

THE BRAIN: OUR SENSE OF SELF

Tennessee Science Curriculum Standards– Grades 6, 7, 8

| Lesson | Standard | Learning Expectation |
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| 2, 4 | 5.1 | Understand how organisms are adapted for surviving in certain environments. (6) |
| 3 | 14.4 | Understand that one form of energy can be transformed into another form of energy. (6) |
| 2, 3, 4 | 1.1 | Recognize the differences among cells, tissues, organs, and systems. (7) |

Tennessee Mathematics Curriculum Standards – Grades 6, 7, 8

Grade 6

| Lesson | Standard | Learning Expectation |
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| 4 | 6.1.1.b | Read, write, and represent whole numbers and decimals in expanded notation. |
| 4 | 6.1.2.b | Apply the associative and commutative properties of addition and multiplication to simplify computations with integers, fractions, and decimals. |
| 4 | 6.1.2.c | Use the distributive property to simplify computations with integers, fractions, and decimals. |
| 4 | 6.1.2.e | Understand and use the inverse relationships of addition and subtraction and multiplication and division to simplify computations and solve problems. |
| 4 | 6.1.3.a | Select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, and percents in problem-solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil). |
| 4 | 6.1.3.b | Analyze procedures for computing with fractions, decimals, and integers. |
| 4 | 6.1.3.c | Solve one-step real-world problems involving whole numbers, fractions, and decimals. |
| 4 | 6.2.1.b | Use tables and graphs to generalize patterns in data. |
| 4 | 6.2.3.a | Model simple real-world problems using graphs. |
| 4 | 6.2.4.a | Describe how changes in one quantity or variable result in changes in another. |
| 4 | 6.5.1.a | Formulate questions, design studies, and collect real-world data. |
| 4 | 6.5.1.b | Understand how data-collection methods affect the nature of the data set. |

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| 4 | 6.5.1.c | Examine various representations of data to evaluate how accurately the data is depicted. |
| 4 | 6.5.1.d | Construct, interpret, and use single-bar and single-line graphs to answer questions and solve real-world problems. |
| 2, 3, 4 | 6.5.3.a | Make conjectures and predictions based on data. |
| 4 | 6.5.3.e | Make conjectures to formulate new questions for future studies. |
| Grade 7 | | |
| Lesson | Standard | Learning Expectation |
| 4 | 7.1.1.f | Represent equivalent numbers using a variety of forms (i.e., whole numbers, fraction, decimals, percents). |
| 4 | 7.1.2.c | Apply the associative and commutative properties of addition and multiplication to simplify computations with integers, fractions, and decimals. |
| 4 | 7.1.3.a | Select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, percents, and integers in problem solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil). |
| 4 | 7.1.3.d | Judge the reasonableness of the results of rational number estimates and computations. |
| 4 | 7.1.3.e | Solve two-step real-world problems involving whole numbers, fraction, decimals, and percents. |
| 4 | 7.2.1.c | Use tables, graphs, and symbolic rules to generalize patterns in data. |
| 4 | 7.2.4.a | Describe how changes in one quantity or variable result in changes in another. |
| 4 | 7.5.1.a | Formulate questions, design studies, and collect real-world data. |
| 4 | 7.5.1.b | Construct, interpret, and use multiple-bar graphs, multiple-line graphs, and circle graphs displaying real-world data. |
| 4 | 7.5.2.c | Discuss and understand the relationship between data sets and their graphical representations (e.g., bar graphs, line graphs, circle graphs, histograms, stem-and-leaf plots, box plots, and scatterplots). |
| 2, 3, 4 | 7.5.3.a | Make conjectures and predictions based on data. |
| 4 | 7.5.3.b | Make conjectures to formulate new questions for future studies. |
| Grade 8 | | |
| Lesson | Standard | Learning Expectation |
| 4 | 8.1.2.a | Understand the meaning and effects of arithmetic operations with fractions, decimals, and integers. |

