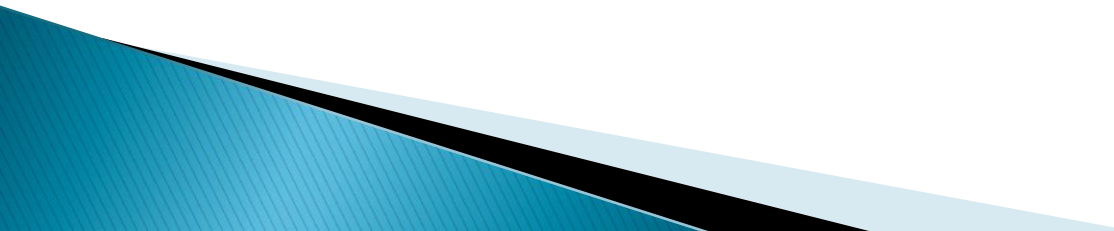


Content Area Strategies for English Language Learners

Part I

Michelle G. Cambier
Science Instructional Specialist
CFN Cluster 3

Session Focus

- Explore the learning opportunities that science investigations present for English language learners.
 - Discuss effective strategies for making academic vocabulary accessible for English learners.
- 


Getting Started

- What is challenging about content-area vocabulary learning?
- What instructional strategies can we use to help ELLs acquire academic (content) vocabulary?
- What help students learn content-area vocabulary?
- Why is it important?


4th Grade Science Achievement (NAEP: 2007)

	Below Basic	At or Above Basic	At or Above Proficient
ELL	70%	27%	3%
Non ELL	15%	66%	19%

Instructional Considerations for the ELL Classroom

- 5 Periods of science instruction.
 - Use textbook in appropriate language of instruction.
 - Teacher acting as a facilitator.
 - Use of learning cycle/workshop model.
 - Teacher models 3 levels of Inquiry:
 - structured, guided, open-ended.
- 

Instructional Considerations for the ELL Classroom (continued)

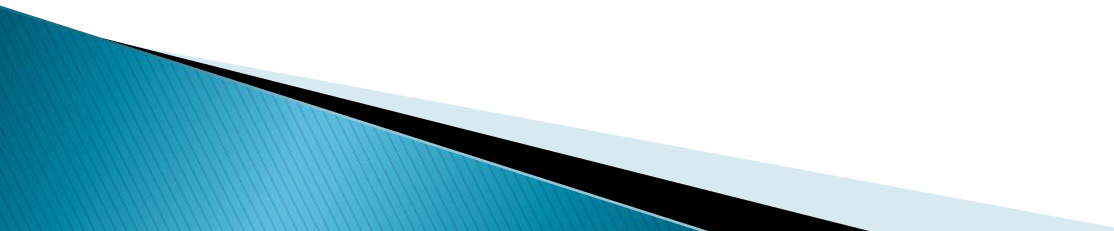
- *Use of research team approach.*
 - *Create opportunities for students to question.*
 - *Require students' inquiry projects.*
 - *Use of notebooks and or journals.*
 - *Incorporate reading and writing in science.*
 - *Incorporate use of visuals and graphic organizers.*
- 

What strategies Can We Use to Help ELLs in Science?

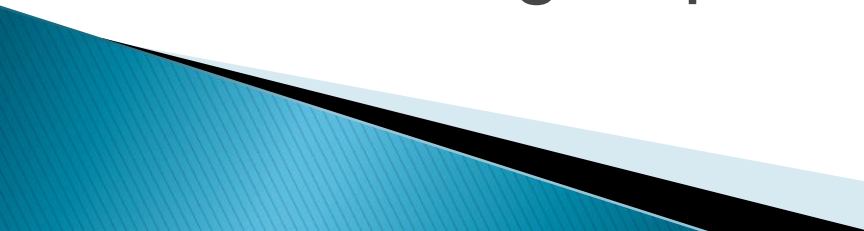


Scientific Inquiry

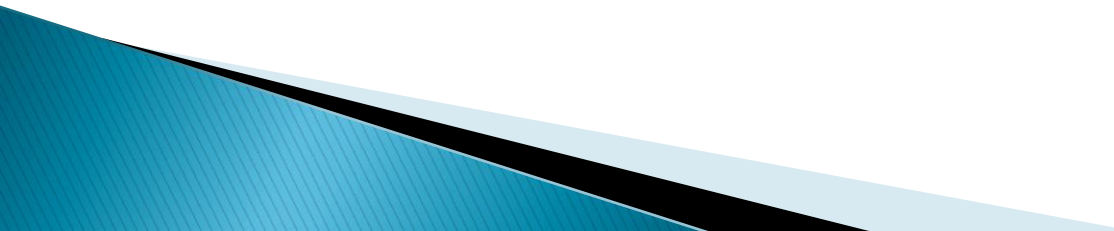
Allows Students:

- to use language in the context of solving meaningful problems and as a result, engage in the kind of purposeful, communicative interactions that promote genuine language use.
 - to make meaning by writing science, talking science, and reading science.
 - the ability to use language to form ideas, theorize, research, share and debate with others, and ultimately communicate clearly to different audiences.
- 

Four Literacy Components Inherent in Science Inquiry

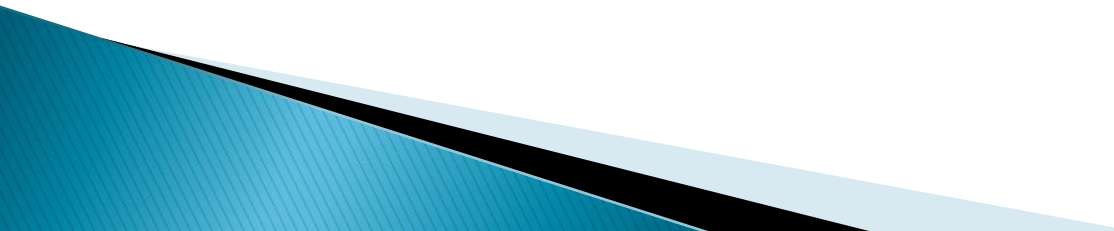
- ▶ Science Talk/Discussion
 - ▶ Science Notebooks
 - ▶ Formal Scientific Reports(writing)
 - ▶ Reading Expository Texts
- 

Children as Scientists

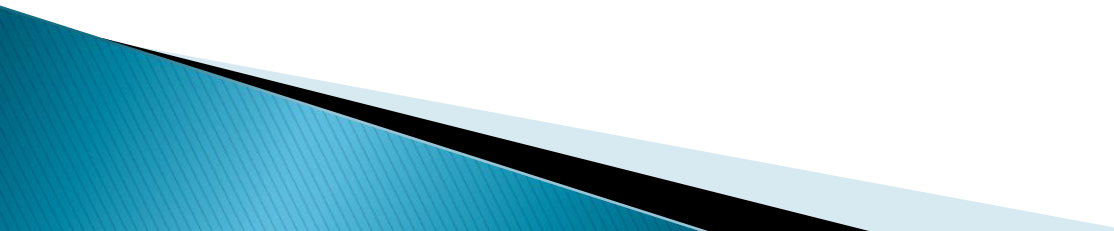
- ▶ Like all scientists, children engaged in learning about their world need to read and write about it.
 - ▶ Teachers who are able to ensure a close fit b/t the physical world of their students and the science reading and writing that goes on in the classroom will best help their students develop facility as readers, writers and scientists.
 - ▶ Teachers also must be good at reading and writing about science, and they must continually work to enhance these skills.
- 

The Science Notebook

Science notebooks are a valuable component of a thoughtfully constructed writing program that includes non-fiction genres/modes of writing.

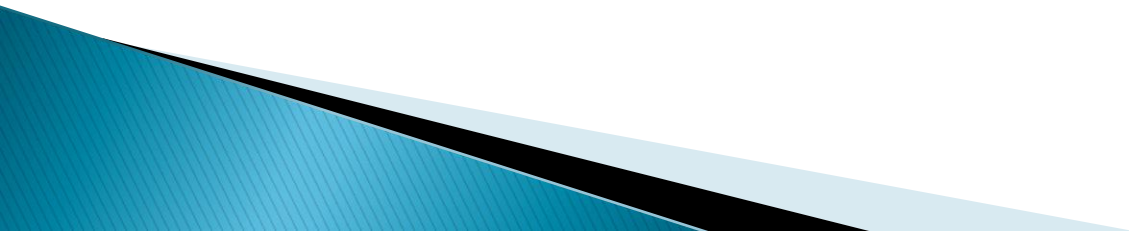


Science Notebooks/Journals

- ▶ Promote students to see themselves as:
 - Science inquirers
 - Articulate speakers
 - Readers & writers
 - One another's teachers
- 

Quick Write:

Write about a memory of water.



Vocabulary grows most effectively when experiencing concepts, objects etc.



Instructional Routine for Explicit Vocabulary Instruction

- Introduce the word.
- Introduce the meaning of the word with a *student friendly explanation*.
- Illustrate the word with *examples* and *non-examples*.
- Check for student understanding.

