

# Lunch & Learn



# Certificates

Certificates through Texas Early Childhood Professional Development System

- Have a TECPDS account? Make sure you can login at **tecpgds.org** and you're all set!
- New to TECPDS? Visit **tecpgds.org** to sign-up for your free account.



*Come see our staff if you have any questions or need assistance*

# Broadening Access to High-Quality Early STEM Education in Houston to Address Social Determinants of Health

**Tricia Zucker, Ph.D.**  
Professor, Co-Director of  
Children's Learning  
Institute



**Dana DeMaster, Ph.D.**  
Associate Professor,  
Children's Learning  
Institute



**Cheryl McCallum, Ed.D.**  
Director of Education,  
Children's Museum of  
Houston

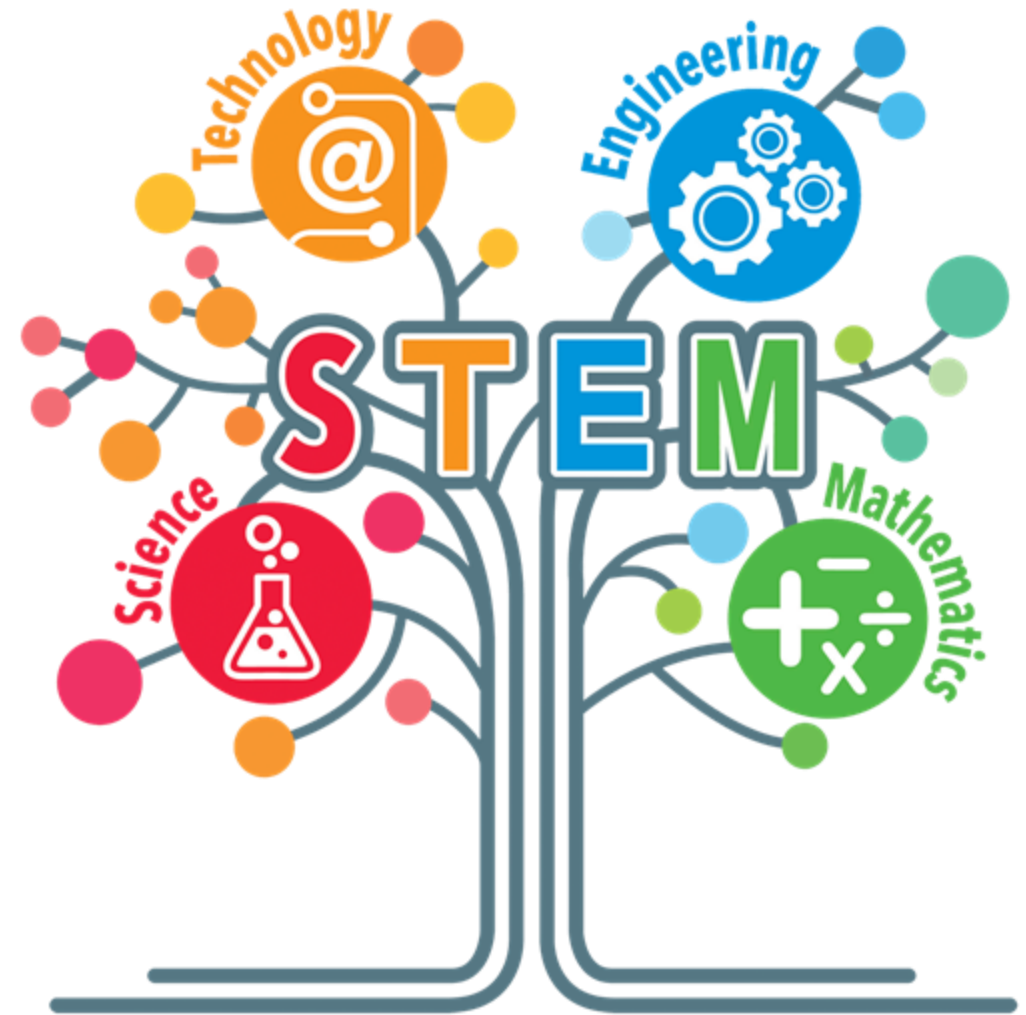


# Sponsor

This research is supported by the [National Science Foundation](#) under award number #1811356 and 2115579 to UTHealth.



National Science Foundation  
WHERE DISCOVERIES BEGIN





# Research Practice Partnership (RPP)

Children's Museum Houston Educators



Children's Learning Institute Researchers



# History of Partnership Activities: 2010 to 2014



Family Literacy  
Involvement Program



Tot Spot at Museum  
Gallery



Para Los Niños  
Literacy Events



# Recent Partnership Activities: 2018 to Present

## Breaking Stereotypes for Girls in STEM Grades K -5



# Potential Barriers to Families doing STEM at Home

## EXPECTANCY

"I never did well in science!"

