**2016 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.

**DEVELOPMENT COMMITTEE MEMBERS**

**Betty Bayer** Seventh-day Adventist Church in Canada Associate Director of Education

**Carol Campbell** North American Division Director of Elementary Education

**Lee Davidson** Andrews University Teacher Education Department Chair

**Ileana Espinosa** Columbia Union Associate Director of Elementary Education

**Jerrell Gilkeson** Atlantic Union Associate Director of Elementary Education

**Randy Gilliam** Southwestern Union Director of Education

**Martha Havens** Pacific Union Associate Director of Elementary Education

**LouAnn Howard** Mid-America Union Associate Director of Elementary Education

**Jim Martz** Lake Union Associate Director of Elementary Education

**Patti Revolinski** North Pacific Union Associate Director of Elementary Education

**Diane Ruff** Southern Union Associate Director of Elementary Education

**Dan Wyrick** Nature by Design Director

**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.

**3. PEOPLE, PLACES, AND ENVIRONMENTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **GRADE** | **STANDARDS (NGSS ALIGNMENT) Utilize relevant and appropriate biblical and Seventh-day Adventist historical references.** | | |
| **Essential Question: How does God respond to man-made changes in the environment and their impact on human life?** | | | **Big Idea: The damage that sin has done to the earth causes God pain and injures humans; however, God, who created and sustains the world, has promised to restore the Earth and humans to their original harmony.** |
| **K-4** | **SS.K-4.PPE.1** | Explain that the theme of people, places, and environments involves the study of location, place, and the interactions of people with their surroundings. (KE 3.1) | |
| **SS.K-4.PPE.2** | Define concepts such as: location, direction, distance, and scale. (KE 3.2) | |
| **SS.K-4.PPE.3** | Utilize tools such as maps, globes, and geospatial technologies in investigating relationships among people, places, and environments. (KE 3.9)  • Gather and interpret information from various representations of Earth, such as maps, globes, geospatial technologies, and other geographic tools to inform the study of people, places, and environments, both past and present. (PE 3.3) | |
| **SS.K-4.PPE.4** | Correlate physical and human characteristics of the school, community, state, and region and the interactions of people in these places with the environment. (KE 3.3) | |
| **SS.K-4.PPE.5** | Describe the Christian’s responsibility for the environment. | |
| **SS.K-4.PPE.6** | Identify the factors influencing various community, state, and regional patterns of human settlement such as the availability of land, water, and places for people to live. (KE 3.4) | |
| **SS.K-4.PPE.7** | Explore cultural patterns and their interactions within and across places, by means such as migration and settlement, changes in customs or ideas and in the ways people make a living. (KE 3.6) | |
| **SS.K-4.PPE.8** | Analyze factors that contribute to similarities and differences among peoples locally and in places across the world including ethnicity, language, and religious beliefs. (KE 3.8)  • Ask and find answers to geographic questions related to the school, community, state, region, and world. (PE 3.1) | |
| **SS.K-4.PPE.9** | Compare physical changes in the community, state, and region, such as seasons, climate, and their effects on plants and animals. (KE 3.5) | |
| **SS.K-4.PPE.10** | Examine the effects of sin on the environment. | |
| **SS.K-4.PPE.11** | Compare and contrast benefits and problems resulting from the discovery and use of resources. (KE 3.7)  • Investigate relationships among people, places, and environments in the school, community, state, region, and world through the use of atlases, data bases, charts, graphs, maps, and geospatial technologies. (PE 3.2) | |
| **SS.K-4.PPE.12** | Discuss the Christian’s responsibility for the Earth’s environment and its resources. | |
| **5-8** | **SS.5-8.PPE.1** | Examine how the theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources. (KM 3.1) | |
| **SS.5-8.PPE.2** | Scrutinize the effects of sin on the environment. | |
| **SS.5-8.PPE.3** | Describe concepts such as: location, region, place, and migration, as well as human and physical systems. (KM 3.2)  • Ask and find answers to geographic questions related to regions, nations, and the world in the past and present. (PM 3.1) | |
| **SS.5-8.PPE.4** | Compare and contrast past and present changes in physical systems such as seasons, climate, weather, and the water cycle in both national and global contexts. (KM 3.3)  • Acquire, organize, and analyze information and use geographic tools to draw conclusions about environmental changes. (PM 3.3) | |
| **SS.5-8.PPE.5** | Investigate how the concept of regions identifies the links between people in different locations according to specific criteria. (KM 3.5) | |
| **SS.5-8.PPE.6** | Illustrate patterns of demographic and political change and cultural diffusion in the past and present. (KM 3.6) | |
| **SS.5-8.PPE.7** | Summarize factors that contribute to cooperation and conflict among peoples of the nation and the world including language, religion, and political beliefs. (KM 3.8)  • Identify and interpret “push” and “pull” factors involved in the migrations of people in this nation and other parts of the world. (PM 3.5) | |
| **SS.5-8.PPE.8** | Discuss human modifications of the environment. (KM 3.7)  • Evaluate the consequences of human actions in environmental terms. (PM 3.6) | |
| **SS.5-8.PPE.9** | Compare and contrast the effects of sin on the environment. | |
| **SS.5-8.PPE.10** | Analyze the roles of different kinds of population centers in a region or nation. (KM 3.4) | |
| **SS.5-8.PPE.11** | Utilize a variety of maps, globes, graphic representations, and geospatial technologies to help investigate the relationships among people, places, and environments. (KM 3.9)  • Research, organize, analyze, synthesize, and evaluate information from atlases, data bases, grid systems, charts, graphs, maps, geospatial technologies, and other tools to interpret relationships among geographic factors and historic events. (PM 3.2)  • Calculate distance, scale, and area to inform study of historic or current national and global environments. (PM 3.4) | |
| **SS.5-8.PPE.12** | Discuss the Christian’s responsibility for the Earth’s environment and its resources. | |

