Literacy across the Disciplines

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Curriculum Development *and* Research

How Can
Literacy Development and Scientific Development Support One Another?

Balance that is authentic to science

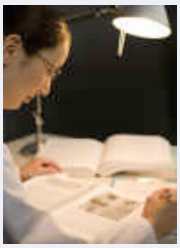
Learning through text and experiences

Text-dominated Science		Hands-on-dominated Science
(mostly reading and writing)	Reading, interpreting, and producing text are fundamental practices of science in particular, and they constitute at least half of engineers' and scientists' total working time.	(mostly doing and talking)

From 2012 NRC Framework for K-12 Science Education

Scientists use
language
to organize and communicate and do science

Authentic Science Practices



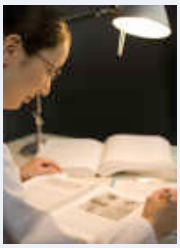
Artists use
language
to organize and communicate and do art

Authentic Science Practices



Authors use
language
to organize and communicate and write

Authentic Science Practices


Authentic Literacy Learning



Authentic Science Practices



COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER



NGSS Practices

1. Asking questions (for science) and defining problems (for engineering)
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 (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

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Shared Responsibility



… but how?

Read *The Shape of Moon's Orbit*

Turn and talk:

What makes this text so challenging?

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What are the language and literacy demands of science text?

- Unfamiliar science concepts
- Informational text structures
- Rare, specialized vocabulary words
- Complex visual representations
- Tone and grammatical structures are different from narrative text

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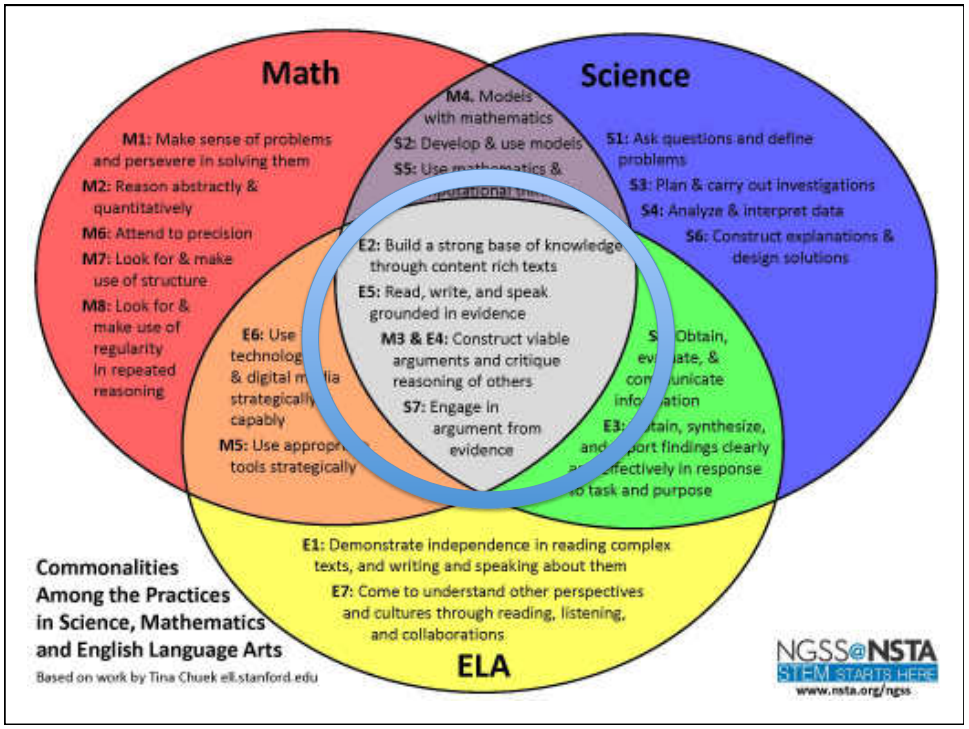

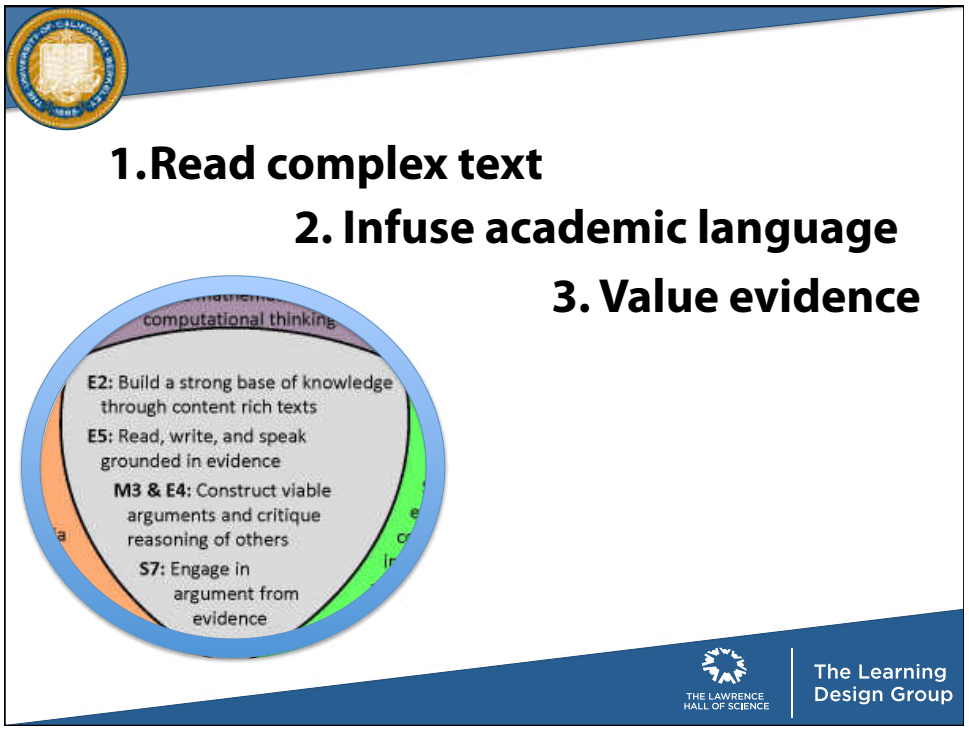

QUESTIONS?

Thank you for your participation!

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