



• Elementary Science

2015

**ELEMENTARY SCIENCE STANDARDS
IN SEVENTH-DAY ADVENTIST SCHOOLS**

OFFICE OF EDUCATION | North American Division Seventh-day Adventist Church

ADVENTIST EDUCATION STANDARDS

Standards, what learners should know (content) and be able to do (skills), serve as the framework for curriculum development. Standards in NAD Seventh-day Adventist schools reflect the Adventist worldview across the K-12 curricula as well as the integration of national and provincial/state standards. The Adventist worldview accepts the Bible as the standard by which everything else is measured. Four key concepts emerge from a biblical worldview that can be used as a lens for curriculum development, as well as informing the essential questions and big ideas of any content area: Creation (What is God's intention?), Fall (How has God's purpose been distorted?), Redemption (How does God help us to respond?), and Re-creation (How can we be restored in the image of God?).

— THE CORE OF ADVENTIST EDUCATION CURRICULUM

SCIENCE AND ENGINEERING PRACTICES

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

— NEXT GENERATION SCIENCE STANDARDS

STANDARDS CODING

The standards have been coded so that educators can easily refer to them in their curriculum, instruction, and assessment practices. The coding system that precedes each standard begins with the content area abbreviation in letters; all are identified with S—Science (**S.K-2.LS.1**). The second part of the code refers to the grade level (**S.K-2.LS.1**). The third part of the code refers to the particular science domain (**S.K-2.LS.1**), with LS standing for Life Sciences. The fourth part of the code refers to a particular skill within the science domain (**S.K-2.LS.1**). The coding system that follows each standard is the Next Generation Science Standards (NGSS) that aligns with the NAD standard. Where no NGSS is noted, there is no corresponding NGSS.

PERFORMANCE-BASED STANDARDS

The science standards are performance-based outcomes (what students should be able to do) rather than content-based outcomes (what students should know). The content standards are implied within the context of the performance standards.

CREDITS

The following resources were referenced in developing Science Standards for Seventh-day Adventist Schools: a sampling of state standards, NAD Curriculum Guide for Science, Next Generation Science Standards (NGSS), National Health Education Standards (NHES), and the Core of Adventist Education Curriculum.

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2015 ELEMENTARY SCIENCE — HEALTH SCIENCES