(Anita Archer, 2008)



Intentional Teaching of Academic Vocabulary

- Structure academic conversations by providing sentence starters:
 - I predict _____.
 - I predict _____ because _____.
- Encourage students to use “smart” words:
 - *delighted* instead of happy
 - *accurate* instead of good
 - *hypothesize* instead of guess
 - *illustrate* instead of draw
 - *comment* instead of tell
 - *seek* instead of find

Some vocabulary practices...

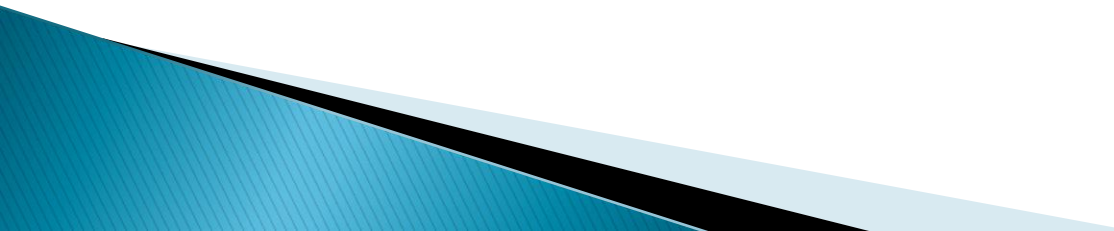
• Unreliable Practices

- Asking students, “Does anyone know what _____ means?”
- Numerous independent activities without guidance or immediate feedback
- Directing students to “look it up” then use it in a sentence
- Relying on context based guessing as a primary strategy

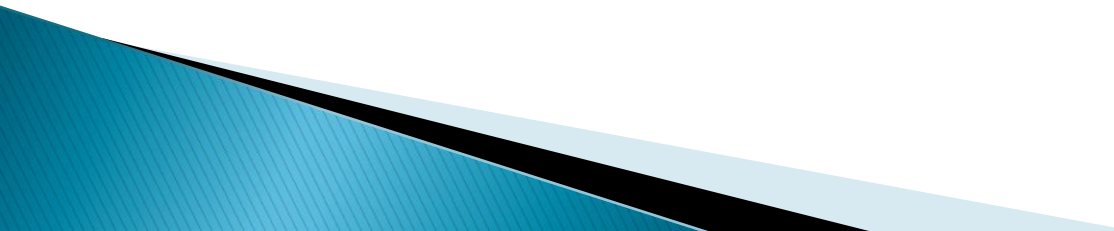
Research-based Practices

- Teacher directed, explicit instruction
- Provide opportunities to practice using words
- Teach word meanings explicitly and systematically
- Teach independent word learning strategies (i.e., contextual strategies & morphemic analysis)

Interactive Word Walls

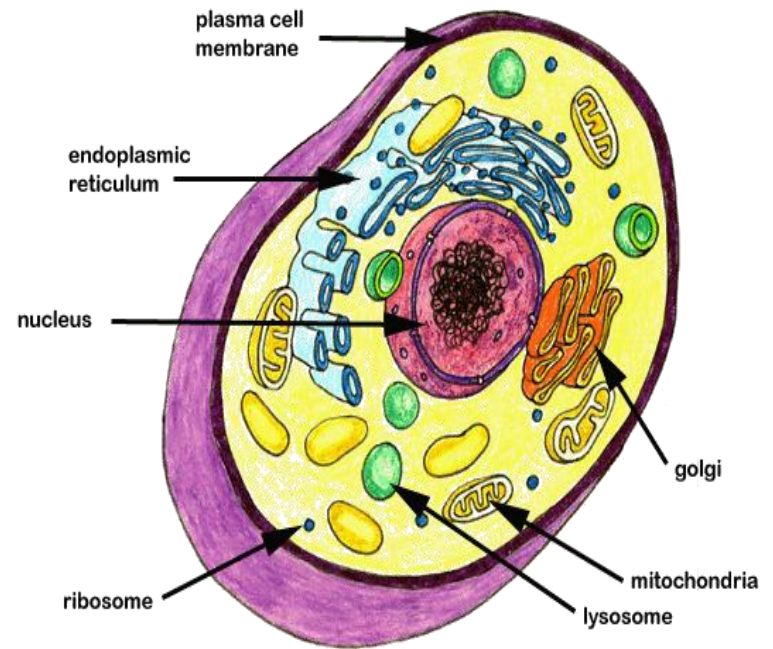
- Teacher introduces the term either in context or through graphic organizers.
 - Teacher develops a definition of the term with the class.
 - Teacher, if applicable, creates a pictorial representation of the term with the class.
 - Teacher places the class generated word definition in English and the pictorial representation on classroom area designated as “Word Wall” for future reference by students next to the native language word wall.
- 