## RESOURCES/COSTS

"I don't have time/money/materials to do STEM with my child."

## VALUE

"Science is not important to get a job." or "Math is boring."





# Teaching Together Family STEM Events

- **Researchers** recruit and evaluate program
- Museum educators offer 6 family **“Fun\*Shops”** at schools
  - Parent-child workshops designed to **educate parents**
  - Over 98% of students socio-economic disadvantaged
- **Strategies** parents use to do STEM during family activities
- **Text** message **reminders** and links to **extension** activities





# Experiment: Which Additive Conditions Support Outcomes?



## STEM Family Workshops




- Facilitated by Children's Museum of Houston
- 6 STEM themed sessions with hands-on practice

## Resources



### Balloon Powered Car

**What to do**

1. After reading your story, put together two sets of wheels and axles. First, pass a wooden dowel through each short straw to make an axle. Add a drop of glue to the axles to connect the wheels.
2. Use tape to attach the set of wheels and to the body of the car.
3. Place a straw inside a balloon and secure it with a rubber band. Tape a foam block to the car. Tape the straw and balloon on the car. Blow air into your balloon and test it!

**STEM Workshops + Take-Home Materials**

- Set of STEM activity kits that support STEM inquiry
- Represent typical commercially available resources

# Experiment: Which Additive Conditions Support Outcomes?



## STEM Workshops + Take-Home Materials + Rewards

- \$2.50 reward for each photo or video of a learning activity
- Motivation theory – overcome costs and negative stereotypes



# NOW RECRUITING: Participants for Next Partnership Study

Children's Museum Houston Educators



Children's Learning Institute Researchers



# Potential Barriers to Afterschool STEM for Students Experiencing Poverty

## STEREOTYPES

"STEM is not for girls." or "Only boys do robotics."



## EXPECTANCY

"I don't want to be a scientist when I grow up." or "I won't be smart enough to be a doctor."



## STEM PATHWAYS

"There are no STEM clubs in my neighborhood."



# Afterschool Science, Technology, Engineering, Arts & Math (A'STEAM)

- Evaluating conditions for sparking interest in math and science
- Museum STEM programs open pathways to being a scientist or engineer





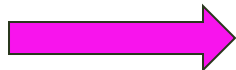
# Purpose of the Study

- To **compare two approaches** for sparking interest in STEM for girls, alongside boys

Randomly  
Assign

A'STEAM Basic

A'STEAM + Stories



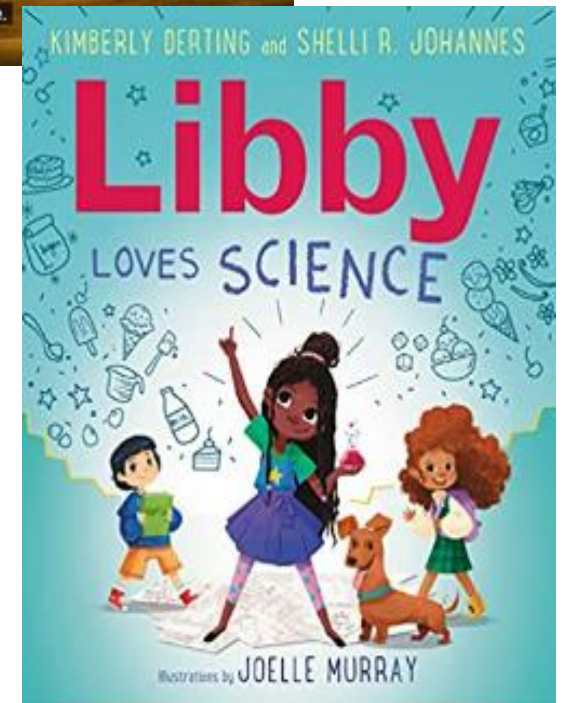
**DR. BETTYE WASHINGTON GREENE**  
G3-G5

**Profession:** Chemist

**Best known for:** Bettye was the first African-American female chemist to work at a big chemical company called Dow Chemical Company. Dow is one of the three largest chemical producers in the whole world!

**What have you done that relates to Dr. Bettye Washington Greene?:**  
Bettye worked with polymers and latex at Dow Chemical Company from 1965-1990. In the power of polymers activity, you made two types of slime, which are polymers!

**Fun facts:**  
-Bettye is from Texas just like you! She was born on March 20, 1935 in Forth Worth, Texas. She went to **TWO** different states for school, Alabama and then



A large, stylized circular graphic on the left side of the page. It features a thick, curved shape in shades of green and yellow, resembling a stylized letter 'C' or a partial circle. The background is white with faint, overlapping green and yellow circular patterns and leaf-like shapes, creating a layered, organic feel.

