

**Lakeshore**<sup>®</sup>

**STEAM: Born to Explore**

Ron Mohl  
Lead Educational Presenter  
[www.LakeshoreLearning.com/psg](http://www.LakeshoreLearning.com/psg)




---

---

---

---

---

---

---

---

**Outcomes**

**As a result of this training, you will be able to:**

- Identify developmental sequences and milestones related to STEAM
- Encourage observational skills during hands-on play to enrich cognitive development





---

---

---

---

---

---

---

---

**Agenda**

- Key concepts
- Define STEAM for Infants and Toddlers
- Aligning Milestones to STEAM
- Applying Hands-on Discovery





---

---

---

---

---

---

---

---

## Agenda

- Key concepts
- Define STEAM for Infants and Toddlers
- Aligning Milestones to STEAM
- Applying Hands-on Discovery



Lakeshore®

---

---

---

---

---

---

---

---

## Agenda

- Key concepts
- Define STEAM for Infants and Toddlers
- Aligning Milestones to STEAM
- Applying Hands-on Discovery



Lakeshore®

---

---

---

---

---

---

---

---

## What is STEAM?

Science  
Technology  
Engineering  
Arts  
Mathematics



Lakeshore®

---

---

---

---

---

---

---

---

# STEAM

**Science-** concepts and principles

**Technology-** tools and strategies

**Engineering-** development process

**Arts-** a child's choice of what and how

**Math-** universal way to communicate predictions, adjustments, and findings



Lakeshore®

---

---

---

---

---

---

---

---

## Why Add the "A"?

- Activating the "artistic" parts of the brain stimulates more creative problem-solving strategies.
- Students who are more involved in art show more social awareness, flexibility, and collaboration.
- Activities that require use of the WHOLE brain (the logical/analytical left brain and the emotional/creative right brain) help students build better mental connections while developing a well-rounded child.



Lakeshore®

---

---

---

---

---

---

---

---

## The Design Process



Lakeshore®

---

---

---

---

---

---

---

---

## Modeled Engineering Design Process

Question:  
What you want to know or explore

### Plan

Articulate a plan before creating

- encourage a plan
- prompt their thought process

### Create

Put plan to action

- acknowledge the strategies used- parallel



### Test

Compare results to an expectation/guess

- "Did we get what we expected"

### Ask

Expand exploration

- change something to work toward an expectation/guess
- turn your wonder into their exploration



Lakeshore®

---

---

---

---

---

---

---

---

## Where's the STEAM?

- S** - observation of concepts and principles through the senses
- T** - resources and strategies of play
- E** - problem solving- remember and recall
- A** - choice of what and how
- M** - modeling math



Lakeshore®

---

---

---

---

---

---

---

---

## STEAM Basics

- Integrates 2 or more areas (Science, Technology, Engineering, Arts, Mathematics)
- Embeds in Projects
- Hands-on, play based activities
- Creates:
  - Problem Solvers
  - Critical Thinkers
- Open-Ended Questions



Lakeshore®

---

---

---

---

---

---

---

---

## Agenda

- Key concepts
- Define STEAM for Infants and Toddlers
- **Aligning Milestones to STEAM**
- Applying Hands-on Discovery



---

---

---

---

---

---

---

---

## Brain Research

The brain is the only organ that is unfinished at birth

A child's brain is 21 times as active as an adult's brain

Babies are born with 100 billion nerve cells, called neurons.



---

---

---

---

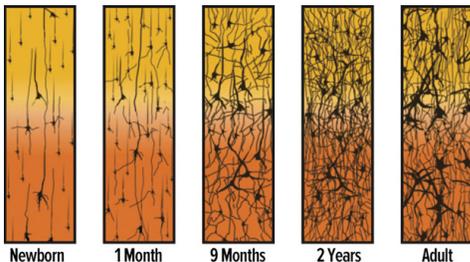
---

---

---

---

## Brain Research



---

---

---

---

---

---

---

---

## How to Foster Brain Development

Provide:

- a large number of interconnections
  - talk, sing, and read
- meaningful relationships
- love and responsiveness to develop trust
- adequate rest and nutrition
- safe environment
- stimulation, but don't over stimulate



Lakeshore®

---

---

---

---

---

---

---

---

## Agenda

- Key concepts
- Define STEAM for Infants and Toddlers
- Aligning Milestones to STEAM
- Applying Hands-on Discovery



Lakeshore®

---

---

---

---

---

---

---

---

## Hands-on Discovery

Set up exploration for:

- senses
- tinkering
- cause and effect



Lakeshore®

---

---

---

---

---

---

---

---

## Cause and Effect

- S** (observed properties)
- T** (your strategies)
- E** (question/plan)
- A** (choices made)
- M** (predict, adjust, report)

---

---

---

---

---

---

---

## Your takeaways



Lakeshore

---

---

---

---

---

---

---

## Outcomes

**As a result of this training, you will be able to:**

- Identify developmental sequences and milestones related to STEAM
- Encourage observational skills during hands-on play to enrich cognitive development



Lakeshore

---

---

---

---

---

---

---

Lakeshore®

**STEAM: Born  
to Explore**

Ron Mohl  
Lead Educational Presenter  
[www.LakeshoreLearning.com/psg](http://www.LakeshoreLearning.com/psg)



---

---

---

---

---

---

---

---