| GRADE | TOPICS | STANDARDS (NGSS ALIGNMENT) | BY DESIGN CHAPTER CORRELATION | INQUIRY ACTIVITIES |
|--|--|---|--|---|
| Essential Question: Why does God want human beings to choose to have a healthy mind and body? | | Big Idea: God designed a plan for healthful living that leads to optimum spiritual, physical, mental, and emotional health. | Bold = included content <i>Italic =</i> related content | TE = TEACHER EDITION SE = STUDENT EDITION SJ = STUDENT JOURNAL TT = TRY THIS LA = LESSON ACTIVITY EAL = EXPLORE-A-LAB MS = MATH IN SCIENCE ATBD = ACTIVITY TO BE DEVELOPED |
| K-2 | Health Promotion and Disease Prevention | S.K-2.HS.1 Read texts and use media to determine the dimensions of health (e.g., nutrition, exercise) and patterns of behavior (e.g., eating healthy foods, daily exercise) that impact personal health. | Level 1 – Ch. 4.3, Ch. 5.2, 5.3, Ch. 6.2, 6.3 Level 2 – Ch. 3.2, 3.4, Ch. 4.3, Ch. 5.1, 5.2 | Level 1 – Brush Off SE 119/SJ 22; Let's Try This Again TE 119/SJ 24, EAL 123, EAL 144; Be a Better Jumper SE 147/SJ 36; Practice Makes Perfect TE 147/SJ 38, EAL 149; Screen Time TE 151/SJ 40, EAL 152; Stand Up Straight SE 168/SJ 52; Calcium in Bones TE 168/SJ 54, EAL 174; Bicycle Helmet Survey SE 177/SJ 56 Level 2 – Which Foods Help Me Stay Healthy TE 107/SJ 2, TT 120; The Food Groups SE 121/SJ 16; Your Personal Food Guide TE 121/SJ 18, TT 174; Stopping Germs SE 175/SJ 42; Shake Hands SE 175/SJ 44, TT 184; Hole in Your Mouth SE 185/SJ 46, EAL 189; Be Seen to Be Safe SE 195/SJ 50; Seat Belt Crash Test TE 196/SJ 54 |
| | | S.K-2.HS.2 Demonstrate ways to prevent communicable diseases and reduce accidental injuries. | Level 1 – Ch. 6.3 Level 2 – Ch. 5.2, 5.3 | Level 1 – EAL 123; Bicycle Helmet Survey SE 177/SJ 56 Level 2 – Stopping Germs SE 175/SJ 42; Shake Hands SE 175/SJ 44, TT 184, TT 194; Be Seen to Be Safe SE 195/SJ 50; Seat Belt Crash Test TE 196/SJ 54 |
| | | S.K-2.HS.3 Role play how to tell a trusted adult if threatened or harmed. | <i>Not specifically addressed</i> | Level 1 – ATBD Level 2 – ATBD |
| | Health Resources | S.K-2.HS.4 Conduct an investigation to identify health professionals and other adults who can help to promote health. | <i>Level 2 – 4.3, Ch. 5.3</i> | Level 2 – ATBD |
| | Healthy Lifestyle Choices | S.K-2.HS.5 Construct an argument that media influences personal decisions relating to healthy choices. | <i>Level 1 – Ch. 5.2, 5.3, Ch. 6.2, 6.3</i> Level 2 – Ch. 3.3, Ch. 5.2 | Level 1 – ATBD Level 2 – LA 134, EAL 189; ATBD |
| | | S.K-2.HS.6 Use a model to differentiate between situations when a health-related decision can be made individually or when assistance is needed. | Level 1 – Ch. 4.3, Ch. 5.3, Ch. 6.3 Level 2 – Ch. 3.1, 3.3, 5.2, 5.3 | Level 1 – Brush Off SE 119/SJ 22; Let's Try This Again TE 119/SJ 24, EAL 123, LA 144; Be a Better Jumper SE 147/SJ 36; Practice Makes Perfect TE 147/SJ 38, EAL 149; Screen Time TE 151/SJ 40, EAL 152, EAL 174; Bicycle Helmet Survey SE 177/SJ 56 Level 2 – The Food Groups SE 121/SJ 116; Your Personal Food Guide TE 121/SJ 18; Fatty Foods SE 129/SJ 20; Comparing Similar Foods TE 129/SJ 22, LA 134; Stopping Germs SE 175/SJ 42; Shake Hands TE 175/SJ 44; Hole in Your Mouth SE 185/SJ 46; Fill the Cavity TE 185/SJ 48, EAL 189; Be Seen to Be Safe SE 195/SJ 50; Seat Belt Crash Test TE 196/SJ 54 |
| | | S.K-2.HS.7 Identify a short-term personal health goal and implement a plan to attain that goal. | Level 1 – Ch. 5.2, 5.3, Ch. 6.2, 6.3 | Level 1 – How Can You Make Healthy Choices TE 95/SJ 2; I Can Be More Fit TE 95/SJ 6, LA 144; Practice Makes Perfect TE 147/SJ 38, EAL 149, EAL 174; ATBD |
| | | S.K-2.HS.8 Ask questions and obtain information about God's plan for healthy living. | Level 2 – Ch. 3.3, Ch. 4.3, Ch. 5.2 | Level 2 – Fatty Foods SE 129/SJ 20; Comparing Similar Foods TE 129/SJ 22, LA 134, LA 165; ATBD |

