

**UNDERSTANDING HOW
TO TEACH THE 3rd
THROUGH 5th Grade
LESSONS**

What the Lessons Have in Them?

- **Literacy -**

Reading/Writing/Speaking/Listening
about Science Standards/ Benchmarks



- **Investigations -**

Activities that include strategies
that teach Science Benchmarks and
Standards

- **Assessment -**

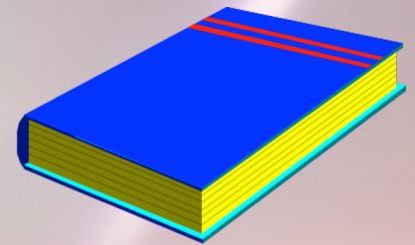
To inform learners and teachers of
student progress on Benchmarks
and Standards in science

What do the Lesson Contain?

- Standards and Benchmarks
- Objectives and Indicators
- Intended Learning Outcomes (ILO's)
- Literacy - Vocabulary/Expository Reading
- Investigations - Hands-on activities tied to Standards
- Assessment - Tied to Standards and Strategies
 - Multiple Choice, Constructed Response, Performance Assessment
- Strategies for teaching science effectively

Benchmarks and Standards

- Benchmarks:
 - Describe assessable content level of science that students should know and able to do.
- Standards:
 - A broad statement of what students are expected to understand (know and able to do).



Objectives and Indicators

- Objectives:
 - More focused description of what students need to know and be able to do at the completion of instruction as they work toward learning the standard.
- Indicators:
 - Are measurable or observable student actions that enables one to judge whether a student has mastered a particular objective.
 - Guide classroom instruction, to move students toward objectives and finally to the understanding of standards and benchmarks.



What Are Intended Learning Outcomes? (ILO's)

- Describe the skills and attitudes students should learn as a result of science instruction.
- Provide teachers with a standard for evaluation of student learning in science.

Why Use Intended Learning Outcomes?

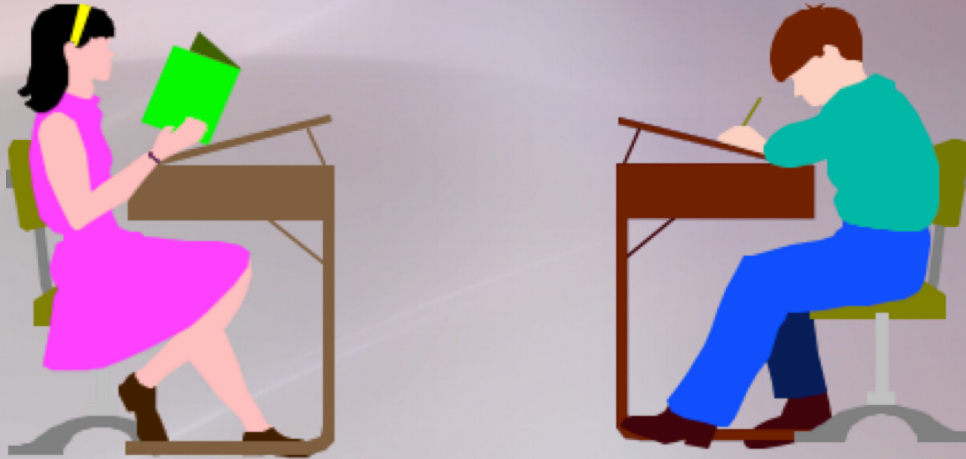
- ILO's are used so students will value and use science as a process of obtaining knowledge based upon observable evidence.
- ILO's help develop science literacy and develop positive attitudes about using science as a way of obtaining knowledge.

How Should Teachers Use Intended Learning Outcomes?



- As a teacher prepares literacy guided instruction lessons, hands-on activities or assessments in science, he/she can look at the ILO indicators (a,b,c, etc.) to see which ones will best fit the lessons, activities or tests.
- As these ILO indicators are interwoven, the objectives will be met for students developing science literacy, obtaining science knowledge and learning inquiry processes to use throughout life.

The Lessons and Literacy



- Each standard has a literacy section.
- The literacy is in expository reading format.
- The format is designed for a “Shared Reading” setting.
- The reading “uncovers” the objectives and indicators of the science standard.
- The reading is on grade level.
- Vocabulary is introduced in context and by definition.