**4. INDIVIDUAL DEVELOPMENT AND IDENTITY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Essential Question: What role does choice play in the development of individual identity?** | | | **Big Idea: God created humans with the power of choice and gave us the gift of the Holy Spirit to guide us as we make choices that shape our development.** |
| **K-4** | **SS.K-4.IDI.1** | Discuss how the study of individual development and identity helps us know who we are and how we change. (KE 4.1) | |
| **SS.K-4.IDI.2** | Identify the qualities that make individuals unique and equip them for their place in God’s overall plan. | |
| **SS.K-4.IDI.3** | Define concepts such as: growth, change, learning, self, family, and groups. (KE 4.2)  • Describe your personal characteristics including your interests, capabilities, and perceptions. (PE 4.2) | |
| **SS.K-4.IDI.4** | Explain how individuals have characteristics that are both distinct from and similar to those of others. (KE 4.3) | |
| **SS.K-4.IDI.5** | Compare the Biblical account of the beginning of civilization to that of the evolutionary viewpoint. | |
| **SS.K-4.IDI.6** | Describe how individuals bring specific abilities, interests, and talents in working with others to make decisions and solve problems. (KE 4.4) | |
| **SS.K-4.IDI.7** | Develop a respect for others including senior citizens and individuals with disabilities.  • Ask and find answers to questions about how individual identity forms and changes. (PE 4.1) | |
| **SS.K-4.IDI.8** | Examine how individuals change over time. (KE 4.5) | |
| **SS.K-4.IDI.9** | Evaluate how physical, intellectual, and emotional growth affects individual identity, growth, and interactions with others. (KE 4.6) | |
| **SS.K-4.IDI.10** | Achieve a balance in work and leisure which encompasses physical, mental, emotional, social, and spiritual activities. | |
| **SS.K-4.IDI.11** | Explore factors that contribute to personal identify such as physical attributes, gender, race, and culture. (PE 4.3) | |
| **SS.K-4.IDI.12** | Evaluate how individuals can express their own identify and work productively with others. (PE 4.4) | |
| **SS.K-4.IDI.13** | Discuss how people’s interactions with their social and physical surroundings influence individual identity and growth. (KE 4.7) | |
| **SS.K-4.IDI.14** | Outline how individual choices are influenced by personal and social factors. (KE 4.8) | |
| **SS.K-4.IDI.15** | Identify people, groups, and institutions that contribute to development. (PE 4.5) | |
| **SS.K-4.IDI.16** | Embrace and cultivate a personal relationship with Christ. | |
| **5-8** | **SS.5-8.IDI.1** | Elaborate on how the study of individual development and identity helps us know that individuals change physically, cognitively, and emotionally over time. (KM 4.1) | |
| **SS.5-8.IDI.2** | Achieve a balance in work and leisure which encompasses physical, mental, emotional, social and spiritual activities. | |
| **SS.5-8.IDI.3** | Define and describe concepts such as development, change, personality, learning, individual, family, groups, motivation, and perception. (KM 4.2)  • Ask and find answers to questions about how individual identity forms and changes. (PM 4.1)  • Examine the relationship between individual identity and social, cultural, and historical contexts. (PM 4.2) | |
| **SS.5-8.IDI.4** | Analyze how factors such as physical endowment, interests, capabilities, learning, motivation, personality, perception, and beliefs influence individual development and identity. (KM 4.3) | |
| **SS.5-8.IDI.5** | Recognize the role of useful work in personal development and maintaining self-worth.  • Describe ways in which family, gender, ethnicity, nationality, and institutional affiliations contribute to individual development and personal identity. (PM 4.3) | |
| **SS.5-8.IDI.6** | Determine how personal, social, cultural, and environmental factors contribute to the development and the growth of personal identity. (KM 4.4) | |
| **SS.5-8.IDI.7** | Embrace and cultivate a personal relationship with Christ.  • Examine the impact of conformity and altruism on identity. (PM 4.4) | |
| **SS.5-8.IDI.8** | Discuss how individuals’ choices influence identity and development. (KM 4.5) | |
| **SS.5-8.IDI.9** | Identify the qualities that make individuals unique and equip them for a place in God’s overall plan.  • Identify the relationship between individual qualities and career or professional choices. (PM 4.7) | |
| **SS.5-8.IDI.10** | Justify that perceptions are interpretations of information about individuals and events and can be influenced by bias and stereotypes. (KM 4.6)  • Identify biases that can influence a person’s perceptions of other individuals including individuals belonging to groups with different physical, social, or cultural characteristics. (PM 4.5) | |
| **SS.5-8.IDI.11** | Develop a respect for others including senior citizens and individuals with disabilities.  • Describe the influence of perception, attitudes, values, and beliefs on identity and the interactions of peoples across time and space. (PM 4.6) | |