2015 ELEMENTARY SCIENCE — HEALTH SCIENCES CONTINUED

| GRADE | TOPICS | STANDARDS (NGSS ALIGNMENT) | BY DESIGN CHAPTER CORRELATION | INQUIRY ACTIVITIES |
|-------|---|--|---|--|
| 3-5 | Health Promotion and Disease Prevention | S.3-5.HS.1 Make observations to construct an evidence-based link between healthy behaviors and personal health. | Level 3 – Ch. 4.1, 4.2, 5.3, Ch. 6.2, 6.3 Level 4 – Ch. 4.2, 4.3, Ch. 5.3 Level 5 – Ch. 7.1, 7.2, 7.3 | Level 3 – How Can Food Help Me Stay Healthy TE 127/SJ 2; Staying Healthy TE 127/ SJ 6, TT 130; Testing Sunscreens SE 131/SJ 8; UV Filtering TE 131/SJ 10; Hand Washing and Drying TE 133/SJ 12, LA 135, TT 140; Bacteria Gardens SE 141/SJ 116; Cleaning the Gardens TE 141/ SJ 18, LA 144; Make It Stronger TE 162/SJ 30, TT 172; Keep Your Heart Healthy SE 173/SJ 36, EAL 175; Measuring Breath SE 192/SJ 46; Cool Down TE 192/SJ 48; Aerobic Heart TE 193/SJ 50, LA 202; ATBD Level 4 – Balanced Diet SE 137/SJ 4; Greasy Chips TE 137/SJ 14, LA 139; Exercise Journal SE 141/SJ 16, LA 142, LA 143; ATBD Level 5 – How Can I Make Healthy Food Choices TE 159/SJ 1; Spreading Disease SE 205/SJ 51, SE 209/SJ 52; Deaths from Diseases Add Up SE 218/SJ 56, EAL 222; Sleep for a Week SE 228/SJ 60; Fruits and Veggies TE 228/SJ 62; Personal Fitness TE 229/SJ 64, EAL 230; ATBD |
| | | S.3-5.HS.2 Construct an argument that spiritual, emotional, intellectual, physical, and social health are interrelated and dependent on one another. | Level 4 – Ch. 4.2, 4.3, Ch. 5.2, Ch. 6.2, 6.3 | Level 4 – Balanced Diet SE 137/SJ 4, LA 139; Exercise Journal SE 141/SJ 16, LA 142; Health Rankings SE 147/SJ 20; Tracking Responses TE 147/ SJ 22, LA 149; That Need for One More SE 169/SJ 30; Making Decisions SE 179/SJ 38; Decisions, Decisions SE 197/SJ 48, TT 200; Exploring Emotions SE 201/SJ 52, LA 203 |
| | | S.3-5.HS.3 Analyze patterns of accidental injuries in different locations; develop a specific action plan designed to reduce accidents; evaluate the success of the plan. | Level 4 – Ch. 4.2 | Level 4 – ATBD |
| | | S.3-5.HS.4 Develop a model that demonstrates effective verbal and nonverbal communication skills to enhance health and reduce health risks. | Level 3 – Ch. 6.3 Level 4 – Ch. 5.3, Ch. 6.1, 6.3 | Level 3 – LA 201, LA 202 Level 4 – TT 178, LA 181; AriLink TE 183, LA 183, LA 185, TT 206, LA 204; Say What SE 207/SJ 56, LA 210 |
| | | S.3-5.HS.5 Use scientific evidence to develop a family health plan designed to strengthen and enhance personal health. | Level 3 – Ch. 4.1, Ch. 5.3, Ch. 6.3 Level 4 – Ch. 4.2, Ch. 5.3 Level 5 – Ch. 7.1 | Level 3 – ATBD Level 4 – ATBD Level 5 – ATBD |
| | Health Resources | S.3-5.HS.6 Analyze and communicate the reliability of health information, products, and local services. | Level 3 – Ch. 5.3, Ch. 6.3 Level 5 – Ch. 7.3 | Level 3 – ATBD Level 5 – ATBD |
| | Healthy Lifestyle Choices | S.3-5.HS.7 Construct a model that illustrates the various influences that impact personal health. | Level 3 – Ch. 4.1, Ch. 5.3, Ch. 6.3 Level 4 – Ch. 4.2, 4.3, Ch. 5.3 Level 5 – Ch. 7.3 | Level 3 – ATBD Level 4 – ATBD Level 5 – LA 227; Sleep for a Week SE 228/ SJ 60; Fruits and Veggies TE 228/SJ 62; Personal Fitness TE 229/SJ 64, EAL 230; ATBD |
| | | S.3-5.HS.8 Conduct an investigation to evaluate the accuracy/ influence of the media on health. | Level 5 – Ch. 7.2 | Level 5 – ATBD |
| | | S.3-5.HS.9 Construct a model that demonstrates the ability to use decision-making skills to enhance health. | Level 4 – Ch. 5.3, Ch. 6.1, 6.2, 6.3 | Level 4 – ATBD |
| | | S.3-5.HS.10 Select a personal health goal, evaluate health resources to develop and implement a plan aimed at achieving the goal, and monitor progress toward the goal. | Level 3 – Ch. 4.1, Ch. 5.1, 5.3, Ch. 6.2, 6.3 Level 4 – Ch. 4.2, Ch. 5.1, 5.3, Ch. 6.2 | Level 3 – How Can Food Make Me Healthy TE 127/SJ 2; Staying Healthy TE 127/SJ 6, TT 130; Testing Sunscreens SE 131/SJ 8; UV Filtering TE 131/SJ 10; Hand Washing and Drying TE 133/SJ 12, LA 135; Make It Stronger TE 162/SJ 30, TT 172; Keep Your Heart Healthy SE 173/SJ 36, EAL 175; Measuring Breath SE 191/SJ 46; Cool Down TE 191/SJ 48; The Aerobic Heart TE 193/SJ 50, LA 202 Level 4 – How Can I Take Care of My Body to Stay Healthy TE 121/SJ 4; Balanced Diet SE 137/SJ 12; Exercise Journal TE 141/SJ 16, LA 142, LA 143; Choices We Make SE 159/ SJ 26; Making Decisions SE 179/SJ 38; Peer Pressure TE 179/SJ 40, LA 183, LA 185, LA 203 |
| | | S.3-5.HS.11 Gather, synthesize, and present information from the Bible about God's plan for healthy living. | Level 3 – Ch. 5.3, Ch. 6.3 Level 4 – Ch. 4.2, Ch. 5.3, Ch. 6.2 | Level 3 – How Can Food Make Me Healthy TE 127/SJ 2; Staying Healthy TE 127/SJ 6; Make It Stronger TE 162/SJ 30, TT 172; Keep Your Heart Healthy SE 173/SJ 36, EAL 175; The Aerobic Heart TE 193/SJ 50 Level 4 – How Can I Take Care of My Body to Stay Healthy TE 121/ SJ 4; Balanced Diet SE 137/SJ 12; Exercise Journal TE 141/SJ 16, LA 142, LA 143 |