# Using the Family Engagement Toolkit to Bridge Home and School

# Family Engagement Toolkit

Our family engagement resources are designed to **fit into your existing programs and activities** that engage families

- Progress monitoring
- Homework
- Parent-teacher conferences
- Open houses



# Family Engagement Approach and Topics

Partnering with  
Families

Encouraging Play-  
Based Learning  
and Responsive  
Interactions at  
Home

Promoting  
Two-Way  
Conversations  
with Families to  
Individualize  
Student Support

Hosting Family  
Events to Support  
Children's  
Development

Ongoing  
communication  
with families

Sending activities  
home

Parent-teacher  
conferences,  
progress  
monitoring

Open houses,  
family events

# Parents as Teachers



- Use events to give families the opportunity to
  - learn an aspect of child development
  - observe a teacher modeling the related activity
  - engage in playful activities to practice skills and concepts

# Strategies for Hosting Family Events



Engage families in planned, purposeful, playful events



Model and explain activities using family-friendly language and materials



Build engagement and understanding by moving around the room and offering guidance and support to families



Provide families with ideas or resources that extend family event content to the home




# Professional Learning Session

## Hosting Family Events to Support Children's Development

100% COMPLETE

- Introduction ✓
- Key Teaching Strategies ✓
- Practice These Strategies ✓
- Extend Your Knowledge ✓
- Resources ✓
- Certificate of Completion ✓



The illustration depicts a professional learning session in a room with blue walls and green carpet. In the foreground, a woman with dark hair and glasses, wearing a blue shirt with a yellow star, sits at a round wooden table. She is smiling and gesturing with her hands. On the table are large colorful letters 'B' and 'A', a blue ring, a yellow notepad, and a purple book. To her left, a young boy in a blue shirt with a yellow star is also smiling and gesturing. Behind them, a man in a purple shirt and yellow pants is standing and looking towards the right. In the background, two red banners hang on the wall. The left banner features the Children's Learning Institute logo, and the right banner features the Children's Museum of Houston logo. To the right of the main group, another group of people is seated at a table, engaged in an activity. The overall atmosphere is collaborative and educational.

# Locating the Toolkit on CLI Engage

The screenshot shows the CLI Engage website interface. At the top, the logo 'cliengage' is displayed in red and green. To its right are navigation links: 'ABOUT', 'TOOLS & RESOURCES', 'TRAINING & SUPPORT', 'HELP CENTER', and 'SEARCH'. Further right are 'LOGIN' and 'SIGN UP' buttons. Below the navigation bar, the page is divided into four main sections, each with a title and a list of resources:

- Online Learning & Professional Development**
  - eCIRCLE Professional Development
  - CIRCLE CDA Training Program
  - CIRCLE Infant & Toddler Teacher Training: Play with Me Series
  - Infant, Toddler, & Three-Year-Old Early Learning Guidelines & Training
  - Texas Prekindergarten Guidelines Training
  - TX Core Competencies for Practitioners and Administrators Training
  - Beginning Education: Early Childcare at Home
  - Workforce Registry for TRS
  - ECE Professional Micro-Credentials
  - Family Engagement Professional Development
- Activities & Materials**
  - CIRCLE Pre-K Curriculum
  - CIRCLE Activity Collection: Family
  - CIRCLE Activity Collection: Infant & Toddler Classroom
  - CIRCLE Activity Collection: Pre-K to Grade 2 Classroom
  - My Activities
  - Featured Activities: Responding to Natural Disasters
  - Remote Education
  - CLI & PBS Collaboration: CIRCLE STEM Lab
  - AERO Reading
- Screening, Progress Monitoring, & Observation**
  - Understanding Developmental Screening & Early Intervention
  - Infant & Toddler Developmental Checklists
  - CIRCLE Progress Monitoring System (PreK)
  - Texas Kindergarten Entry Assessment
  - TPRI and Tejas LEE
  - Dyslexia Screener
  - Remote Assessment Administration
- Quality Improvement & Innovation**
  - Public-Private Partnerships
  - Teacher Coaching
  - State & National Resources
  - Texas Workforce Registry
  - Classroom Observation and Goal-Setting Tools
  - Classroom Environment Checklist
  - Collaborative Tools
  - Family Engagement Resources
  - Systematic Assessment of Book Reading (SABR) 2.0
  - Professional Learning Sessions Collection
  - Afterschool STEM Programs

# Introduction to the CIRCLE Activity Collection

First published in 2002, the **CIRCLE Activity Collection (CAC)** translates research into practice through a variety of hands-on activities.

