The Yellow Belly Ponderosa Project

Arizona Standards Based Teaching and Learning
4th Grade

Strand 1: Inquiry Process
-Investigation
-Think critically and logically about relationships between evidence and explanations
-Communicate results
Concept 2: Investigating and modeling
-Investigate
Performance Objective 3: Investigations related to erosion, plant life cycles, weather in life and Earth sciences
Concept 4: Communication
-Communicate results of an investigation
Performance Objective 1: Communicate verbally or in writing the results of an inquiry
Performance Objective 3: Communicate with other groups or individuals to compare the results of a common investigation

Strand 3: Science and Social Perspectives
-Develop the ability to design solutions to a problem
-Understand the relationships between science and technology, and the way people are involved in both
-Understand impact of science and technology on humans and the environment
-Understand place in the world as living creatures, consumers, decision makers, problem solvers, managers, and planners
Concept 1: Changes in Environment
- Describe interactions between human populations, natural hazards, and environment
Performance Objective 1: Describe how natural events and human activities have positive and negative impacts on the environment such as fire, floods, pollution, etc.
Concept 2: Science and Technology in Society
- Understand impact of Technology
Performance Objective 2: Describe benefits and risks related to technology (pollution, destruction of natural resources)
Performance Objective 3: Design and construct a technological solution to a common problem

Strand 4: Life Science
-Expand biological understanding of life
-Characteristics of living things
-Diversity of life
-Organisms and population change over time
-Structures and functions, life cycles
-Interrelationships of matter and energy in living organisms
-Interactions of living organisms with their environment
Concept 3: Organisms and Environment
-Understand the relationships among various organisms and their environment
Performance Objective 1: Describe various ways various resources (air, water, plants, animals, soil) are utilized to meet the needs of a population
Performance Objective 3: Analyze the effect that limited resources may have on an environment
Performance Objective 4: Describe ways in which resources can be conserved

Strand 6: Earth and Space Science
-Foundations for understanding the Earth, its composition, and formative processes
-Regularities and interrelated systems of the natural world
-Models that explain the world
-Earth from both historical and current time frame
-Students make informed decisions about issues affecting the planet on which they live
Concept 2: Earth's Processes and Systems
-Understanding the processes acting on the Earth and their interactions with the Earth systems.
Performance Objective 1: Identify the Earth processes that cause erosion.
Performance Objective 3: Describe the role that water plays in the processes that alter the Earth's surface features
Performance Objective 4: Compare rapid and slow processes that change the Earth's surface
Performance Objective 5: Identify the Earth events that cause changes in atmospheric conditions
Concept 3: Changes in the Earth and Sky
-Understand characteristics of weather conditions and climate
Performance Objective 1: Identify the sources of water within an environment
-ground water, surface water, atmospheric water
Performance Objective 2: Describe the distribution of water on the Earth's surface.

Writing
Text Types and Purposes
Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
-Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
-Provide reasons that are supported by facts and details.
-Link opinion and reasons using words and phrases (e.g., *for instance, in order to, in addition*).
-Provide a concluding statement or section related to the opinion presented. **(4.W.1)**
Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
-Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
-Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
-Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).
-Use precise language and domain-specific vocabulary to inform about or explain the topic.
Provide a concluding statement or section related to the information or explanation presented. **(4.W.2)**

Production and Distribution of Writing
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) **(4.W.4)**
-Produce clear and coherent functional writing (e.g., friendly and formal letters, recipes, experiments, notes/messages, labels, graphs/tables, procedures, invitations, envelopes) in which the development and organization are appropriate to task and purpose. **(AZ.4.W.4)**

Speaking and Listening
Comprehension and Collaboration
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts,* building on others' ideas and expressing their own clearly.
- Come to discussions prepared having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
- Follow agreed-upon rules for discussions and carry out assigned roles.
- Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
-Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. **(4.SL.1)**
-Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. **(4.SL.2)**
-Identify the reasons and evidence a speaker provides to support particular points. **(4.SL.3)**
Presentation of Knowledge and Ideas
-Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. **(4.SL.4)**

Language
Conventions of Standard English
-**Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing**.
-Use correct capitalization.
-Use commas and quotation marks to mark direct speech and quotations from a text.
-Use a comma before a coordinating conjunction in a compound sentence.
-Spell grade-appropriate words correctly, consulting references as needed. **(4.L.2)**