2015 ELEMENTARY SCIENCE — HEALTH SCIENCES CONTINUED

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|-------|---|---|---|--|
| 6-8 | Health Promotion and Disease Prevention | S.6-8.HS.1 Collect data from family members to compile evidence that supports the claim that personal health is influenced by the environment and genetics. | Level 7 – Ch. 4.2 Level 8 – <i>Ch. 5.2, 5.3, Ch. 6.3, 6.4</i> | Level 7 – What Are Your Traits TE 151/SJ 100, EAL 153, EAL 161; Sex-Linked Traits SE 162/SJ 106 Level 8 – Who—Or What—Controls Your Health TE 161/SJ 5; Sickle-Cell Anemia SE 167/SJ 8; The Next Generation TE 167/SJ 8, LA 168, LA 171, LA 176; Survival Game SE 177/SJ 12; Making Real Life Changes TE 177/SJ 14; Heart Disease TE 178/SJ 16, EAL 180 |
| | | S.6-8.HS.2 Construct a model that demonstrates the link between appropriate health care and personal health. | Level 6 – Ch. 6.1, 6.2 Level 8 – Ch. 6.3, 6.4, Ch. 7.1, 7.2, 7.3 | Level 6 – How Can I Alter My Routine to Create a Healthier Lifestyle TE 113/SJ 1; Hazards in Your Home SE 199/SJ 71; Seeking a Health Professional SE 202/SJ 72; When It Gets Worse TE 202/SJ 74 Level 8 – ATBD; Reading Medication Labels SE 253/SJ 68, LA 256; Investigating Health Risks TE 259/SJ 74 |
| | | S.6-8.HS.3 Gather and synthesize information to identify barriers to obtaining appropriate health care and to practicing healthy behaviors, and suggest ways to overcome these barriers. | Level 8 – Ch. 5.1, Ch. 6.3, Ch. 7.3 | Level 8 – ATBD |
| | | S.6-8.HS.4 Construct an evidenced-based argument that demonstrates the importance of assuming responsibility for personal health behaviors. | Level 6 – Ch. 6.2, 6.3 Level 7 – Ch. 5.3, Ch. 6.1, 6.2, 6.3 Level 8 – Ch. 5.5, Ch. 6.2, 6.3, 6.4, Ch. 7.1, 7.2, 7.3 | Level 6 – How Can I Alter My Routine to Create a Healthier Lifestyle TE 113/SJ 1; Hazards in Your Home SE 199/SJ 71; Accidents Happen SE 207/SJ 76, LA 210, LA 212; Emergency Decisions TE 222/SJ 84 Level 7 – Sexually Transmitted Diseases SE 201/SJ 20; Saying NO! TE 201/SJ 22, LA 206, LA 224; How Pathogens Spread TE 228/SJ 40, LA 231, EAL 234, LA 235; Hey, Wanna Trade SE 241/SJ 44; Preventing Infection TE 241/SJ 46, LA 249; Disease Defense SE 252/SJ 48 Level 8 – Who—or What—Controls Your Health TE 161/SJ 5; What Factors Influence My Health SE 163/SJ 7, LA 176; Survival Game SE 177/SJ 12; Making Real Life Changes TE 177/SJ 14; Heart Disease TE 78/SJ 16, EAL 180, LA 203; Selecting the Best Aspirin SE 204/SJ 36, EAL 211; Reducing Fat TE 224/SJ 48, EAL 227; Evaluate and Rank Behaviors SE 231/SJ 50; Create a Risk Survey TE 231/SJ 52; Reading Medication Labels SE 253/SJ 68, LA 254, LA 255, LA 256; Investigating Health Risks TE 259/SJ 74, LA 263, LA 264 |