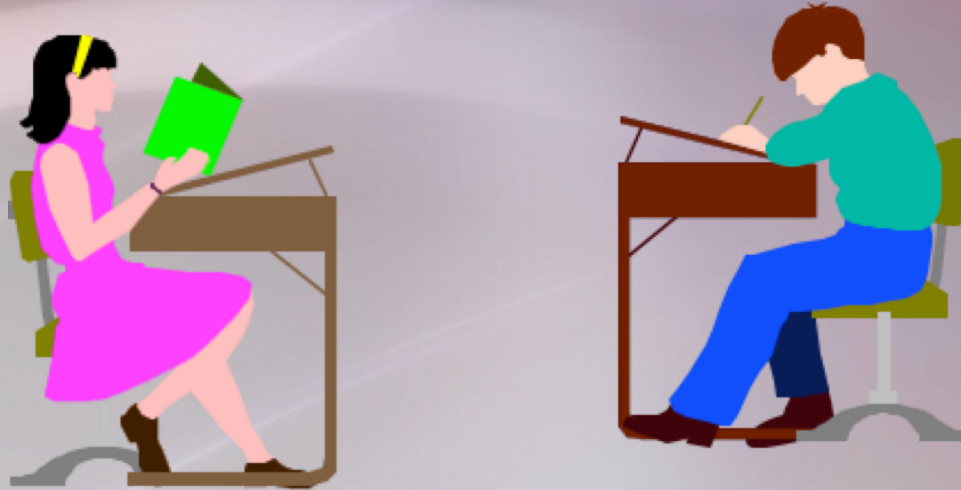
The Lessons and Assessment

- There are a number of authentic assessment tests at the end of each standard.
- These tests have items that assess all the objectives, ILO's and standards in the Science Core.
- The three types of assessments are:
 - Multiple Choice.
 - Constructed Response.
 - Performance Tasks.

What Are Strategies That Make Science Count?

- Inquiry
- Technology Integration
- Research, journaling, and Writing
- Assessment
- Science Fair
- Differentiation
- Homework
- Removal of Science Misconceptions
- Science Resources

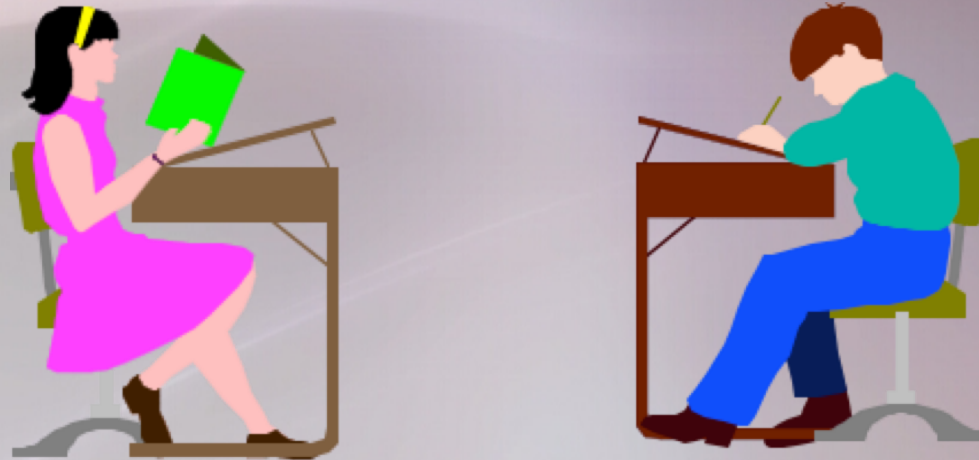
The Lessons and Testing



- The End of Year Tests are developed to test students' knowledge of the State Science Core.
- They ask only multiple choice questions related to objectives and ILO's.
- They are designed to assess students' understanding of the science standards and benchmarks.

The Lessons and the Testing

(continued)



- They are grade-level tests. Yes, they are reading tests!
- Communication is part of science.
- All words in the test questions are grade-level words, or science words that students should know and understand.

This includes science language that students need to understand and use.

The Lessons and Science Standards

- It is important that teachers teach to, and assess standards and objectives.
 - These are the **Big Rocks**.
- Teaching many of the activities will insure that all standards and objectives have been addressed.

The Lessons and Science Standards

(continued)

- You can bring in other strategies to complement or reinforce the activities as needed or desired.
- Teach only to science benchmarks and standards and be cautious not to teach science out of the range of student understanding.
 - These are **little rocks**. They take valuable teaching/learning time and they cause students to build misconceptions

The Bottom Line is:

Teaching to the standards **will prepare**
students for the end of the year testing
and...

...prepare them for connections to their
world.