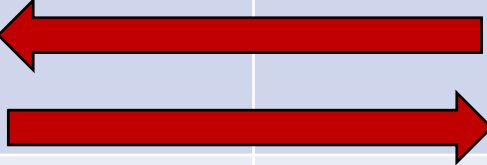# Making Meaning in Science and Mathematics with Integrated and Designated English Language Development Intentional Teaching

CALIFORNIA DEPARTMENT OF EDUCATION
Tony Thurmond, State Superintendent of Public Instruction

Using the *CA English Language Development (ELD) Standards* to Enact a Comprehensive ELD Approach

Integrated ELD	Designated ELD
All teachers of English learner students **use the *CA ELD Standards* in tandem** with English language arts (ELA), and other content standards	Teachers use the ***CA ELD Standards* as the focal standards** in ways that build **into and from content instruction**
ELA, science, math, social studies, art, etc. (throughout the day)	Specialized instruction for English learner students focused on language (protected time)

Features of Designated ELD:
What Teachers Do

- Provide intellectually motivating, challenging, and purposeful tasks

- Focus instruction on students' proficiency with English

- Provide opportunities for extended language interaction between students

- Provide instruction focused on meaning, connecting to language demands of content

- Explicitly teach how English works

- Provide students with selected corrective feedback on language usage

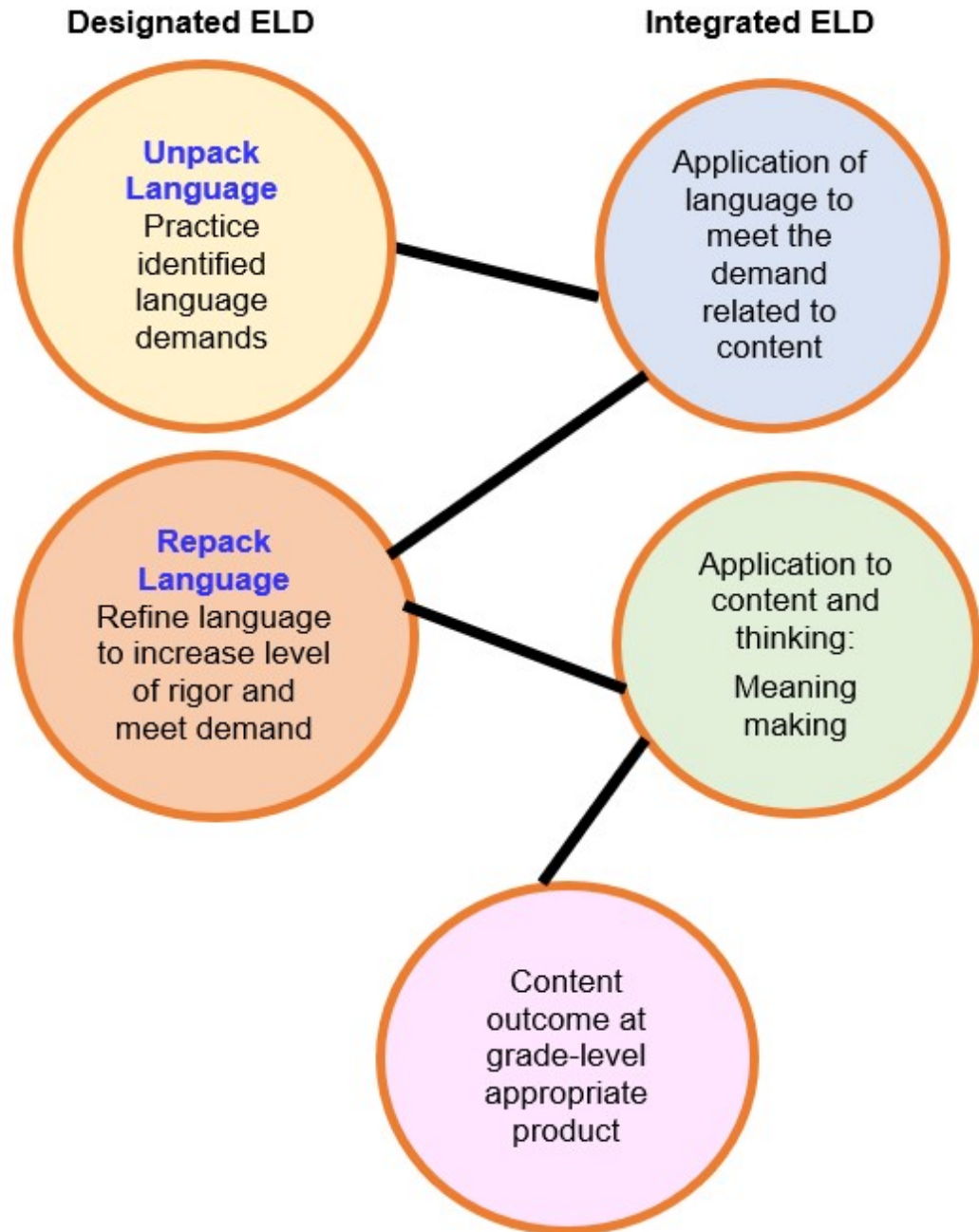- Frequently monitor students progress

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Features of Integrated ELD: What Teachers Do

- Scaffold instructional experiences to provide strategic support

- Develop content knowledge and use of academic English

- Examine texts and tasks used for instruction to identify challenging language for English learners

- Lead learners to analyze text features and functions

- Highlight and discuss language resources

- Observe students to see how they use language resources

- Adjust group instruction or work with individual students to provide support

- Lead learners to develop awareness about how English works

Features of Integrated and Designated ELD: What English Learner Students Do

- Contribute to discussions

- Offer opinions and negotiate with others

- Support opinions and persuade others

- Use language appropriate to social settings

