STEAM AIAN
Every Individual is Rooted in Culture
## STEAM Stretches Across the ELOF Domains

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**Note:**
- The table illustrates how STEAM concepts are integrated across various domains of early childhood development.
STEAM Stretches Across the ELOF Domains

- Cognition (Infant/Toddler)
  - Exploration and Discovery
  - Memory
  - Reasoning and Problem-Solving

- Cognition (Preschooler)
  - Mathematics Development
  - Scientific Reasoning

- Approaches to Learning
- Social and Emotional Development
- Language and Communication
- Perceptual Motor and Physical Development
We were always trying to integrate culture into the curriculum—the science domain, the math domain, etc. Then we realized that culture should be at the base, serving as the foundation, the building block for curriculum development. It was an amazing paradigm shift! We are now making huge gains in integrating language and culture into our early childhood programming.

—The Red Cliff Early Childhood Center
Highly individualized teaching and learning

Implementing research-based curriculum and teaching practices

Parent/family engagement

Screening and ongoing child assessment

Nurturing, responsive, and effective interactions and engaging environments

NATIONAL CENTER ON
Early Childhood Development, Teaching and Learning
Parent, Family, and Community Engagement

Culturally and linguistically responsive environments can only be created by engaging and partnering with families, Elders, and the community. Establishing a partnership with families and the community is crucial for children’s learning and later success in life.
Highly individualized teaching and learning

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Nurturing, responsive, and effective interactions and engaging environments
Objectives

• **Identify** ways infants, toddlers, and preschoolers naturally engage in inquiry, reasoning, and problem solving through everyday routines, culture, language, and learning opportunities

• **Describe** how the STEAM components share a common approach and focus

• **Provide strategies** to support children’s inquiry and STEAM skills in the early education setting, community, and at home

• **Learn** to use the *Steps and Introduction to Making it Work Guide* to integrate culture and language in lesson plans for STEAM skills
Culturally and Linguistic Responsive Practices

Sources of Developmentally Appropriate Practices

- Daily Program Operations/Service Delivery
- Child Development Research
- Individual Child Assessment
- Cultural & Linguistic Contexts of the Child, Family, & Community
Without language, the canoe, paddle, water, seat, the birds you hear are different than what our ancestors experienced. If you know the language, then you know what our ancestors heard, saw, felt, and experienced. —Zalmai “Zeke” Zahir, University of Oregon
What is STEAM?

Science  Technology  Engineering  Art  Math
STEAM is for Everyone

STEAM is about how people explore the world, not which facts they know.
STEAM is All Around
A Common Approach and Focus

STEAM Mindset

Language of STEAM

STEAM Knowledge

STEAM-Related Skills
STEAM Mindset
Hoop Dancers from Red Cliff Bank of Lake Superior Chippewa

There is a group of teenage Hoop Dancers from the Red Cliff Band of Lake Superior Chippewa who are “stepping out” as young leaders in their community—and it all started when they were very young! In their homes and at Head Start, the girls learned the importance of their family, community, and culture. They developed social relationships while participating in the traditional, cultural music, dance, and art of their community. They learned to share, discuss, and compromise, as they developed confidence and expressed pride in their accomplishments and their culture.
STEAM Knowledge
Language of STEAM
Two-Eyed Seeing

“Two-Eyed Seeing asks us to see our strengths, the best in our ways of knowing, while also asking us to respect and celebrate our differences. Two-Eyed Seeing acknowledges the necessity of formal structure yet that it must be preamble to and receptive of new understandings and opportunities, i.e., understandings associated with ‘Spirit of the East’ which brings the ‘gift of newness, of transformation.’”
Speak The Language Of STEAM

- Observe, observation
- Question
- Predict, prediction
- Similar, different
- Compare, contrast
- Measure
- Count
- Test
- Discover
- Investigate
- Record
- Examine
- Explain
- Compare, contrast
- Experiment
- Hypothesize, hypothesis, guess
STEAM-Related Skills
How We Can Support STEAM Learning

Engaging Environments

Nurturing, Responsive, & Effective Interactions

Learning Experiences/Activities
Engaging Environments

- Provide open-ended materials
- Use a variety of materials
- Pay attention to children’s interests

Engage the senses
Consider children’s developmental levels
Arrange materials so they are accessible
Nurturing, Responsive, & Effective Interactions
Learning Experiences/Activities
Learning Activity: STEAM in Everyday Experiences & Activities
Review