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.
Arizona Common Core standards
4th Grade

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 ideas within categories of information 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.
- 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)
Arizona Common Core standards
5th Grade

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)