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| 4 | 8.1.2.b | Apply the associative and commutative properties of addition and multiplication to simplify computations with integers, fractions, and decimals. |
| 4 | 8.1.2.c | Use the distributive property to simplify computations with integers, fractions, and decimals. |
| 4 | 8.1.3.a | Select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, percents, and integers in problem-solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil). |
| 4 | 8.1.3.b | Develop and analyze procedures for computing with fractions, decimals, and integers. |
| 4 | 8.1.3.d | Judge the reasonableness of the results of rational number estimates and computations. |
| 4 | 8.1.3.e | Solve one-step real-world problems involving whole numbers, fractions, decimals, and percents. |
| 4 | 8.1.3.g | Solve multi-step real-world problems involving whole numbers, fractions, decimals, and percents. |
| 4 | 8.2.1.a | Represent, analyze, and generalize a variety of patterns with tables, graphs, words, and when possible symbolic rules. |
| 4 | 8.2.2.i | Apply given formulas to solve real-world problems. |
| 4 | 8.2.3.a | Use a variety of representations to solve real-world problems (e.g., graphs, tables, equations). |
| 4 | 8.5.1.a | Formulate questions, design studies, and collect real-world data for investigations using a variety of collection methods (e.g., random sampling, simulations). |
| 4 | 8.5.1.b | Select, create, and use appropriate graphical representations of real-world data (e.g., histograms, box plots, scatterplots). |
| 4 | 8.5.2.c | Discuss and understand the relationship between data sets and their graphical representations (e.g., bar graphs, line graphs, circle graphs, histograms, stem-and-leaf plots, box plots, scatterplots). |
| 2, 3, 4 | 8.5.3.a | Make conjectures and predictions based on data. |
| Tennessee English/Language Arts Curriculum Standards – Grades 6, 7, 8 | | |
| Lesson | Standard | Learning Expectation |
| All lessons | 6.1.01.a 7.1.01.a 8.1.01.a | Model active listening in both formal and informal settings. |

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| All lessons | 6.1.01.b 7.1.01.b 8.1.01.b | Know and use rules for conversations. |
| All lessons | 6.1.01.c 7.1.01.c 8.1.01.c | Formulate and respond to questions from teachers and classmates. |
| All lessons | 6.1.01.d 7.1.01.d 8.1.01.d | Organize and share information, stories, experiences, ideas, and feelings with others in both formal and informal situations. |
| All lessons | 6.1.02.c 7.1.02.c | Continue to recognize that print format varies/Identify the differences among print formats according to purpose and genre (e.g., prose, poetry, newspaper/magazine, letters, dramas, technical manuals, textbooks). |
| All lessons | 6.1.04.c 7.1.04.c 8.1.04.d | Decode unknown grade level words utilizing previously learned strategies to verify the word's meaning within the context of the selection. |
| All lessons | 6.1.06.a 7.1.06.a 8.1.06.a | Build vocabulary by listening to literature, participating in class discussions, and reading self-selected and/or assigned texts. |
| All lessons | 6.1.07.a 7.1.07.a 8.1.07.a | Continue to establish a purpose for reading (e.g., to understand, to interpret, to enjoy, to solve problems, to answer specific questions, to identify information/facts, to discover models of writing). |
| All lessons | 6.1.07.b 7.1.07.b 8.1.07.b | Utilize reference sources and personal experiences to build background knowledge for reading. |
| All lessons | 6.1.07.h 7.1.07.h 8.1.07.h | Relate text to prior personal experiences or opinions as well as previously read print and non-print texts. (6) Relate text to prior personal experiences or opinions, historical knowledge, and current events as well as previously read print and non-print texts. (7 & 8) |

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| All lessons | 6.1.08.a 7.1.08.a 8.1.08.a | Derive meaning while reading by: continuing to formulate clarifying questions while reading, predicting outcomes, state reasonable generalizations, and draw conclusions from the reading selection based on prior knowledge and information, using metacognitive and self-monitoring strategies while reading (e.g. pausing, rereading, recognizing miscues, consulting other sources, reading ahead, asking for help), engaging in reading between the lines (i.e. stating implied information), continuing to create mental pictures from abstract information, continuing to relate text to prior personal experiences or opinions as well as previously read print and non-print texts, and continuing to make inferences. |
| All lessons | 6.1.08.b 7.1.08.b 8.1.08.b | Derive meaning after reading by: indicating the sequence of events, recognizing and stating the main idea/central element in a given reading selection noting details that support the main idea/central element, finding contextual support for responses to questions, for assistance in formulating ideas and opinions, and for supporting personal responses (i.e. grounding students in the text), determining cause and effect relationships, determining whether a given statement is a fact or an opinion, making connections among various print (e.g. other stories) and non-print texts (e.g., movies, photographs, artwork). |
| 3 | 6.1.09.a 7.1.09.a 8.1.09.a | Use/ discern/determine appropriate reference sources in various formats (e.g., encyclopedias, card/electronic catalogs, almanacs, periodicals, Internet). |
| 2, 3, 4 | 6.1.09.b 7.1.09.b 8.1.09.b | Recognize/use media (e.g., on-line catalog, non-fiction books, encyclopedias, CD-ROM, references, Internet) as resources for viewing, reading, and representing information. |
| 2, 3, 4 | 6.1.09.c 7.1.09.c 8.1.09.c | Use current technology (e.g., the Internet, CD-ROMs, online catalogs) as a research communication tool. |
| 2, 3, 4, 5 | 8.1.09.h | Retrieve, organize, represent, analyze, and evaluate information to demonstrate knowledge effectively acquired. |
| All lessons | 6.1.10.a 7.1.10.a 8.1.10.a | Develop/increase/expand and maintain vocabulary specific to content areas and to current events. |
| All lessons | 6.1.10.c 7.1.10.c 8.1.10.c | Continue to apply/Apply and analyze/Apply, analyze, and evaluate comprehension skills and strategies to informational text in the content areas. |
| 2, 3, 4, 5 | 6.2.01.b 7.2.01.b 8.2.01.b | Use print and non-print materials along with prior knowledge to provide background for writing. (6) Use print and non-print materials, along with prior knowledge and content area knowledge, to provide background for writing. (7 & 8) |