Knowledge of Language
Use knowledge of language and its conventions when writing, speaking, reading, or listening.
-Choose words and phrases to convey ideas precisely.
-Choose punctuation for effect.*
-Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion). **(4.L.3)**

The Yellow Belly Ponderosa Project

Arizona Standards Based Teaching and Learning
5th Grade

Strand 1: Inquiry Process
-Investigation
-Think critically and logically about relationships between evidence and explanations
-Communicate results
Concept 2: Investigating and modeling
-Investigate
Performance Objective 3: Investigations related to erosion, plant life cycles, weather in life and Earth sciences
Concept 4: Communication
-Communicate results of an investigation
Performance Objective 1: Communicate verbally or in writing the results of an inquiry
Performance Objective 3: Communicate with other groups or individuals to compare the results of a common investigation

Strand 2: History and Nature of Science
-Scientific investigation grows from contribution of many people
-Importance of historical perspective and the advances of new development
-Role scientists play in the development of various cultures
Concept 2: Nature of Scientific Knowledge
-Understand how science is a process for generating knowledge
Performance Objective 4: Compare collaborative approaches that scientists use for investigations (teams, individual with peer review)
Performance Objective 5: Describe qualities of the scientist's habit of mind (openness, skepticism, integrity, tolerance)

Strand 3: Science and Social Perspectives
-Develop the ability to design solutions to a problem
-Understand the relationships between science and technology, and the way people are involved in both
-Understand impact of science and technology on humans and the environment
-Understand place in the world as living creatures, consumers, decision makers, problem solvers, managers, and planners
Concept 1: Changes in environments
-Describe the interactions between human populations, natural hazards, and the environment
Performance Objective 1: Explain the impact of natural hazards on habitats (global warming, floods)
Performance Objective 2: Propose a solution, resource, or product that addresses a specific human, animal, or habitat need
Performance Objective 3: Evaluate the possible strengths and weaknesses of a proposed solution to a specific problem relevant to human, animal, or habitat needs
Concept 2: Science and Technology in Society
-Develop viable solutions to a need or problem
Performance Objective 1: Describe the relationship between science and technology
Performance Objective 2: Explain how specific knowledge, skills, and technological capabilities are integral to a variety of careers
Performance Objective 3: Design and construct a technological solution to a common problem or need using common materials

Strand 5: Physical Science
-Nature of matter and energy and changes they undergo, and interactions
-Laws of motion, forces acting upon objects
-Processes by which energy is transferred between systems and surroundings
Concept 1: Properties and Changes of Properties of Matter
-Understand physical and chemical properties of matter
Performance Objective 3: Describe changes in matter (physical cutting of wood and chemical burning of wood)

Writing
Text Types and Purposes
Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
-Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
-Provide logically ordered reasons that are supported by facts and details.
-Link opinion and reasons using words, phrases, and clauses (e.g., *consequently, specifically*).
-Provide a concluding statement or section related to the opinion presented. **(5.W.1)**
Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
-Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
-Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
-Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).
-Use precise language and domain-specific vocabulary to inform about or explain the topic.
-Provide a concluding statement or section related to the information or explanation presented. **(5.W.2)**

Production and Distribution of Writing
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
(Grade-specific expectations for writing types are defined in standards 1–3 above. **(5.W.4)**
-Produce clear and coherent functional writing (e.g., formal letters, recipes, experiments, notes/messages, labels, timelines, graphs/tables, procedures, invitations, envelopes) in which the development and organization are appropriate to task and purpose. **(AZ.5.W.4)**

Speaking and Listening
Comprehension and Collaboration
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly.
-Come to discussions prepared having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
-Follow agreed-upon rules for discussions and carry out assigned roles.
-Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
-Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **(5.SL.1)**
-Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. **(5.SL.2)**
-Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence. **(5.SL.3)**
Presentation of Knowledge and Ideas
-Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. **(5.SL.4)**

Language
Conventions of Standard English
Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
-Use punctuation to separate items in a series.*
-Use a comma to separate an introductory element from the rest of the sentence.
-Use a comma to set off the words yes and no (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).
-Use underlining, quotation marks, or italics to indicate titles of works.
-Spell grade-appropriate words correctly, consulting references as needed. **(5.L.2)**

Knowledge of Language
Use knowledge of language and its conventions when writing, speaking, reading, or listening.
-Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems. **(5.L.3)**