- Demonstrate active listening

- Describe ideas and text elements

- Plan and deliver presentations

- Write literary and informational texts

- Use variety of academic and domain-specific words

- Apply understanding of how text types are organized

- Apply understanding of how ideas, events or reasons are linked in a text

- Use verb types and noun phrases

- Combine clauses in a variety of ways

- Condense clauses in a variety of ways

ELD Intentional Teaching Model

Designated ELD

Unpack Language
Practice identified language demands

Repack Language
Refine language to increase level of rigor and meet demand

Integrated ELD

Application of language to meet the demand related to content

Application to content and thinking: Meaning making

Content outcome at grade-level appropriate product

- Unpack language to identify language demands
- Apply language to meet demands
- Repack language to refine language
- Apply refined language to content and thinking to make meaning
- Grade-level content outcomes

Seventh Grade Math Word Problem

Tyler's mom had a coupon for $4 off each of the train tickets. If they bought 5 train tickets and paid a total of $145, what was the original cost of each ticket?

Unpacking Language from Text and Application: Purpose and Key Structures

> *Tyler's mom had a coupon for $4 off each of the train tickets. If they bought 5 train tickets and paid a total of $145, what was the original cost of each ticket?*

- **Purpose**: Present a mathematical problem; find the original cost of each train ticket.

- **Key structures**: Who had a coupon? How much discount did the coupon provide? What was the original cost of each ticket?

Unpacking Language from Text and Application: Language Features

Tyler's mom had a coupon for $4 off each of the train tickets. If they bought 5 train tickets and paid a total of $145, what was the original cost of each ticket?

Language features:

- **If, then** form

- Conditional statement

Unpacking Language from Text and Application: Vocabulary

Tyler's mom had a coupon for $4 off each of the train tickets. If they bought 5 train tickets and paid a total of $145, what was the original cost of each ticket?