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| 2, 3, 4, 5 | 6.2.01.e 7.2.01.e 8.2.01.e | Determine appropriate audience (i.e., personal or formal). |
| 2, 3, 4, 5 | 6.2.01.f 7.2.01.f 8.2.01.f | Establish/Evaluate/Analyze a purpose for writing (e.g., to inform, to describe, to explain, to persuade). |
| 2, 4, 5 | 6.2.02.e 7.2.02.e 8.2.02.e | Write in response to expository prompts. |
| 2, 5 | 6.2.02.f 7.2.02.f 8.2.02.g | Write personal reflections to experiences and events (6) for self and others. (7) Write personal reflections to situations, experiences, and events for self and others. (8) |
| 2, 3, 4 | 6.2.02.h 7.2.02.i 8.2.02.i | Write to acquire knowledge (e.g., express, organize, and clarify thinking, take notes, synthesize information, enhance communication). |
| 2, 4, 5 | 6.2.07.a 7.2.07.a 8.2.07.a | Produce a variety of written works/a final draft suitable for publication and/or sharing. Publish a final draft. (8) |
| 4 | 6.2.07.b 7.2.07.b 8.2.07.b | Use multiple technological resources to prepare and present work (6) and to add graphs, tables, and/or illustrations (7) to support the focus of the work. (8) |
| 3, 4, 5 | 6.2.09.b 7.2.09.b 8.2.09.b | Produce a variety of technical works utilizing knowledge from the content areas (e.g., explanations of projects, science experiment projects, demonstrations, editorials, documents). |
| 2, 3, 4, 5 | 6.2.09.c 7.2.09.c 8.2.09.c | Research topics and organize gathered information from the content areas into presentable documents. |
| All lessons | 6.2.09.d 7.2.09.d 8.2.09.d | Compose and respond to original questions and/or problems from all content areas. |

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| 4 | 6.2.13.e 6.2.13.e 6.2.13.d | Use computer technology to find information and to create reports and presentations (6) and to support research. (7 & 8) |
| 2, 3, 4, 5 | 6.2.13.f 7.2.13.f 8.2.13.e | Use examples and details collected from available resources (6 & 7) available and reliable resources. (8) |

Tennessee Healthful Living Standards – Grades 6 - 8

| Lesson | Standard | Learning Expectation |
|-------------|----------|--|
| All lessons | 2.1 | Describe and analyze the basic body systems and functions of the human body. |
| 2, 3 | 2.2 | Explain the functions of the human body. |
| 4 | 2.3 | Explain the impact of personal health behaviors on the functioning of human body systems. |
| 4 | 3.2 | Determine the benefits of exercise in relation to improved health during all stages of life. |
| 4 | 3.3 | Assess the relationship of physical activity to other areas of personal health (social, mental, and emotional well-being). |
| 4 | 7.1 | Analyze the effectiveness of personal decision-making as it relates to future health and wellness outcomes. |
| 4 | 7.2 | Describe individual goals and aspirations for healthful living. |
| 4 | 7.3 | Determine how setting healthful living goals can promote lifetime wellness. |
| 4, 5 | 9.3 | Evaluate attitudes and behaviors as related to personal and mental health. |
| 4 | 10.2 | Evaluate how heredity, environment and lifestyle impact both the wellness and disease process. |
| 4 | 15.3 | Explain how choices relate to consequences. |
| 3, 4, 5 | 19.1 | Identify and analyze valid reliable health information. |