Student Glossaries

- Students write content area terms introduced and placed on the interactive word wall in the glossary section of their notebook.
 - Students are encouraged by the teacher to write definitions in their own words.
- 

Science Sample of an interactive word wall or student glossary:

- ***Cell: the most basic unit of living matter.***
- ***All organisms are made up of at least one cell.***



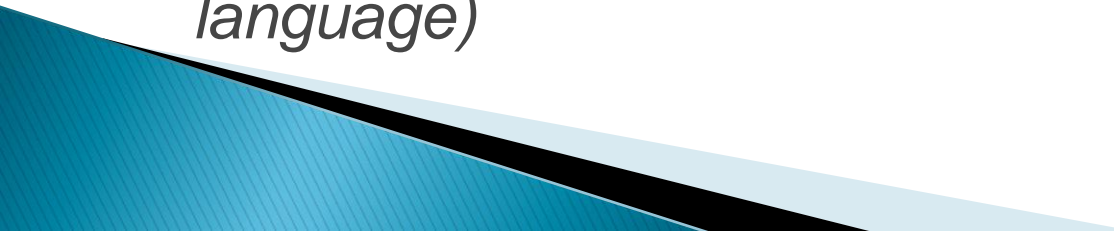
Graphic Organizers

KWL

- ▶ **K (what I know), W (what I want to know), L (what I have learned)**
 - Teacher creates three columns on the board.
 - First column – “K” (What I know) – Teacher brainstorms with class at the beginning of the lesson prior knowledge of the topic.
 - Second column – “W” (What I want to know) – Teacher elicits from students what they want to learn.
 - Third Column – “L” (What I have learned) - Teacher brainstorms with class at the end of the lesson.

Graphic Organizers

Anticipatory Chart

- ▶ *Semantic Mapping*
 - ▶ *Fishbone Mapping*
 - ▶ *Foldables*
 - ▶ *Freyer Model*
 - ▶ *Graphs*
 - ▶ *T-Chart (cause and effect, compare and contrast)*
 - ▶ *Venn Diagram (similarities/differences)*
 - ▶ *Time Lines*
 - ▶ *Flow Chart (utilize to sequence and to process acquired language)*
- 

Some vocabulary practices...

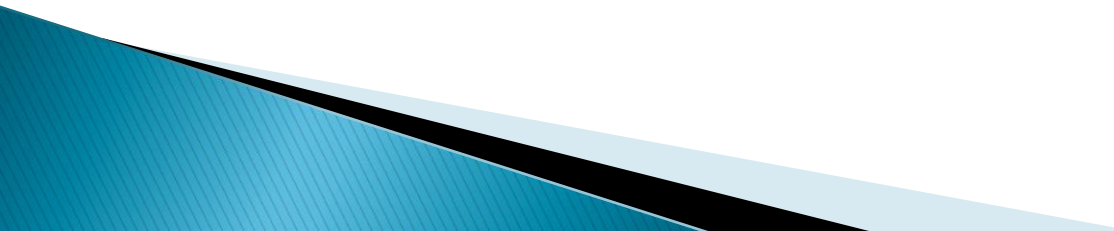
• Unreliable Practices

- Asking students, “Does anyone know what _____ means?”
- Numerous independent activities without guidance or immediate feedback
- Directing students to “look it up” then use it in a sentence
- Relying on context based guessing as a primary strategy

Research-based Practices

- Teacher directed, explicit instruction
- Provide opportunities to practice using words
- Teach word meanings explicitly and systematically
- Teach independent word learning strategies (i.e., contextual strategies & morphemic analysis)

Hierarchy of Questioning

- *Examples of hierarchy of questioning:*
 - **BEGINNERS /SIFE** (**S**tudents with **I**nterrupted **F**ormal **E**ducation) - Teacher asks new arrivals to point to a picture or word to demonstrate basic knowledge - "**Point to the picture of the cell.**"
 - **BEGINNERS** - Using visual/pictorial cues, teacher asks simple yes/no questions "**Are cells the smallest and most basic unit of life?**"
- 

Hierarchy of Questioning (Cont.)

- **BEGINNERS /INTERMEDIATE** - Teacher asks either/or questions in which the answer is embedded - ***"What tool helps you view a cell, a telescope or a microscope?"***
- **INTERMEDIATE** - Teacher breaks complex questions into several steps - ***"Read the definition in your glossary; what is a nucleus?"***

Hierarchy of Questioning (Cont.)

- **ADVANCED** - Teacher asks simple "how" questions that can be answered with a phrase or a short sentence –
“Why was the microscope an important discovery?”
- Example of open-ended questions –
“In your own words, explain the differences between a plant cell and an animal cell.”