Vocabulary:

- **cost**–teach the meaning, present the cognate (*costar*), practice using the word in its correct meaning

- **coupon**–teach the meaning, present the cognate (*cupón*), show a picture or the real thing; practice using the word in its correct meaning

- **ticket**–teach the meaning(s), present the cognate (*tiquete*), show a visual representation; practice using the word in its correct meanings

Unpacking Language from Text and Application: Mathematical Functions

Tyler's mom had a coupon for $4 off each of the train tickets. If they bought 5 train tickets and paid a total of $145, what was the original cost of each ticket?

Mathematical functions:

- off = minus, subtraction

- each = division

- total = addition

Intentional and Purposeful ELD Instruction

- **Designated ELD:** Focus is on helping English learner students learn about the language and becoming proficient with language so they can make meaning of the content. Focus is not on solving the math problems.

- **Integrated ELD:** During math class, the focus is on helping English learner students comprehend the math content. Integrated ELD helps English learner students apply their learned language, with support, to make meaning of the math content.

Eighth Grade Science Text

The Importance of Water

When scientists search for life in other parts of our solar system, they begin by looking for water. Why? Water (in its liquid state) is essential to life as we know it. Your body is about 60 percent water. The reactions that sustain life need liquid to work. Liquid water is also used to transport molecules where they need to go, inside and outside of cells.