The CAC is made up of three smaller collections:

- Family
- Infant and Toddler classroom
- Pre-K to 2nd Grade classroom

# CAC Features

- FREE library of research-based activities for teachers and families
- Available in English and Spanish
- Contain example videos
- Aligned to age-appropriate learning areas and goals
- Search and filter by age, learning area, or keywords
- Exclusively online
- Updated monthly



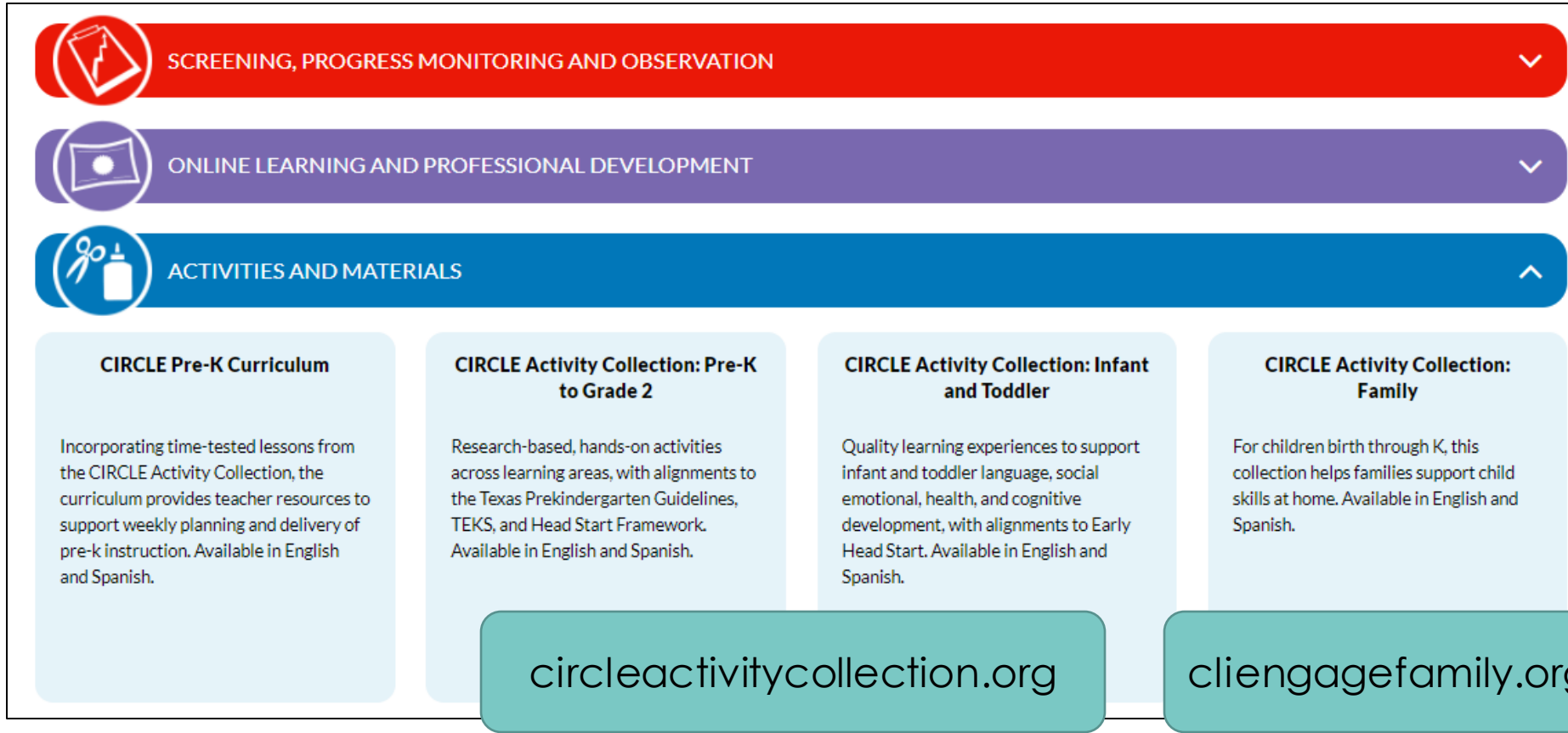
# Digging Deeper into CAC: Family

- 240 activities in English and 195 activities in Spanish for children aged 0 to 11
  - **Over 80 activities address STEM topics!**
- Research about each learning area
- Children's development resources
- Parent coaching videos
- Educational games developed in partnership with PBS
- Mobile-friendly

# Watch a family do a math activity!

In this activity, your child will use interlocking blocks to begin to understand measurement and compare how long or tall common household objects are.

# Locating the CAC on CLI Engage



The screenshot displays the CLI Engage website interface. At the top, there is a navigation menu with three main categories, each with an icon and a dropdown arrow:

- SCREENING, PROGRESS MONITORING AND OBSERVATION** (Icon: clipboard with a checkmark)
- ONLINE LEARNING AND PROFESSIONAL DEVELOPMENT** (Icon: document with a magnifying glass)
- ACTIVITIES AND MATERIALS** (Icon: scissors and glue bottle)

Below the navigation menu, there are four light blue boxes representing different activity collections:

- CIRCLE Pre-K Curriculum**  
Incorporating time-tested lessons from the CIRCLE Activity Collection, the curriculum provides teacher resources to support weekly planning and delivery of pre-k instruction. Available in English and Spanish.
- CIRCLE Activity Collection: Pre-K to Grade 2**  
Research-based, hands-on activities across learning areas, with alignments to the Texas Prekindergarten Guidelines, TEKS, and Head Start Framework. Available in English and Spanish.
- CIRCLE Activity Collection: Infant and Toddler**  
Quality learning experiences to support infant and toddler language, social emotional, health, and cognitive development, with alignments to Early Head Start. Available in English and Spanish.
- CIRCLE Activity Collection: Family**  
For children birth through K, this collection helps families support child skills at home. Available in English and Spanish.

