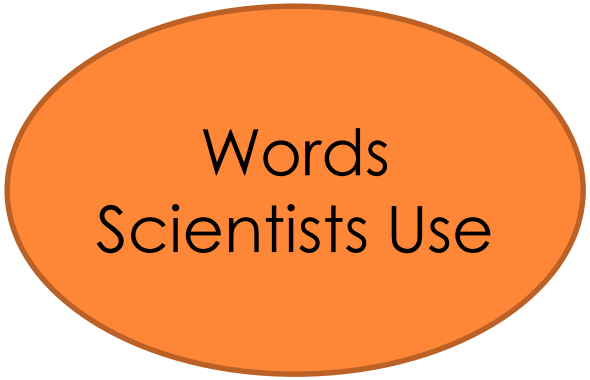
Academic Language and Supports

Talking the Talk While you Walk the Walk

Using the Language of Scientists

- Examine and use the various paper towels that are provided. Afterward, please consider and complete the following:
  - **QUESTION:** Which paper towel is your favorite?
  - **DESCRIBE or SUMMARIZE** what you did to help you decide.
  - **EXPLAIN** your choice.

Using Academic Vocabulary in Science



What is Academic Vocabulary?

- *" Academic language is the language needed by students to understand and communicate in the academic disciplines. Academic language includes such things as specialized vocabulary, conventional text structures within a field (e.g., essays, lab reports) and other language-related activities typical of classrooms, (e.g., expressing disagreement, discussing an issue, asking for clarification). Academic language includes both productive and receptive modalities."*

Organizing the Academic Vocabulary of Science

Scientists Use (Term and Definition)	We Use	And So (Think about what varies, what's the same, why it matters…
Research	Question, Test, Experiment	We ask questions and do tests or experiments every day in lots of ways. Research isn't scary.

The Framework for Teaching Science

Scientific Practices

1. Asking questions
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Crosscutting Concepts

1. Patterns
2. Cause and effect: Mechanism and explanation
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter: Flows, cycles, and conservation
6. Structure and function
7. Stability and change

Disciplinary Core Ideas

How Do We Get There? Larry Bell's 12 Powerful Words

- Trace
  - List in steps
- Analyze
  - Break apart
- Infer
  - Read between the lines
- Evaluate
  - Judge
- Formulate
  - Create
- Describe
  - Tell all about it
- Support
  - Back up with details
- Explain
  - Tell how
- Summarize
  - Give me the short version
- Compare
  - All the ways they are alike
- Contrast
  - All the ways they are different
- Predict
  - What will happen next

Putting It All Together: Language Tasks and Supports

Language Task	Words We Use to Show This	Sentence Frames
Contrast: When you contrast, you are looking for ways that something is **different** from something else.	differ different in contrast to otherwise yet but although on the contrary however instead of despite in comparison by comparison difference	_____ is different from _____ because _____. _____ is _____, but _____ is _____. Although _____ is/has _____, _____ is/has. _____ is _____. However, _____ is _____.

What Does it Look Like in Action?

- Sixth Grade Water Cycle
  - http://vimeo.com/61497987

Academic Language in Action

Language Function analyze, argue, categorize, compare/contrast, classify, describe, evaluate, explain, infer, interpret, justify, predict, problem solving, question (inquiry), retell, sequence, synthesize, summarize	**Academic Vocabulary** specific to science (fair trial, control, dependent variable, independent variable, producer, scavenger, decomposer, distance, force, speed)	**Supports** What the Teacher Says, Does, Uses	**Products** What the Students Say, Do, Use

What Does it Look Like in Action?

Video Clips from *Writing in Science in Action*

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Putting It All Together

- Partners
  - Work together to create a plan for implementing academic vocabulary using the graphic organizer and the lesson plan of your choosing from NSTA or other sources.

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