbers. |
| 4 | M06-S1C2-03 M07-S1C2-07 M08-S1C2-06 | Apply grade-level appropriate properties to assist in computation. |
| 4 | M06-S1C2-05 M07-S1C2-09 M08-S1C2-08 | Use grade-level appropriate mathematical terminology. |
| 4 | M07-S1C2-01 | Add integers. |
| 4 | M07-S1C2-06 | Divide integers. |
| 2, 4 | M06-S2C1-01 | Formulate questions to collect data in contextual situations. |

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| | M07-S2C1-01 M08-S2C1-01 | |
| 4 | M06-S2C1-02 M07-S2C1-03 M08-S2C1-03 | Construct a histogram, line graph, scatter plot, or stem-and-leaf plot with appropriate labels and title from organized data. (6) Determine when it is appropriate to use histograms, line graphs, double bar graphs, and stem-and-leaf plots. (7) Determine the appropriate type of graphical display for a given data set. (8) |
| 4 | M06-S2C1-03 M07-S2C1-04 | Interpret simple displays of data including double bar graphs, tally charts, frequency tables, circle graphs, and line graphs (6) / including histograms, stem-and-leaf plots, circle graphs, and double line graphs. (7) |
| 4 | M06-S2C1-04 M07-S2C1-05 | Answer questions based on: simple displays of data including double bar graphs, tally charts, frequency tables, circle graphs, and line graphs (6); data displays including histograms, stem-and-leaf plots, circle graphs, and double line graphs. (7) |
| 4 | M06-S2C1-06 M07-S2C1-07 | Identify a trend (variable increasing, decreasing, remaining constant) from displayed data. (6) Interpret trends from displayed data. (7) |
| 4 | M08-S2C1-07 | Formulate reasonable predictions based on a given set of data. |
| 4 | M06-S2C1-07 M07-S2C1-08 M08-S2C1-08 | Compare trends in data related to the same investigation. |
| 4 | M06-S2C1-08 M07-S2C1-09 | Solve contextual problems using: bar graphs, tally charts, and frequency tables (6); histograms, line graphs of continuous data, double bar graphs, and stem-and-leaf plots. (7) |
| 2, 3, 4 | M08-S2C1-12 | Distinguish between causation and correlation. |
| 3, 4 | M08-S2C2-06 | Distinguish between independent and dependent events. |
| 4 | M08-S3C2-04 | Identify independent and dependent variables for a contextual situation. |
| 4 | M06-S3C3-02 M07-S3C3-02 M08-S3C3-02 | Use variables in contextual situations. |

Arizona Language Arts Academic Standards: Grades 6, 7, 8

Reading

| Lesson | Standard | Performance Objective |
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| 3, 4, 5 | R06-S1C4-02 R07-S1C4-02 R08-S1C4-02 | Use context to identify the meaning of unfamiliar words (e.g., definition, example, restatement, synonym, contrast). |
| 1, 3, 4, 5 | R06-S1C6-03 R07-S1C6-03 R08-S1C6-03 | Generate clarifying questions in order to comprehend text. |

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| 3, 4, 5 | R06-S1C6-05 R07-S1C6-05 R08-S1C6-05 | Connect information and events in text to experience and to related text and sources. |
| 1, 3, 4, 5 | R06-S1C6-07 R07-S1C6-07 R08-S1C6-07 | Use reading strategies (e.g., drawing conclusions, determining cause and effect, making inferences, sequencing) to comprehend text. |
| 3, 4, 5 | R06-S3C1-01 R07-S3C1-01 R08-S3C1-01 | Restate the main idea (explicit or implicit) and supporting details in expository text. |
| 3, 4, 5 | R06-S3C1-02 R07-S3C1-02 R08-S3C1-02 | Summarize the main idea (stated or implied) and critical details of expository text, maintaining chronological, sequential, or logical order. |
| 3, 4, 5 | R06-S3C1-03 R07-S3C1-03 R08-S3C1-03 | Distinguish fact from opinion in expository text, proving supporting evidence from text. |
| 1, 2, 3, 4 | R06-S3C1-07 R07-S3C1-08 R08-S3C1-08 | Interpret graphic features (e.g., charts, maps, diagrams, illustrations, tables, timelines, graphs) of expository text. |
| 3, 4, 5 | R06-S3C1-09 | Draw valid conclusions about expository text, supported by text evidence. |
| 3, 4, 5 | R07-S3C1-10 R08-S3C1-10 | Make relevant inferences about expository text, supported by text evidence. |
| 3, 4, 5 | R06-S3C2-01 R07-S3C2-01 R08-S3C2-01 | Use information from text and text features to determine the sequence of activities needed to carry out a procedure. |
| 1, 3, 4, 5 | R06-S3C2-03 R07-S3C2-03 R08-S3C2-03 | Interpret details from functional text for a specific purpose (e.g., to follow directions, to solve a problems, to perform a procedure, to answer questions. (6) Interpret details from a variety of functional text (e.g., warranties, product information, technical manuals, instructional manuals, consumer safety publications) for a specific purpose (e.g., to follow directions, to solve problems, to perform procedures, to answer questions). (7 & 8) |
| Writing | | |
| Lesson | Standard | Performance Objective |
| 2, 3, 4, 5 | W06-S1C1-02 W07-S1C1-02 W08-S1C1-02 | Determine the purpose (e.g., to entertain, to inform, to communicate, to persuade, to explain) of an intended writing piece. |
| 2, 3, 4, 5 | W06-S1C1-03 W07-S1C1-03 W08-S1C1-03 | Determine the intended audience of a writing piece. |