At the bottom of the screenshot, there are two teal-colored buttons with the following URLs:

- [circleactivitycollection.org](http://circleactivitycollection.org)
- [cliengagefamily.org](http://cliengagefamily.org)



# Summary of Family Engagement Resources

- Guides and tools (checklists, templates, tips)
- Materials for hosting family events
- Professional development courses
- CIRCLE Activity Collection: Family

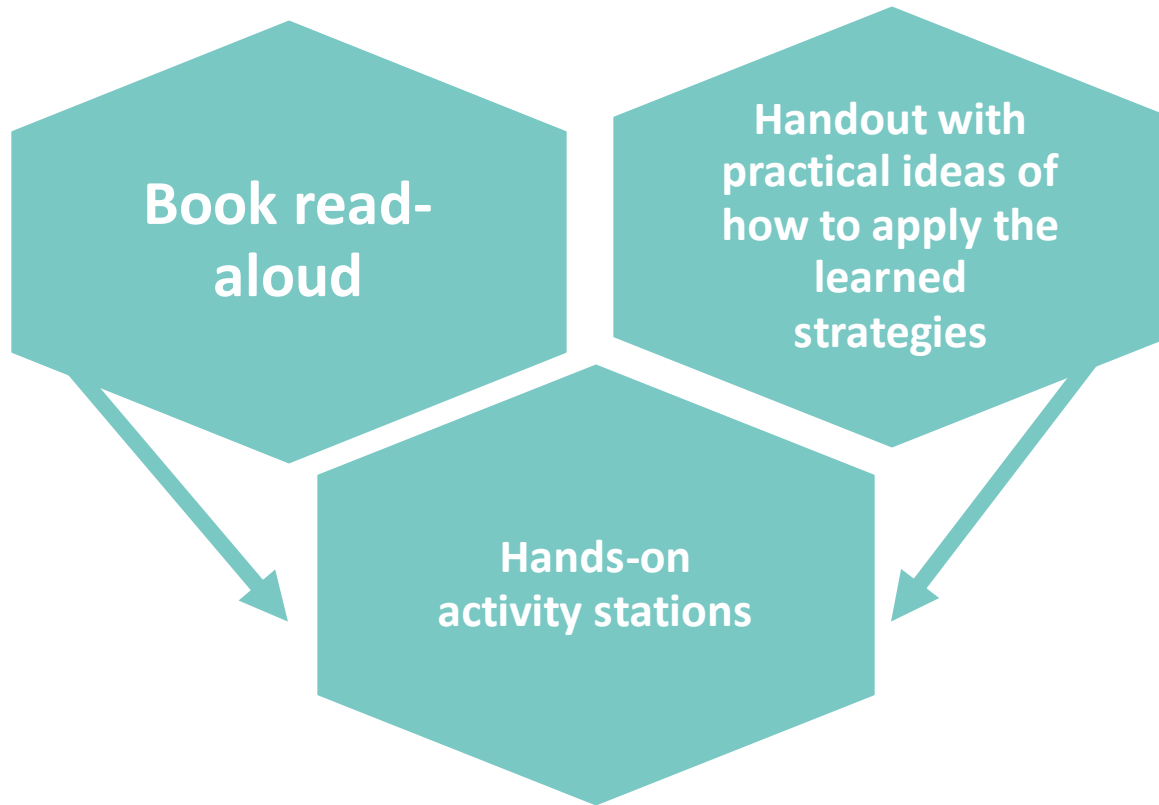
Scan the QR  
code to explore  
resources on  
CLI Engage!



# Teaching Together: STEM Family Engagement



The Family workshop manual provides framework, ideas, and examples for family workshops. Of course, workshops can be modified to fit your needs, resources, and family expectations.



## Family Workshop Manual: STEM





# How do I access Family Engagement Resources?



## Hosting Family Events to Support Children's Development



Parents are their child's first and most important teacher. However, some parents are uncertain or lack confidence in their role as their child's primary teacher. Hosting planned, playful, and purposeful family events are an excellent way to prepare parents to be successful home educators and engage as partners in their child's educational support team. This type of active family engagement has been shown to positively impact student achievement levels and educational aspirations.

