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PREPARING CHILDREN FOR SUCCESS IN SCHOOL

Partnering with Parents: Exploring Science, Technology & Engineering (STE) with Dual Language Learners (DLLs)

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Cultivate Learning
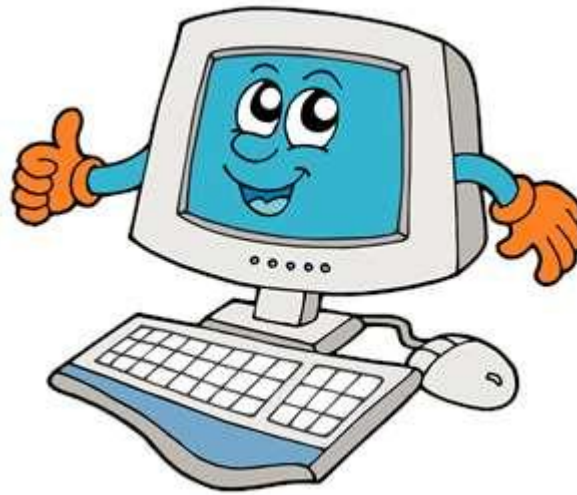UNIVERSITY of WASHINGTON

Learning Objectives

- Understand why Science Technology and Engineering (STE) is a great way for Dual Language Learners (DLLs) and all children to learn

- Find opportunities to explore STE with DLLs in different routines in the classroom and at home

- Provide opportunities to make STE more accessible to underserved children

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1. What does a scientist look like?
2. What do you think of when you hear the word technology?
3. What do you think of when you hear the word engineering?
4. What is your most memorable experience related to STE?

Reflection #1 STE Common Perceptions

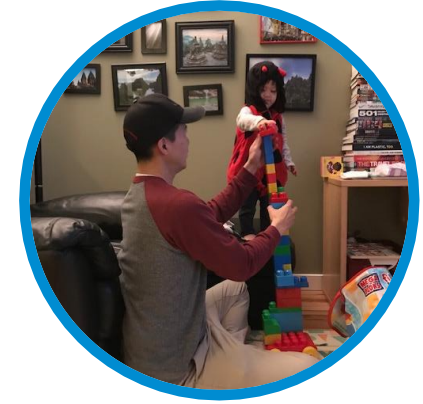# Why Science, Technology & Engineering? (STE)

Science

sharing discoveries about what we observe in the natural world around us by asking questions, making predictions, experimenting and discussing what we find

Technology

Human-made tools that are solve a problem and make things work

Engineering

Designing or creating tools and methods using a variety of materials to solve a problem

Why Science?

Why Science?

- Natural entry point for the core components of high quality "instructional support."
  - Fertile ground for promoting concept development, quality feedback and language modeling,

Why would science end up producing higher levels of instructional support?

Reflection #2 DLL Question

1. How many of you work with Dual Language Learners (DLLs) or children who speak two or more languages?

2. What have you learned so far about the best ways to teach DLLs?

What are the best ways to teach DLLs?

Conversations in Context

Conversations

- Asking questions
- Providing information

Context

- Pictures and props
- Gestures
- Tone
- Hands on Activities

Watch two videos to see conversations in context!

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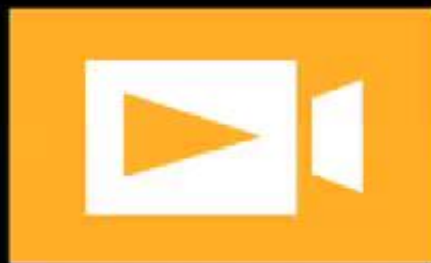PREPARING CHILDREN FOR SUCCESS IN SCHOOL

Conversations in Context: Attract and Repel

VIDEO: Attract or Stick Together

Conversations in Context: Planting Seeds In the Garden

VIDEO: Conversation in the Garden

What are the best ways to teach DLLs?

Conversations in Context

Conversations

- Asking questions
- Providing information

Context

- Pictures and props
- Gestures
- Tone
- Hands on Activities

Routine

- A sequence of actions regularly followed
- Are natural, sustainable opportunities to have conversations in context with children

1. What is your favorite home routine?

2. What is your favorite class routine?

Once you identify a routine, try to describe the routine into the different actions needed to complete the routine

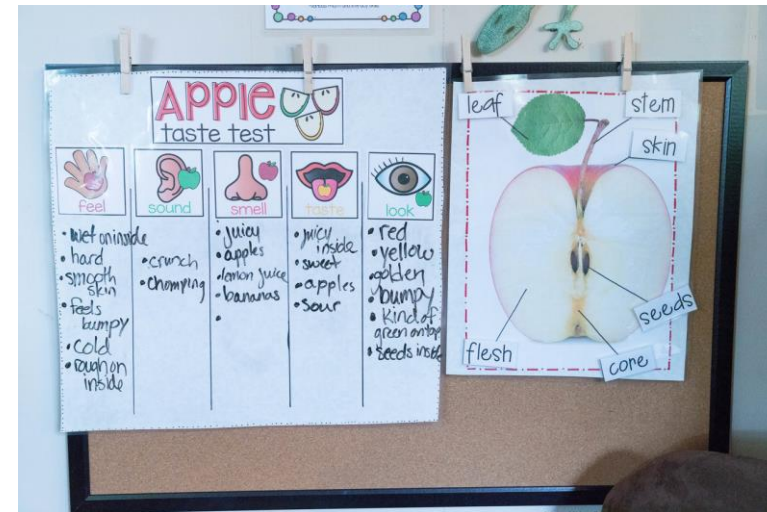# BREAK #1

Putting it All Together!