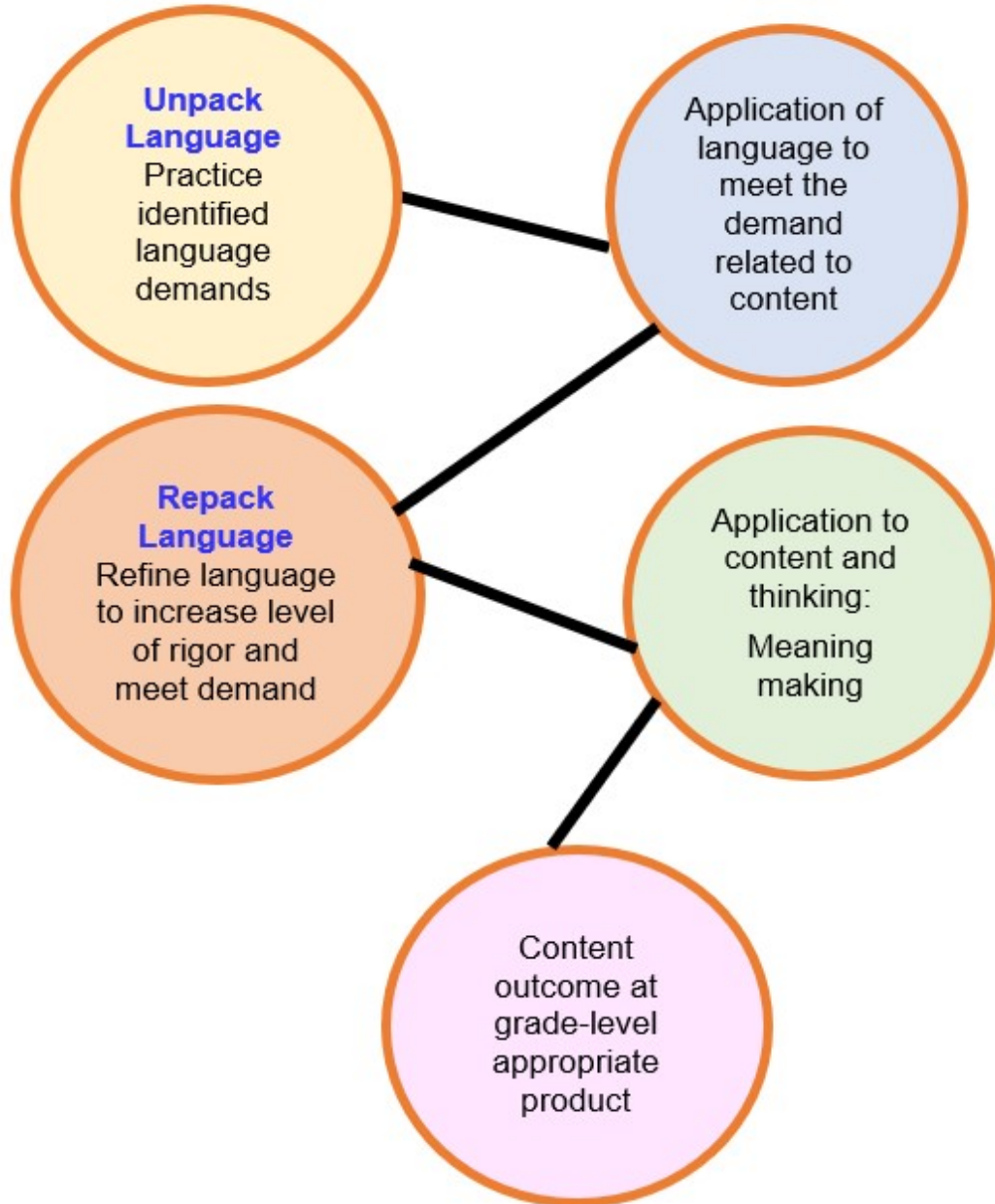# Unpack the Science Text

Identify language demands from the text:

- Purpose

- Key structures

- Language features

- Vocabulary

In breakout groups:

- Discuss language demands from the text

- Discuss focus of the designated ELD instruction

- Discuss focus of the integrated ELD instruction

Designated ELD

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Application to content and thinking: Meaning making

Content outcome at grade-level appropriate product

Revisit ELD Intentional Teaching Model

- Unpack language to identify language demands

- Apply language to meet demands

- Repack language to refine language

- Apply refined language to content and thinking to make meaning

- Grade-level content outcomes

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California Content Standards

- *California English Language Development Standards* document: http://www.cde.ca.gov/sp/el/er/documents/eldstndspublication14.pdf

- California Department of Education (CDE) Next Generation Science Standards for Public Schools, K-12 web page at https://www.cde.ca.gov/pd/ca/sc/ngssstandards.asp

- *California State Standards for Mathematics* document: https://www.cde.ca.gov/be/st/ss/documents/ccssmathstandardaug2013.pdf

- *California State Standards for English Language Arts and Literacy for History/Social Studies, Science, and Technical Subjects* document: https://www.cde.ca.gov/be/st/ss/documents/finalelaccssstandards.pdf

California Curriculum Frameworks

- CDE SBE Adopted ELA/ELD Framework Chapters web page at
  https://www.cde.ca.gov/ci/rl/cf/elaeldfrmwrksbeadopted.asp

- CDE 2013 Mathematics Framework Chapters web page at
  https://www.cde.ca.gov/ci/ma/cf/mathfwchapters.asp

- CDE 2016 Science Framework web page at

  https://www.cde.ca.gov/ci/sc/cf/cascienceframework2016.asp

California Department of Education ELD Resources

- CDE English Language Development Standards web page, select the ELD Video Series tab
https://www.cde.ca.gov/sp/el/er/eldstandards.asp

- WestEd ELD Video Series Archived Webinars web page at
https://www.wested.org/wested_event/webinar-series-integrated-designated-eld-video-series/

California Department of Education Publications

- CDE Improving Education: Research to Practice web page at https://www.cde.ca.gov/sp/el/er/improvingmleleducation.asp

- CDE English Learners with Disabilities web page at https://www.cde.ca.gov/sp/se/sr/elpracguideswd.asp

Other ELD Resources

- Published by the CISC of the California County Superintendents' Educational Services Association, the English Learner Toolkit of Strategies, Volume 1 web page at https://ccsesa.org/english-learner-toolkit-of-strategies/

- *Strategies for ELD* document: https://commoncore.tcoe.org/Content/Public/doc/Alpha-CollectionofELDStrategies.pdf

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Questions

Thank You