### BEST FIT FOR:

Preschool classrooms

### ELIGIBILITY

Public Access

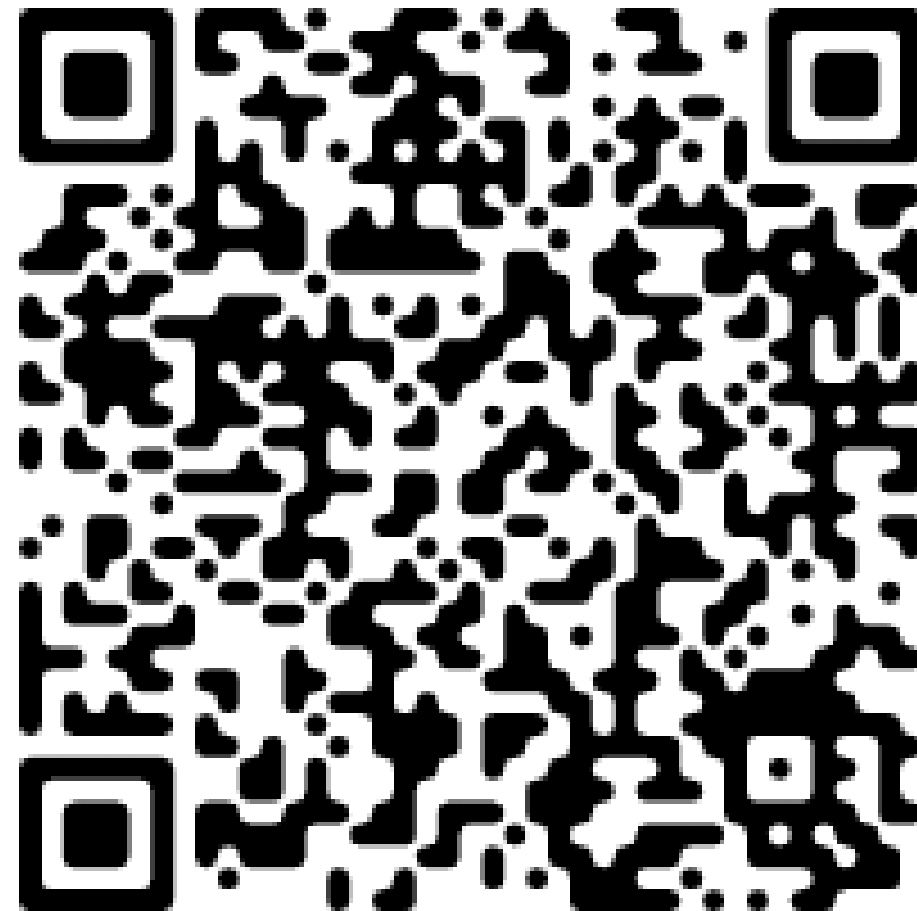
**Teaching Together: Learning through Collaboration**



## Family Workshop Manual: STEM



QR Code for  
Family  
workshops



# Teaching Together STEM Fun\*Shops Overview



Introduction

Thematic  
Video

Parent  
Strategies

Song and  
Storytime

Workstations  
/ Hands-on  
Activities.

- All workshops follow this format to engage families in an interactive learning experience
- Families are presented with strategies that develop early STEM skills.
- Overview of “Show What you Know!” Workshop







# 60 Minute Workshop

**2 mins**

**Welcome and ice breaker**

**4 mins**

**Video: showing parent strategies**

**2 mins**

**Turn & Talk: Engage & practice strategies**

**10-12 mins**

**Read-aloud: Model strategies while reading**

**35 mins**

**Activity stations**

**5 mins**

**Reminder about end of workshop**

# STEM Fun\*shops & Themes

Workshop Event	Workshop	Theme
1	What's the Big Idea?	Asking Questions & Defining Problems
2	Math Rules!	Using Math and Computational Thinking
3	Show What You Know	Analyzing and Interpreting Data
4	Dream It, Build It!	Engineering



# Show What You Know

- Parents will learn to teach children how to gather and interpret information as they explore.
- Gathering and interpretation of information will help children understand how and why things work or happen.

## Parent Strategies:



Gather and Record Data



Understand Your Findings

# Preparation:

- Become familiar with the video strategies to be presented.
- Become familiar with the stopping points during the read aloud.
- Practice reading the book aloud using the strategies before the workshop
- Set-up workstations



# Key Messages

- Scientists gather information about things or events by using different tools such as graphs, charts, or tables.
- Scientists need to analyze and understand the data they gather to draw conclusions.
- You are supporting your child's interest in sciences when you take time to explain or talk about the data that you both collected after doing an experiment or investigation.



Introduction

Thematic  
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Workstations  
/ Hands-on  
Activities.



- **Introduce** yourself and say a little bit about the program
- **Overview** of strategies
- **House keeping**
- **Explain each activity**

Introduction

Thematic  
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## Show What You Know



Parent strategies: Help your child build tools for doing science by thinking about how and why things work and gathering information as you explore.