The Scientific Method

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The Scientific Method: Making Observations Using your 5 Senses

- Encourage children to practice making observations using their 5 senses
- Provide descriptive words/concepts and language, photos, props and gestures related to using their senses

Descriptive Word/Concept	Sense
Hot/Cold	See, Touch, Hear
Heavy/Light	Touch, See
Sweet/Salty	Taste, Smell
Big/Small	See
Loud/Soft	Hear

Reflection #4: Using your Senses

1. In what parts of your class and home routine do you think children can use their senses to learn these concepts/descriptive words?

2. What descriptive words/concepts and words related to senses do you know or can you learn in your students' home language?

Descriptive Word/Concept	Sense
Hot/Cold	See, Touch, Hear
Heavy/Light	Touch, See
Sweet/Salty	Taste, Smell
Big/Small	See
Loud/Soft	Hear

Learning about Families' Funds of Knowledge

Making Connections between Classroom and Home

Questions:

- We are learning about *concept/descriptive word* in class, can we learn more about *concept/descriptive word* at home?
    - What are some examples of when you might see *concept/descriptive word* at home?
    - What words in your home language can describe the *concept/descriptive word?*

Descriptive Word/Concept	Sense
Hot/Cold	See, Touch, Hear
Heavy/Light	Touch, See
Sweet/Salty	Taste, Smell
Big/Small	See
Loud/Soft	Hear

Learning about Families' Funds of Knowledge

Making Connections between Home and Classroom

What is your favorite/least favorite home routine?

- What are the different steps do you need to complete routine
- When do you do you favorite/least favorite routine?
- What do you see, hear, feel, taste and smell when different steps in your routine?
- What tools you do you use during your routine?

*How can you incorporate these home routines in understanding **concept/descriptive words** in the classroom?*

Descriptive Word/Concept	Sense
Hot/Cold	See, Touch, Hear
Heavy/Light	Touch, See
Sweet/Salty	Taste, Smell
Big/Small	See
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- What phrases/questions can you learn in your students' home language related to the steps in the scientific method?
    - ✓**Question** - *What are you wondering?*
    - ✓**Observe** - *What do you see, touch, taste, smell, hear?*
    - ✓**Predict** - *What do you think will happen? Or Will it be X or will it be Y?*
    - ✓**Experiment** - *What did you discover?*
    - ✓**Discuss** - *What do you know?*

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1. What is your favorite/least favorite FRUIT ?

2. Why is it your favorite/least favorite FRUIT?

3. When do you EAT FRUIT during your everyday routine?

4. What technology or tools do you use to EAT FRUIT?

5. What words in your home language can describe FRUIT?

1. Using the home and class routines you identified, think of questions that you can ask your families about their daily routines
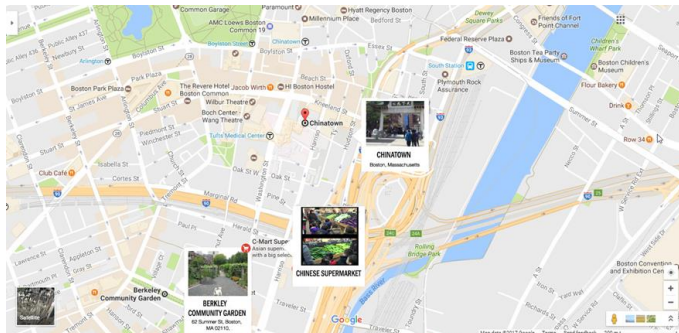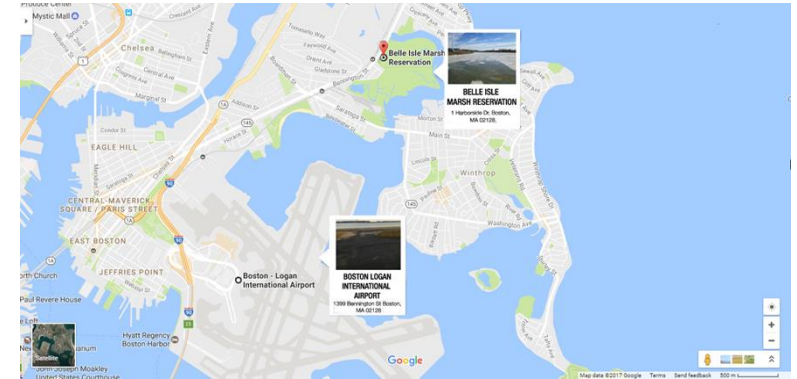
Video:

Dr. Greenfield on Engineering

Tall Buildings

Long Bridges

Engineering – Make your own Example!

1. What are some problems you can explore and test during routines in the class and at home?

Summary

- We are all scientists when we use the scientific method
- One of the best ways DLLs learn is through conversations in context
- Routines are natural, sustainable opportunities to have conversations in context with children about STE
- Learning more about families' home routines will help children connect and better engage in understanding STE and other ideas in class

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Gracias