



# RPDP Elementary Science Newsletter

**Southern Nevada Regional Professional Development Program**

## ***Making the Connections between Science and Literacy***

Reading, writing, and science. Science? What makes science the perfect partner with literacy? According to Casteel & Isom (1994)...*acquiring science knowledge demands application of a variety of literacy skills because content information is rooted in written and oral language. The literacy skills of graphing, diagramming, recording, and reporting are important in organizing, analyzing, and publishing science data.* Within the science curriculum children act as researchers/scientists by asking questions, observing the world around them, recording information, collecting and analyzing data, and communicating their findings/conclusions to an audience.

### ***Vocabulary***

Vocabulary development in science should begin with the student's own words. If a student says the magnet ***sticks*** to the paperclip, then the teacher accepts those words. However, appropriate scientific vocabulary should be modeled by the teacher as he/she inserts it in place of the student's word. When the student uses the word ***sticks***, the teacher can replace it with ***attracts***.

Scientific vocabulary can be written on chart paper in the form of a word bank or recorded on word cards that can be posted in a prominent area of the room or on a content area word wall for immediate student access. Vocabulary should not be posted until after it has been introduced and developed through hands-on investigations and student discussions. Having real objects (whenever possible), drawings, icons, or photographs on the cards help cement vocabulary development for second language learners and struggling students.

### ***Informational Texts***

As students engage in science activities, questions arise. These questions can be charted and sorted into two categories: *Questions That Can Be Researched and Questions That Can Be Investigated*. *Questions That Can Be Researched* would be those that students would be able to find answers from other sources such as informational texts, experts, or research on the Internet. *Questions That Can Be Investigated* would be those that students would be able to investigate through additional testing, interactions, and observations of the materials with which they are working.

Students' own research questions set a purpose for reading informational texts.

Students want to find out the answers to their questions, so they tend to be more attentive during *read alouds* by the teacher and when they are doing reading on their own.

During *read alouds* teachers can model their thinking by using the *think aloud strategy*. Students are given a snapshot of what goes on in a good reader's mind as he/she is reading informational texts.

Teachers can provide mini-lessons on informational text features, formats, and comprehension strategies. Some strategies that work well with informational texts are *Reciprocal Teaching (Palinscar & Brown, 1986)*, *Question-Answer Relationship (Raphael, 1982)*, and *Experience-Text Relationship (Tharp, 1982)*.

### ***Writing***

Hands-on science experiences provide a basis for student writing. Using a science notebook gives students an authentic purpose to write. A variety of writing can be found in notebooks. Lists, notes, summaries, descriptions, and predictions are some examples that may be evident in students' notebooks.

To solidify conclusions, findings, and observations students can share them in a whole group setting while the teacher charts the information. The charting serves several purposes:

- Primary students are interactively describing their observations while the teacher records. The teacher models the written word for all students.
- Second language students benefit by seeing the written words in connection with the oral language.
- Resource students can also use the written recordings as a model for their own writing.

### ***Connecting Science and Literacy***

By fostering the habits of scientists/ researchers through well-honed observation skills, thought-provoking questions, and opportunities to read and write informational texts; *you can help your students see that learning science, like life itself, is an integrated experience (Thier, 2002)*.

#### Sources

Casteel, C. & Isom, B. (1994). "Reciprocal Process in Science and Literacy Learning." *The Reading Teacher*, 47, pp. 538 -545.

Thier, M. & Daviss, B. (2002). *The New Science Literacy Using Language Skills to Help Students Learn Science*. New Hampshire: Heinemann.