

## **Grade 8**

### Science Standards Correlations

For the

SRP Power In-Service Workshops and Tour

Please note: Science standards correlations are based upon the Arizona Department of Education's Science Standard Crosswalk

[www.ade.state.az.us/standards/science/articulated.asp](http://www.ade.state.az.us/standards/science/articulated.asp)

### **Strand 1: Inquiry Process**

#### **Concept 1: Observations, Questions, and Hypotheses**

Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.

PO 1. Formulate questions based on observations that lead to the development of a hypothesis.

(See M08-S2C1-01)

PO 2. Use appropriate research information, not limited to a single source, to use in the development of a testable hypothesis. (See W08-S3C6-01, R08-S3C1-06, and R08-S3C2-03)

PO 3. Generate a hypothesis that can be tested.

#### **Concept 2: Scientific Testing (Investigating and Modeling)**

Design and conduct controlled investigations.

PO 3. Conduct a controlled investigation to support or reject a hypothesis.

PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).

PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs. (See W08-S3C2-01 and W08-S3C3-01)

#### **Concept 3: Analysis and Conclusions**

Analyze and interpret data to explain correlations and results; formulate new questions.

PO 1. Analyze data obtained in a scientific investigation to identify trends. (See M08-S2C1-08)

PO 5. Explain how evidence supports the validity and reliability of a conclusion.

PO 8. Formulate new questions based on the results of a previous investigation.

#### **Concept 4: Communication**

Communicate results of investigations.

PO 1. Communicate the results of an investigation.

PO 3. Present analyses and conclusions in clear, concise formats. (See W08-S3C6-02)

PO 5. Communicate the results and conclusion of the investigation. (See W08-S3C6-02)

### **Strand 2: History and Nature of Science**

#### **Concept 1: History of Science as a Human Endeavor**

Identify individual, cultural, and technological contributions to scientific knowledge.

PO 3. Evaluate the impact of a major scientific development occurring within the past decade.

PO 4. Evaluate career opportunities related to life and physical sciences.

#### **Concept 2: Nature of Scientific Knowledge**

Understand how science is a process for generating knowledge.

PO 1. Apply the following scientific processes to other problem solving or decision making situations:

- observing
- questioning
- communicating
- comparing
- measuring
- classifying
- predicting
- organizing data
- inferring
- generating hypotheses
- identifying variables

**Strand 3: Science in Personal and Social Perspectives****Concept 1: Changes in Environments**

Describe the interactions between human populations, natural hazards, and the environment.

PO 1. Analyze the risk factors associated with natural, human induced, and/or biological hazards, including:

- waste disposal of industrial chemicals
- greenhouse gases

PO 2. Analyze possible solutions to address the environmental risks associated with chemicals and biological systems.

**Concept 2: Science and Technology in Society**

Develop viable solutions to a need or problem.

PO 3. Design and construct a solution to an identified need or problem using simple classroom materials.