Parent  
Handout

### WHAT



#### Gather and Record Data

### WHY

There's ways to **collect data** all through out your day. When you ask, "How much, how many" those **numbers are data!** You can capture data by writing notes, keeping tallies, or making charts. Recording simple data can help your child want to learn more.

### HOW

- **Measure your child's growth** on a chart. Discuss, "How much have you grown since our last measure?"
- At clean-up time group toys or kitchen **objects into categories**. Ask, "How many of each object do we have?"
- **Tally how many insects** you find outdoors. Say "Let's keep a list of how many bugs we find."
- Get out a **clipboard and timer** and pretend you are scientist. Say, "Let's see how long it takes us to do \_\_\_\_ (routines - dishes, bathing; or games - puzzle, race)."

### WHAT



#### Understand Your Findings

### WHY

Exploring our world and collecting data are the keys to science! You are supporting your child's interest in science when you **take time to explain your data**. Discuss how and why things happened the way they did.

### HOW

- After you measure your child's growth, **talk about patterns**: "When have you grown more quickly/slowly?"
- Think about how to **sort and organize** toys or kitchen objects: "How can we best organize these into groups?"
- Consider different **types and features of insects** you count. "How many of these bugs fly/walk? How many bugs are safe/unsafe?"
- After you **set a timer**, think about how to do an event more quickly. "How can we do that faster?"



- Explain the theme

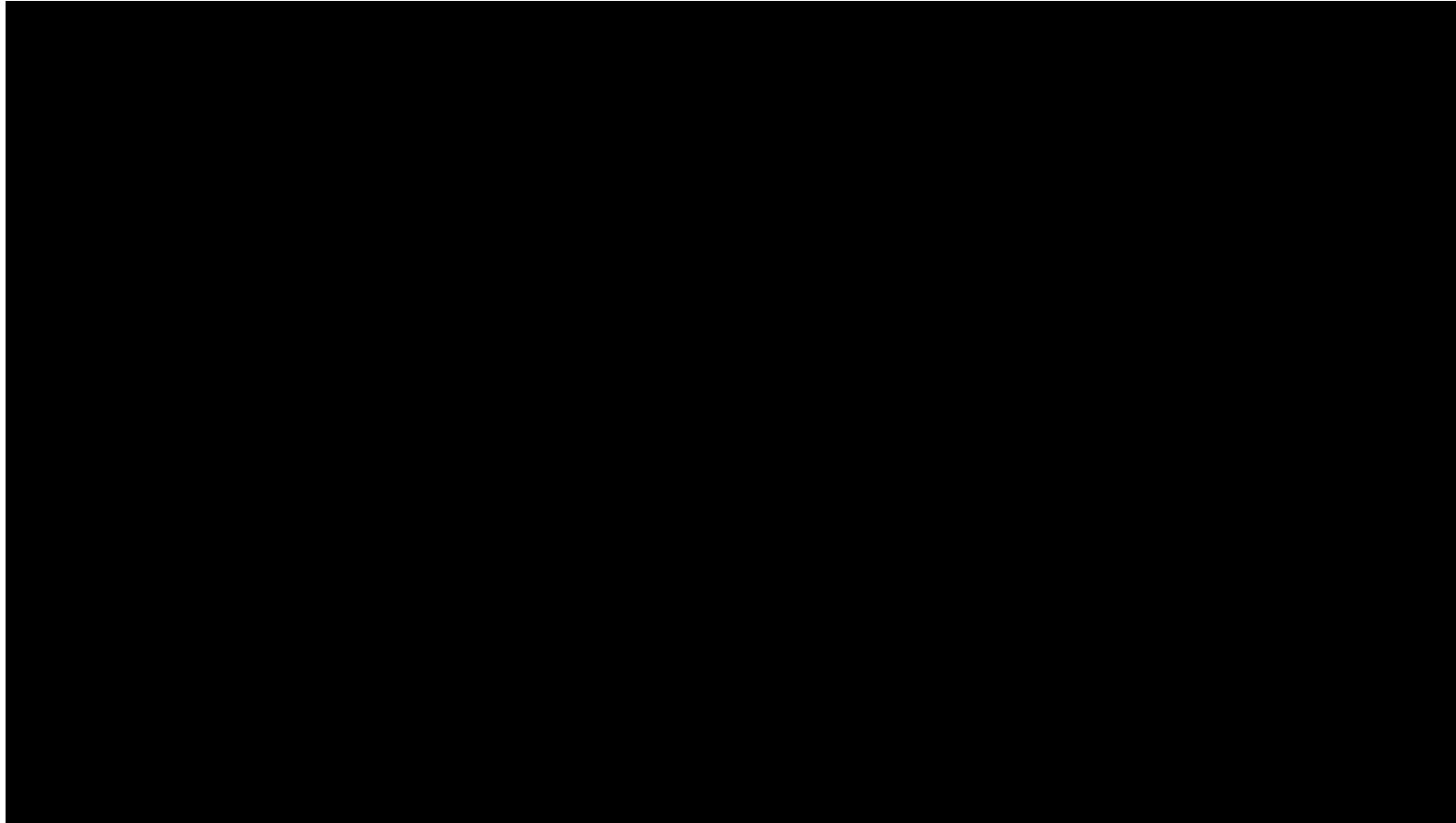
*During today's fun\*shop called "Show What You Know," we will be using these Math concepts to develop two new STEM strategies: Gather and Record Data and Understand Your Findings.*

