

Using the Standards – A Guide for Teachers

Presented by Linda Hoyer

Included are sections from the following documents:

- Arizona State Science Standards
- Next Generation Science Standards (Released April 2013)
- Arizona Common Core Standards English Language Arts (September 2012)
- Lesson Design for Butterfly Wonderland (July 2013)

The sample lesson design is titled: The Amazon, A Tropical Rainforest, grades 3-5. The instructional objectives are aligned with the performance objectives in the appropriate strand and concept area reflected in the Arizona State Science Standards as noted per grade level.

Lesson Design: The Amazon, A Tropical Rainforest Objective: Instructional objectives

- 1. Students will demonstrate an understanding of relationships among various organisms in an ecosystem.
- 2. Students will demonstrate a general knowledge of the plant cycle as it relates to the decomposition of matter on the rainforest floor.
- 3. Students will demonstrate an understanding of conservation and the interactions between human populations, natural resources and the environment.

Performance Objectives:

Grade 3: SS Strand 3: Concept 2 – PO 2;

Strand 4 - Concept 3 - PO 3

Example:

Grade 3: SS Strand 4 Concept 3 – PO 3 Grade 4: SS Strand 4: Concept 3 – PO 1-4;

Concept 4 – PO 2

Grade 5: SS Strand 3: Concept 1 – PO 1-3 NGSS 3-LS 2. D; 4-LS 1. A; 5-LS 2. A

CCSS 3.W.2; 4.W.2: 5.W.2

Example: NGSS 3-LS 2 Example: CCSS 3.W.2

SCIENCE STANDARD ARTICULATED BY GRADE LEVEL GRADE 3

Strand 4: Life Science

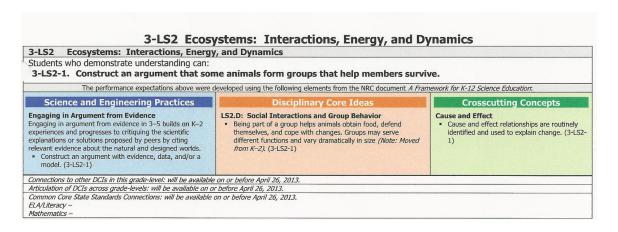
Concept 3: Organisms and Environments Understand the relationships among various organisms and their environment. PO 1. Identify the living and nonliving components of an ecosystem. PO 2. Examine an ecosystem to identify microscopic and macroscopic organisms. PO 3. Explain the interrelationships among plants and animals in different environments: • producers – plants • consumers – animals • decomposers – fungi, insects, bacteria PO 4. Describe how plants and animals cause change in their environment. PO 5. Describe how environmental factors (e.g., soil composition, range of temperature, quantity and quality of light or water) in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive.

Example: PO 3

PO 3 – This instructional information is found throughout the content of the lesson. Detailed information related to the ecosystem in the rainforest is presented with examples of the interdependence of living organisms.

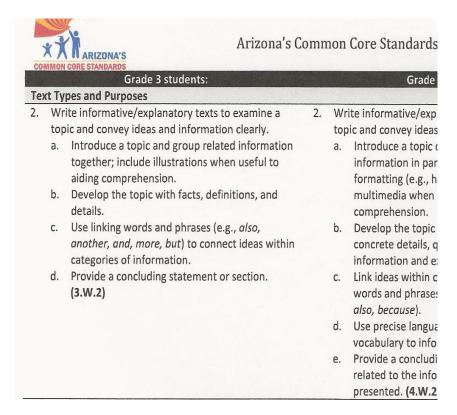
Next Generation Science Standards:

The example is 3-LS2. This is a grade 3 standard related to ecosystems. Part D involves the interdependence of living organisms in an ecosystem and how they function in maintaining survival.



Related instructional content is interwoven in the background information of the lesson.

The Common Core Standards are for Language Arts. Literacy is a significant part of the instructional program and supported by the standards. Note the type of writing for a student in grade 3.



Multiple measures are appropriate in evaluating student performance.

Measuring the learning:

- 1. Open-ended discussion with specific questions related to the topic
- 2. Note taking check for complete work
- 3. The food chain worksheet will reflect the students' understand of the concept of living organisms as part of the food chain and where they fit in the chain.
- 4. The cryptozoologist activity allows students to be creative and apply writing skills. This activity meets the CCSS 3.W.2
- 5. The rainforest mural is another way to measure the understanding of living organisms in the rainforest, where they are located and how they are interdependent. Discussions related to the project are encouraged to engage and evaluate all students.
- 6. Class presentations provide a means to check for understand and to clarify details as needed.