

# Supporting English Language Learners in Science

## Viewing Guide

### Video 1 : Building Academic Vocabulary

In this lesson we chose to explicitly teach the term “Intensity” using techniques for building academic vocabulary. Intensity is a term that is both key to understanding the science concept being addressed and is a tier 2 academic vocabulary term used in a variety of contexts; this made it a worthwhile term for increased focus.

#### ***Instructional strategies to notice while watching the video:***

Asking the students if they have heard the word: This provides a quick teacher assessment of the percent of students who have been exposed to the new word already, as well as helping students feel like they are not the ONLY one who has never heard a word.

Asking students for their initial predictions about the meaning of the term: Helps the teacher become aware of student misconceptions and surfaces other related contexts or linkages that students may bring to the lesson.

Allowing students to talk in groups about their ideas: Provides opportunities for negotiating for meaning through academic discourse and increases comprehension of science topics. This activity also gives students a chance to engage in the speaking domain of language- critical for language development.

Writing predictions from groups on the board: Validates each student’s thinking and provides a record of initial ideas to compare with the final definition, once it’s written.

Practicing saying the word and repeating the term: Students must use a term a number of times before it becomes part of personal vocabulary, this practice helps facilitate use of the term and comfort saying the word aloud.

Explaining the learning intention and foreshadowing the importance of the term to the lesson: Helps students to understand that this term is critical to their content understanding of the concepts and focuses their attention during the lesson.

Calling attention to the different use of terms in science and common language: Helps to address confusing usage issues and also connects vocabulary terms to other contexts.

Connecting a concrete lab experience to the term: Provides context and connections for students by connecting the vocabulary to something they have seen or experienced personally.

Use of gestures to model the procedure before lab and review procedure afterward: Helps to make the language and content comprehensible to students with limited English, connects the term to their activity in a non-language dependent manner.

Speaking slowly and clearly: Makes it easier for students to notice terms that they understand and hear new words and phrases to increase their language development.

Sketching and labeling drawings: Provides a non-linguistic representation of the activity, makes the content more comprehensible and helps provide a mechanism to review and refer to what they did in lab.

Some additional strategies for supporting vocabulary development: (not seen in the video)

- Include a word study looking at word parts (root, suffixes, prefixes, ) and origins to help build the students' skill in deciphering meaning independently in the future
- Have students practice using the word in a sentence that shows they understand the final meaning.

## **Video 2: Sheltering Lab Procedures**

Science lessons commonly include complex laboratory procedures. English language learners benefit from additional supports to make procedures comprehensible. These same strategies support language development and provide scaffolds that allow students to build independence and access and engage in the same activities as their English speaking peers

### ***Instructional strategies to notice while watching the video:***

Modeling the procedures with the materials: Helps to make the language and content comprehensible to students with limited English, helps them to understand their activity in a non-language dependent manner.

Using notebooks to record information (text) and sketches: Helps to make the language and content comprehensible to students with limited English, connects the terms to their activity in a non-language dependent manner. Gives students a way to refer back and reference language.

Including images in the procedures, labeling the diagrams: Helps to make the language and content comprehensible to students with limited English, connects the terms to their activity in a non-language dependent manner. Gives students a way to refer back and reference language.

Having terms on the board with images for students to access as they work on the lab: Allows students to refer back to and access new terms so that they can use them as they work.

Allowing students to work in mixed language ability groups: Provides peer models, allows for the building of positive interdependence among lab members.

Allowing students to use primary language for personal sense-making: Allows students to build content understanding and negotiate for meaning in their primary language. This supports both primary language development and English language development.

### Video 3: Using Sentence Frames to Develop Language

To develop proficiency, English Language Learners need to be engaged in all domains of language (reading, writing, speaking, and listening). Sentence frames provide scaffolding to allow students to engage in productive, grade level language around content ideas using academic language from the lesson, participate in discussions with peers and contribute to whole class sharing.

#### ***Instructional strategies to notice while watching the video:***

Using all dimensions of the language (speaking, listening, reading and writing): Allows students to build proficiency in all domains of language and aides their comprehension of the content.

Providing the students a frame to use as they work and discuss (can use frame for writing AND for oral discourse): Scaffolds English for students so that they can practice speaking and writing.

Providing opportunities for additional repetition and practice: Helps the student to practice the language safely before using it in a whole group setting. Allows for formative assessment.

Making sure that all students have a chance to practice saying the sentence: Allows students to practice using the language which builds verbal proficiency and also provides them a safer opportunity to use new vocabulary in a small group before using it in a whole group setting.

Using oral language: Ensuring that all students speak and use English academic vocabulary every day is critical to building fluency. English learners should be expected to speak in class using appropriate scaffolds when necessary.