- Begin Video & Connect video to parent handout



# Show What You Know

## Analyzing and Interpreting Data Video





Introduction

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- Briefly summarize parent strategies



**Show What You Know**



Parent strategies: Help your child build tools for doing science by thinking about how and why things work and gathering information as you explore.

#### WHAT



#### Gather and Record Data

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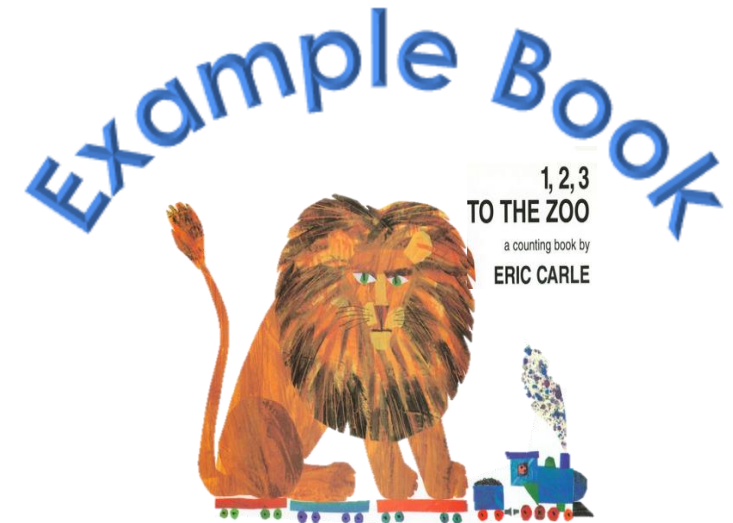
Workstations  
/ Hands-on  
Activities.

## Importance of Reading Together

Parents, this is a time when you can sit close to your child.

- **Read-Aloud Engagement**

Today's story is a book that provides an opportunity to practice math skills. As I read it, you will see me ask questions like how many are there? and encourage children to count and compare quantities or data.





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Workstations  
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Activities.



Show what  
you Know!

## Test Flight

Assemble paper airplanes and test them to determine which goes farthest.

### What to do



1. Make two airplane designs. You can create them with different types of paper.



2. Standing on the starting line, gently throw your paper airplane so it can fly straight.



3. Measure how far your airplane flew (with measuring tape) and record the result on the graph. Repeat the steps with your second airplane.



Show what  
you Know!

## Animal Hatchlings

Discover which animals come from eggs and sort them into animals groups such insects, birds, reptiles, arachnids, and fish.

### What to do



1. Pick five plastic eggs from the basket.



2. Open the eggs to reveal the animal inside. *What animal did you find in the egg?*



3. Place the animals on the sorting chart according to what animal group they are from. Such as: insects, birds, reptiles, arachnids, and fish.



# STEM Family Kits



## Show What You Know



Parent strategies: Help your child build tools for doing science by thinking about how and why things work and gathering information as you explore.

### WHAT



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# Questions & Answer Time!

If you have any questions regarding the Gulf Coast Local Workforce Development Board, please chat with one of our communications team members after the event concludes.

# Interested in Participating in Our Research Study?

Scan the QR code to get more information about our research studies.






# Certificates from



Scan the QR code and login to your TECPDS account to register your attendance



7:53 7:53  
Camera

 **tecpcs** MENU

[Your User Account](#)

[Your Organization Admin Account](#)

### WorkForce Registration

Training Title: Supporting Social Emotional Development Throughout the School Year

Clock Hours on: 05/11/2022-05/11/2022

Learning Format: Training/Workshop

Delivery Context: In person




First Name: Your Name

Last Name: Your Name

[SUBMIT HERE](#) [BACK](#)

[CANCEL SUBMIT](#)

AA tecpcs.org

< >   



# Join Our Team!

We are hiring a range of positions across CLI programs!





This event was generously sponsored by Lakeshore Learning.  
Thank you for supporting the Children's Learning Institute.

# Thank You for Joining Us!

Help us improve the Lunch & Learn!



A large, stylized green key is positioned on the left side of the image. The key is oriented vertically, with its head at the top and its shaft extending downwards. The key is composed of several overlapping, semi-transparent green shapes, giving it a layered, 3D appearance. The background is a vibrant, abstract design featuring concentric, overlapping circles and arcs in various shades of green, teal, and yellow, creating a sense of depth and movement.

CHILDREN'S  
LEARNING  
INSTITUTE™