| | | S.6-8.HS.5 Evaluate behaviors in relation to the degree to which they benefit or harm personal health and the health of others. | Level 6 – Ch. 6.2, 6.3 Level 7 – Ch. 5.2, 5.3, Ch. 6.3 Level 8 – Ch. 5.3, Ch. 6.1, 6.2, 6.3 | Level 6 – Hazards in Your Home SE 199/SJ 71; Accidents Happen SE 207/TE 76; Emergency Decisions TE 222/SJ 84; ATBD Level 7 – Investigating Bullying SE 191/SJ 16; Interactions at School TE 191/SJ 18, LA 192; Sexually Transmitted Diseases SE 201/SJ 20; Saying NO TE 201/SJ 22, LA 206; Infectious Disease SE 215/SJ 31; How Pathogens Spread TE 228/SJ 40, LA 231, EAL 234, LA 235 Level 8 – What Factors Influence My Health SE 163/SJ 7, LA 187; Reducing Fat TE 224/SJ 48, EAL 227; Evaluate and Rank Behaviors SE 231/SJ 50; Create a Risk Survey TE 231/SJ 52 |
| | | S.6-8.HS.6 Choose a health-enhancing practice and develop a presentation designed to persuade others to adopt a similar practice. | Level 6 – Ch. 5.1, 5.2, 5.3, 5.4, Ch. 6.2, 6.3 Level 7 – Ch. 5.2, 5.3, Ch. 6.2, 6.3, 6.4 Level 8 – Ch. 5.2, 5.3, Ch. 6.2, 6.3, 6.4, Ch. 7.1, 7.2, 7.3 | Level 6 – ATBD Level 7 – ATBD; LA 205, LA 231, LA 249; Hand Washing Techniques TE 252/SJ 50, LA 255; ATBD Level 8 – LA 176, EAL 180, LA 187, LA 212, EAL 227, LA 249; ATBD |
| | Health Resources | S.6-8.HS.7 Develop guidelines for evaluating health information, products, and services, and conduct an investigation designed to assess the validity of health-related resources. | Level 8 – Ch. 6.4, Ch. 7.2, 7.3 | Level 8 – ATBD; Pressure in Advertising SE 247/SJ 64; Reading Medication Labels SE 253/SJ 68; Price Comparison TE 253/SJ 72, LA 254, LA 255, LA 256, LA 262, LA 263, LA 264; ATBD |
| | Healthy Lifestyle Choices | S.6-8.HS.8 Construct an argument that supports the claim that modifying unhealthy behaviors can enhance personal health. | Level 6 – Ch. 4.4, 4.5, Ch. 5.3, 5.4, Ch. 6.2 Level 7 – Ch. 5.3, Ch. 6.3, 6.4 Level 8 – Ch. 5.3, Ch. 6.2, 6.3, 6.4, <i>Ch. 7.1</i> | Level 6 – ATBD Level 7 – ATBD Level 8 – ATBD |
| | | S.6-8.HS.9 Plan and conduct an investigation that provides evidence that peers and perceptions of norms influence the health of adolescents. | Level 6 – Ch. 6.2 Level 7 – Ch. 5.3, Ch. 6.3 Level 8 – Ch. 6.2, 6.3, 6.4, Ch. 7.1, 7.2 | Level 6 – ATBD Level 7 – LA 205; ATBD; Hey, Wanna Trade SE 241/SJ 44; ATBD Level 8 – Evaluate and Rank Behaviors SE 231/SJ 50, EAL 233, LA 249, LA 262, LA 263 |
| | | S.6-8.HS.10 Construct a model that demonstrates how public health policies can influence health promotion and disease prevention. | Level 6 – Ch. 6.2, 6.3 Level 7 – Ch. 6.2, 6.3 Level 8 – Ch. 6.1, 6.2, 6.3, Ch. 7.2, 7.3 | Level 6 – ATBD Level 7 – LA 240, LA 235; ATBD Level 8 – ATBD |
| | | S.6-8.HS.11 Analyze and interpret data that provides evidence to support the claim that traditional Adventist health practices promote optimal health. | Level 6 – Ch. 5.3, 5.4 Level 7 – Ch. 5.2, 5.3, <i>Ch. 6.2, 6.4, Ch. 7.1</i> Level 8 – Ch. 5.2, 5.3, Ch. 6.2, 6.3 | Level 6 – ATBD Level 7 – ATBD Level 8 – ATBD |