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| 2, 3, 4, 5 | W06-S1C5-01 W07-S1C5-01 W08-S1C5-01 | Prepare writing in a format (e.g., oral presentation, manuscript, multimedia) appropriate for the purpose. |
| All lessons | W06-S1C5-04 W07-S1C5-04 W08-S1C5-04 | Write legibly. |
| 2, 3, 4, 5 | W06-S2C1-01 W07-S2C1-01 W08-S2C1-01 | Use clear, focused ideas and details to support the topic. |
| 2, 3, 4, 5 | W06-S2C1-02 W07-S2C1-02 W08-S2C1-02 | Provide content and selected details that are well suited to audience and purpose. |
| 2, 3, 4, 5 | W06-S2C1-03 W07-S2C1-03 W08-S2C1-03 | Develop a sufficient explanation or exploration of the topic. |
| 2, 3, 4, 5 | W06-S2C1-05 W07-S2C1-05 W08-S2C1-05 | Include ideas and details that show original perspective. |
| All lessons | W06-S2C2-01 W07-S2C2-01 W08-S2C2-01 | Use a structure that fits the type of writing (e.g., letter format, narrative, play, essay). |
| 2, 3, 4, 5 | W06-S2C3-01 W07-S2C3-01 W08-S2C3-01 | Show awareness of the audience through word choice, style (6) and an appropriate connection with, or distance from, the audience. (7 & 8) |
| 2, 3, 4, 5 | W06-S2C3-03 W07-S2C3-03 W08-S2C3-03 | Use language appropriate for the topic and purpose. |
| 2, 3, 4, 5 | W06-S2C3-04 W07-S2C3-04 W08-S2C3-04 | Choose appropriate voice (e.g., formal, informal [6], academic discourse [7 & 8]) for the audience and purpose. |
| All lessons | W06-S2C6-07 W07-S2C6-07 W08-S2C6-07 | Spell high frequency words correctly. |
| 1, 2, 3, 4 | W06-S3C2-01 W07-S3C2-01 W08-S3C2-01 | Record information (e.g., observations, notes lists, charts, map labels and legends) related to the topic. |

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| 2, 3, 4, 5 | W06-S3C2-02 W07-S3C2-02 W08-S3C2-02 | Write a summary based on the information gathered that include(s): a topic sentence, supporting details, and relevant information. |
| 4, 5 | W06-S3C3-01 W07-S3C3-01 W08-S3C3-01 | Write a variety of functional texts (e.g., directions, recipes, procedures, rubrics, labels, posters, graphs/tables). |
| 3, 4, 5 | W06-S3C6-02 W07-S3C6-02 W08-S3C6-02 | Write an informational report that includes: a focused topic, appropriate facts and relevant details, a logical sequence, a concluding statement, and a list of sources used. |

Arizona Comprehensive Health Education Academic Standards - Grades 6, 7, 8

| Lesson | Standard | Performance Objective |
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| 4 | 1CH-E1-01 | Illustrate how positive health behaviors can prevent common injuries, diseases and conditions. |
| 4, 5 | 1CH-E2-02 | Illustrate how the variables stated above (thoughts, feelings, dealing with people and being physically healthy) interact as seen in case studies, movies, etc. |
| 4 | 1CH-E3-01 | Develop a plan for a healthy environment and lifestyle and apply it to health, growth and development. |
| 4, 5 | 1CH-E4-01 | Illustrate how family and peers affect the choices you make regarding health. |
| 4 | 1CH-E5-01 | Compare healthy environments and healthy people with unhealthy environments and unhealthy people. |
| 4, 5 | 1CH-E6-01 | Identify personal health behaviors that reduce health problems. |
| 4, 5 | 1CH-E7-01 | Describe how living a healthy lifestyle and knowing family health history can help a person live a more healthy life. |
| 4, 5 | 2CH-E2-01 | Apply health information from home, school and community. |